

Using Ethical Dilemma Case Studies to Develop Pharmacy Students' Moral Reasoning

David A. Latif

ABSTRACT. Moral reasoning has been shown to be of consequence to professional behaviors such as the clinical performance of health professionals. Thus, it is important that schools and colleges of pharmacy graduate students who are high in moral reasoning. The major objective of this study was to assess the impact of ethical dilemma case discussion on the moral reasoning of second-year pharmacy students taking a required communications course at a large northeastern university. Rest's Defining Issues Test (DIT) was used as a surrogate measure of a student's moral reasoning. Fifty-nine students were administered the DIT at the beginning of the semester in which they took a required communications course and again at the end of the semester. A paired T-test revealed that students scored significantly higher on the posttest than on the pretest. However, the second-year students scored significantly lower than first-year pharmacy students at a large southeastern university. The study concludes that moral reasoning skills are both teachable and measurable, and that ethical dilemma case discussions may enhance moral development. Additional studies are needed to increase the generalizability of these findings. *[Article copies available for a fee from The Haworth Document Delivery Service: 1-800-342-9678. E-mail address: getinfo@haworthpressinc.com]*

KEYWORDS. Moral reasoning, defining issues test, ethical dilemma, case study

INTRODUCTION

As the pharmacy profession moves toward embracing pharmaceutical care and becoming a more patient-centered profession, it is the

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goal of pharmacy educators to graduate future pharmacists who are capable of providing this care to their patients. Pharmaceutical care is “the responsible provision of drug therapy for the purpose of achieving definite outcomes that improve a patient’s quality of life” (1). Pharmaceutical care, in part, requires an ethical covenant between the patient and pharmacist (2). This covenant requires a shared responsibility between the patient and the pharmacist for rational drug therapy outcomes. Essentially, the pharmacist and patient enter into a contract with both detailing their respective responsibilities and actions for preventing and solving the patient’s drug-related problems (2). Thus, one prerequisite of effective pharmaceutical care practice may center around moral development. Indeed, since the expansion of the role of pharmacists to include pharmaceutical care, opportunities for ethical problems have become more prevalent (3). When tasks are nonstandardized and situations ill-defined, such as is the case with the provision of pharmaceutical care, pharmacists who do not have appropriate conceptual tools for handling ethical or social situations often find themselves in “over their heads” (4). These conceptual tools essentially comprise an individual’s moral reasoning or development. In the long run, therefore, those pharmacists at more advanced levels of moral reasoning may possess the requisite conceptual tools to guide their decision-making processes pertaining to patient care.

Empirical evidence from several health professions, including nursing, pharmacy, medicine, and physical therapy, have demonstrated that moral reasoning is of consequence to clinical performance (5-8). Based on this empirical evidence, what are some methods that pharmacy educators can use to develop their students’ moral reasoning? In a review of 57 studies that examined the effects of educational interventions on moral reasoning, Rest concluded that peer discussion of moral dilemmas facilitates moral development because dilemma discussion provides students with moral problem-solving practice (9). Thus, students have an opportunity to debate, internalize, and appreciate higher levels of moral arguments made by their peers. Penn argues that student moral reasoning can be enhanced by directly teaching the component skills of moral reasoning (10). Component skills of moral reasoning include skills of logic and role-taking.

Based on the aforementioned theory and empirical evidence suggesting that moral development is best fostered through peer discussion and role-taking, the major objective of the present study is to

assess whether exposure to ethical dilemma case discussions as a consistent component of a required communications course impacts second-year pharmacy students' moral reasoning skills.

The remainder of this paper is organized as follows: In the next section, the psychology of moral reasoning and studies that correlate moral reasoning to health professionals' clinical performance are reviewed. Then, studies relating moral reasoning to education are reviewed and two hypotheses are advanced. Next, empirical methods are described and the results are reported. Finally, the implications and limitations of the present research are discussed.

PSYCHOLOGY OF MORAL REASONING

Moral reasoning is a well-developed theory founded on the work of Piaget (11). Extending Piaget's work, Kohlberg proposed a stage theory of moral development (12). Based on the extensive interviewing and observation of adolescents, Kohlberg developed a model of ethical judgment and defined it as a series of developmental stages. Kohlberg posited that individuals progress sequentially to higher stages and levels of moral development according to their psychological disposition (12).

The stage-sequence model of moral development proposed by Kohlberg is best viewed by first looking at the three broad levels of moral development: the preconventional, the conventional, and the postconventional levels, respectively (12). The preconventional level is essentially the cognitive capacity of children; the focus at this level is on oneself. For example, a child's parents make demands on the child and the child quickly realizes that disobedience brings punishment. To cooperate with others, one must do what one is told.

Individuals at the conventional level strive to uphold the norms and rules of authority because such action conforms to the norms of society; the focus at this level is on relationships. The law is public and knowable to everyone in a society, and categorically applies to everyone. Laws exist so that we can count on individuals to behave in socially prescribed ways. Law creates a cooperative order on an society-wide basis.

The postconventional individual believes that universal moral principles should guide decision-making. They also understand and usually accept the laws and agreements of society. However, when the rules

of society sharply contrast with those universal moral principles, the postconventional person sides with universal principles. Kohlberg's three levels of moral development are further delineated into six stages (two stages for each level). Figure 1 summarizes the six stages of moral development as postulated by Kohlberg (12).

It is important that one differentiate the meaning of "moral" and "ethical" from the ideal behavior espoused by philosophers (13). Moral psychology pertains to the cognitive processes and conceptual frameworks underlying moral reasoning and judgment formulation. Put another way, it provides a road map of the processes used by individuals when resolving difficult dilemmas.

A major challenge to Kohlberg's Cognitive Moral Development theory surfaced during the late 1970s and early 1980s. It was highlighted by Carol Gilligan, and criticized Kohlberg's stages of moral development as being irrelevant to women because the theory was based exclusively on longitudinal studies with young men (14). Gilli-

FIGURE 1. The Six Stages of Moral Development and Ethical Cognition

Stage level	What is right?	Reasons for doing it
Preconventional		
Stage 1	Avoid breaking rules backed by punishment	Avoidance of punishment
Stage 2	Follow rules when they are in one's own interest	To serve one's own immediate interests
Conventional		
Stage 3	Living up to what is expected by people	Need to be a good person
Stage 4	Fulfilling agreed-upon duties and obligations	To keep the institution going
Postconventional		
Stage 5	Uphold nonrelative obligations first	Obligations to law before social contracts
Stage 6	Follow self-chosen ethical principles	Belief in ideal as a rational person

gan hypothesized that women reasoned through a caring approach rather than through Kohlberg's justice approach (14). In the orientation of care, relationships are characterized in terms of attachment versus detachment. A justice orientation characterizes relationships in terms of equality and inequality (15). Gilligan states that males as a group exhibit a predominantly justice orientation, whereas females as a group exhibit a predominantly caring orientation (14). This premise has not been empirically supported (9). In fact, continuing studies using the Defining Issues Test (DIT) as a proxy for moral reasoning report that, on average, women score 0.5 percent higher than men.

MORAL REASONING AND CLINICAL PERFORMANCE

How does moral judgment relate to behavior? Blasi reviewed 75 studies that assessed the relationship between moral judgment and behavior (16). In 57 of them a significant relationship was found between moral judgment and behavior. However, the strength of the relationship was moderate (typical correlation in the range of 0.3 to 0.4). Thoma reviewed approximately 30 studies that relate DIT scores to behavioral measures (17). Like Blasi, he found a significant but moderate relationship between moral judgment and action. These correlations may appear low but, by comparison, they are quite consistent with other estimates of judgment and action relationships in related fields (18).

Latif et al. compared the community pharmacists' moral reasoning to a level of clinical performance (6). The clinical performance in this study was assessed using both questionnaire and observation design methodologies.

Krichbaum et al. compared faculty ratings of clinical performance of nursing students to their DIT scores (5). Clinical performance was measured by the Clinical Evaluation Tool (CET), an instrument developed to assess students' clinical performance across settings at various levels of the nursing program. The CET has been shown to be reliable and valid: A stepwise multiple linear regression of the mean CET scores for the combined junior and senior years showed that the DIT P% score accounted for 34% of the variance associated with senior nursing clinical performance. This figure is quite high in social science research.

Sheehan et al. compared the medical faculty ratings of the clinical

performance of residents with the residents' DIT scores (7). The moral reasoning ability of the 244 pediatric residents was found to be a significant predictor of clinical performance. The authors concluded that high moral reasoning appeared to virtually exclude the possibility of poor clinical performance, and that the highest level of clinical performance was rarely achieved by those at the lowest level of moral reasoning.

Sisola compared moral reasoning to clinical performance in physical therapy. Sisola collected data on 58 students entering three physical therapy programs (8). She specifically compared moral reasoning and conventional admission variables with subsequent clinical performance. It was reported that moral reasoning accounted for 19.4% of the variance associated with clinical performance in the physical therapy students.

Sisola also divided DIT and clinical performance scores into three different categories: high, medium, and low (8). Results of a Chi-square analysis indicated that fewer subjects than expected were in the cell correlating high moral reasoning with low clinical performance, and no subjects were found in the cell linking low moral reasoning with high clinical performance. This empirical evidence corroborated the results of Sheehan et al. and partially supports their contention that high moral reasoning virtually excludes the possibility of poor clinical performance (7).

Finally, Baldwin et al. examined the relationship between moral reasoning level and clinical performance by examining this relationship in cases of malpractice claims against orthopedic surgeons (19). Demographic and malpractice claims data on the surgeons were obtained through a regional interindemnity liability trust. A group of 149 physicians filled out DIT questionnaires; the results showed that orthopedic surgeons with few or no claims per year had significantly higher levels of moral reasoning.

MORAL REASONING AND EDUCATION INTERVENTIONS

Rest, in a review of 57 DIT studies concerning the effect of education interventions, concluded that peer discussion of moral dilemmas facilitates modest growth in moral judgment (9). The logic behind this is that dilemma discussion gives students practice in moral problem-

solving. It provides them with an opportunity to understand and to appreciate higher levels of moral arguments made by their peers.

Interestingly, the empirical evidence suggests that interventions longer than 12 weeks do not seem to have any more of an impact on moral reasoning than do interventions of 3 to 12 weeks (9). However, durations less than three weeks appear to be ineffective.

Penn argues that student moral reasoning can be enhanced by directly teaching the component skills of moral reasoning (10). Component skills of moral reasoning include skills of logic, role-taking, and justice operations. The generality of Penn's approach was tested by McNeel (20). The results from a sample of 28 students reported significant moral growth in ethical reasoning capabilities. Participants' growth in principled reasoning increased from a pretest score of 41.7 to a posttest score of 50.6.

Self et al. examined the impact of small-group case-study discussion on medical students' moral reasoning (21). The researchers examined the 729 medical students from the classes of 1991-98, and tested the groups for moral reasoning skills both before and after the students participated in small-group case-study discussions of medical ethics. It was shown that students exposed to 20 or more hours of small-group case-study discussion demonstrated a significant increase in their moral reasoning, while those students exposed to less than 20 hours demonstrated no significant increase in moral reasoning. The authors concluded that moral reasoning skills are teachable and measurable, and that small-group discussion significantly increases moral reasoning skills.

Armstrong administered a pre-DIT and post-DIT survey of moral development of students who voluntarily took a one semester accounting course in ethics and professionalism (22). Results showed that students who elected to take the ethics course had significantly higher DITs by the end of the course.

Self et al. used the DIT to assess the hypothesis that the formal teaching of medical ethics promotes a significant increase in the growth of moral reasoning in medical students. Results were significant ($p < 0.005$) (23). Self et al. used the DIT for evaluation of a project using film discussions for teaching medical humanities (24). The design of the study was as follows:

1. A control group of first-year medical students with no exposure to the film discussion.
2. A group of first-year medical students who participated in weekly one-hour film discussions during the fall quarter.
3. A group of first-year medical students who participated in weekly one-hour film discussions during both the fall and winter quarters.

Pre-DIT and post-DIT measurements of ethical reasoning skills showed statistically significant increases in moral reasoning scores of course subjects for both the one quarter ($p < 0.002$) and the two quarter groups ($p < 0.007$) of film exposures. This compared to the control group with no exposure to the film discussions ($p < 0.109$).

In pharmacy education, three studies have measured ethical reasoning skills. Lindon and Draugalis administered the DIT and obtained usable responses from 40 first-year and 31 fourth-year Pharm.D. students (25). Results indicated that the mean DIT score for this small sample was 41.6 for first-year students, and 44.6 for fourth-year students. Both of these means represent conventional thinking.

In a second pharmacy study that utilized cognitive moral developmental theory, Dolinsky and Gottlieb asked fourth-year pharmacy students to describe two moral dilemmas that they had experienced in pharmacy practice, their actions to resolve the dilemmas, and the reasons for their actions (26). The dilemmas were then grouped into different categories of incidents in pharmacy practice (*e.g.*, requests for medications without prescriptions) and analyzed according to Kohlberg's six Stages of Cognitive Moral Development. Findings showed that two-thirds of the explanations for actions were classified as Stage Three or below; one-fifth of the reasons were classified as principled (Stage Five or Six); and the remaining justifications were classified as Stage Four.

Finally, Latif and Berger reported a mean DIT P% score of 42.47 in an examination of 92 first-year pharmacy students' moral reasoning (27).

HYPOTHESES

As discussed above, pharmacy researchers have assessed the moral reasoning of pharmacy students. Two previous studies have utilized

the DIT as a surrogate measure of a pharmacy student's moral reasoning. The DIT is a widely used psychometric measurement instrument that measures an individual's moral reasoning skills according to the cognitive developmental theories posited by Piaget, Kohlberg, and Rest (9-11). The short-form DIT consists of three moral dilemmas versus six moral dilemmas for the long form. Each dilemma is followed by a series of 12 statements about the dilemma representing the six cognitive stages posited by Kohlberg's Cognitive Moral Development (CMD) theory. Subjects then assess the importance of each statement in determining the action they would take. The four highest ranked items are included in scoring the DIT. Of these four items, only those that represent Stage Five or Six reasoning are included in the "P" score, defined as "the relative importance a subject gives to principled considerations in making a decision about ethical dilemmas" (28). The short-form DIT correlates 91% to 93% with the long-form DIT.

The DIT is scored objectively. As such, statistical reliability and validity can be fairly assessed. Generally, test-retest reliability for the P% score is in the high 0.70s or low 0.80s. Cronbach's Alpha is generally in the high 0.70s (9). Additionally, criterion group and longitudinal validity have been well established.

As previously discussed, dilemma discussion of ethical issues can be quite effective in increasing moral reasoning (9). Based on the aforementioned theory and empirical investigations, it was hypothesized that by emphasizing group discussion of ethical case dilemmas, moral reasoning would be enhanced.

H₁: Second-year pharmacy students taking a required communications course that utilizes ethical dilemma case discussions will significantly increase their moral reasoning scores by the end of the course.

Using the DIT to measure pharmacy students' moral reasoning, previous studies ranged from a P% score of 41.6 to 44.6 (25,27). The present study utilized data from a previous investigation to compare the moral reasoning of 92 first-year pharmacy students at a large southeastern university to the moral reasoning of 62 second-year pharmacy students at a large northeastern university (27). Approximately 38 to 52 percent of the variance in DIT scores can be accounted for by education and/or age (9). In general, therefore, the more formal years

of education, the higher one's moral reasoning should be. Based on this, it was hypothesized that the second-year sample of pharmacy students at the northeastern school of pharmacy would score significantly higher on moral reasoning than the sample of first-year pharmacy students at the southeastern school.

H₂: Second-year pharmacy students at the northeastern school of pharmacy will score significantly higher on moral reasoning than the first-year pharmacy students at the southeastern school of pharmacy.

METHODS

This study utilized a convenience sample of 62 fourth-year pharmacy students taking a required communications course and examined the impact of ethical dilemma case discussion and role-taking on their moral reasoning skills. The DIT was administered during the second class meeting for spring semester during January, 1998, and again toward the end of the semester during May, 1998.

All 62 students were present during the pretest administration of the DIT, while 59 students were present during the posttest administration. The short-form DIT was used during both administrations, and was scored in accordance with the DIT manual (Rest, 1990). The short-form DIT includes three of the six dilemmas comprising the long-form DIT. While it would have been desirable to have used the long form with the sample, the short form was used due to time constraints. Specifically, the instructor did not wish to use a 50-minute portion of class to complete the long form (the short form requires approximately 20 minutes to complete). Since the short form has substantially the same properties as the long form (it has been shown to correlate 91% to 93% with the long-form DIT), it was decided to use the short form (28).

The communications course was a three-hour semester course, consisting of two hours of lecture and one hour of laboratory per week. The laboratory component was divided into two sections so that approximately 31 students were in each section. A significant part of the laboratory time consisted of ethical dilemma discussions concerning pharmacy cases that presented ethical dilemmas. The majority of the cases were selected from pharmacy journals such as the *American*

Journal of Health-System Pharmacy. For example, the *American Journal of Health-System Pharmacy* includes a relevant pharmacy conflict that may pose an ethical dilemma to a practicing pharmacist as a regular feature. The specific cases were chosen by the instructor and were based on a review of the pharmacy literature concerning pragmatic ethical dilemmas faced by practicing pharmacists. To this end, cases chosen included such domains placebo medications, e.g., “Is it ethical to deceive a patient concerning a placebo medication that you are dispensing?” (29). A component of the students’ reading assignment was to read each assigned ethical dilemma, which discussed some aspect related to ethical issues in the provision of patient care. The students also were told that they may need to read additional literature to do a good job with the topics. Students were told at the beginning of the semester that they would be responsible for defending a particular position concerning each dilemma. In general, during the last half-hour of 12 weekly laboratory periods, students were divided into two approximately equal groups regarding the ethical dilemma cases. For example, a dilemma titled, “Responding to a physician’s request to mislabel a patient’s prescription,” required half of the students to prepare arguments that would defend the position that pharmacists should not mislabel medication, and the other half to defend the position that pharmacists “should go along with the prescriber’s benevolent deception” (30). The instructor acted as facilitator and simply encouraged the students to defend their particular position, to probe particular assumptions concerning the case, and to listen to the opposing position. As previously discussed, this is the type of case discussion that can enhance moral development. Since a significant portion of the students’ grade was based on participation concerning these dilemmas, the vast majority of students contributed to each discussion. The few students who did not voluntarily contribute were often asked for their opinion in an attempt to facilitate their thought processes.

RESULTS

Rest advises to allow for an invalidation of DIT protocols (up to 15%), due to the inconsistencies of item responses and to a tendency to place high importance on complex sounding but meaningless an-

swers (28). Of the 59 students who took both the pre- and posttest DIT, five were invalidated in accordance with the DIT manual (28).

Of the 54 students who returned acceptable pre- and post-DIT's, 22 were males and 32 were females; the mean age of the group was 24.8 years. The first hypothesis (H_1) predicted that fourth-year pharmacy students taking a required communications course that utilized ethical dilemma case discussions would significantly increase their moral reasoning scores by the end of the course. A paired samples T-test was used to examine this hypothesis. Table 1 reveals that the post-DIT mean scores were significantly higher than pre-DIT scores (30.37 vs. 26.07).

The second hypothesis (H_2) predicted that the second-year students would do significantly better on moral reasoning than a sample of first-year pharmacy students at a large southeastern university (data from the first-year students were collected from a previous investigation). The mean P% scores for the first-year pharmacy students was significantly higher than both the pre- and post-DIT P% scores of the second-year pharmacy students ($p = 0.000$).

DISCUSSION AND IMPLICATIONS

The major objective (and first hypothesis) of this investigation was to assess if exposure to ethical dilemma case discussions in a required communications course results in the increase of moral reasoning skills of second-year pharmacy students. The empirical evidence from this study supports previous studies in the health professions by demonstrating a significant and practical relationship between the increase in moral reasoning skills and ethical dilemma case discussion (21). A major concern for pharmacy educators is preparing students to prac-

TABLE 1. Relationship Between Moral Reasoning at Beginning of Course and at End of Course.

<i>Pre-DIT Mean</i>	<i>Post-DIT Mean</i>	<i>N</i>	<i>SD</i>	<i>P</i>
26.07		54	14.83	
	30.37	54	13.90	0.000*

*Significant at the 0.01 alpha level.

tice pharmaceutical care. Although the relationship between moral thought and moral action is very complex, several studies indicate a positive relationship between moral thought and moral action (16). Of particular interest to pharmacy educators is the fact that several studies report significant correlations between moral reasoning and clinical performance (5,6). These and other studies among health professionals suggest that those professionals at higher levels of moral reasoning are rarely found to perform poorly on measures of clinical performance. Furthermore, the current study counters a curriculum perception that ethics is not amenable to measurement by demonstrating that moral reasoning skills are both teachable and measurable.

Ethical dilemma case discussions appears to work by creating cognitive dissonance, which stimulates upward movement within moral stages (21). Cognitive dissonance is a type of mental conflict whereby one attempts to gain congruence between one's attitudes and behaviors (31). This may act as a catalyst in moving to higher, more sophisticated stages. These more sophisticated stages provide superior conceptual tools for guiding decision-making when solving problems. For example, when students at one stage see higher-stage thinking they are often attracted toward it and thus question their less-developed views (21).

The second hypothesis posited that, because years of education positively impact moral reasoning, second-year pharmacy students would have greater moral reasoning skills than first-year students; this hypothesis was not supported. Indeed, first-year students had far greater moral reasoning scores than either the pre-DIT or post-DIT scores of the fourth-year students. A possible explanation for this may be that the majority of fourth-year students did not speak English as a first language; these students could become confused when taking the DIT in English. Empirical evidence suggests that the DIT is not culturally biased (4). However, those studies were administered in the samples' native language. While the pharmacy students who speak English as a second language have passed an English proficiency exam, it is still conceivable that misunderstandings could have occurred.

This study supports previous studies in the health professions that suggests student moral reasoning can be enhanced during professional education. If one assumes that enhancing pharmacy students' moral reasoning will translate into superior providers of pharmaceutical care, what are possible courses of action that will maximize moral develop-

ment during pharmacy school? In addition to ethical dilemma discussion, other health programs have structured ethical instruction throughout the curriculum (32,33). These programs objectively assess moral development via the Defining Issues Test. For example, Duckett and Ryden have successfully integrated a multicourse sequential learning curriculum in nursing ethics that incorporates integrated, planned learning activities throughout the nursing curriculum. The result has been significant increases in students' moral reasoning (32). A similar strategy, with similar results, has been in progress for several years at the School of Dentistry at the University of Minnesota (33).

LIMITATIONS AND CONCLUSION

There are several limitations to this study. First, since only one school of pharmacy was used, it is difficult to generalize to other schools the notion that group dilemma ethical discussions will enhance moral reasoning skills. A second limitation is the lack of cause-and-effect design. Because a control group was not used, one cannot rule out alternative reasons for the significant increase in moral reasoning during the semester.

Despite these limitations, the results of this investigation suggest that pharmacy educators can assess, measure, and help to significantly increase their students moral reasoning skills by utilizing ethical dilemma case-study discussions. In addition, the present study corroborates previous studies by demonstrating that moral reasoning skills are both teachable and measurable (21).

Before final conclusions regarding the role ethical dilemma case discussions play in enhancing moral reasoning can be drawn, studies are needed to replicate and extend the present one. Different empirical methodologies could be used. For example, an experimental design utilizing a control group could assess a potential cause-and-effect relationship between education interventions and moral development.

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