The Four Component Model of Morality: Implications for Pharmacy Education

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ABSTRACT. A major component of the provision of pharmaceutical care revolves around ethical decision making. As pharmacy practice becomes more patient centered, the potential for ethical dilemmas increases. This paper uses Rest's Four Component Model of Morality as a theoretical framework to suggest that the production of moral behavior is complex and entails at least four distinct psychological processes: moral sensitivity, moral judgment, moral motivation, and moral character and implementation. Implications of the model for pharmacy education, including potential educational goals, strategies, and assessments of each component, are discussed. The limitations and criticisms of Cognitive Moral Development Theory are also discussed. *[Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <http://www. HaworthPress.com> © 2003 by The Haworth Press, Inc. All rights reserved.]*

INTRODUCTION

A major component of pharmaceutical care revolves around ethical decision making. According to Berger, a part of pharmaceutical care involves the development of an ethical covenant between the pharmacist

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and the patient (1). This covenant calls for a shared responsibility for drug outcomes. It is not enough for the pharmacist to assume he or she knows what the patient's best interests are without first soliciting input from the patient and allowing the patient to be an integral part of any drug therapy regimen decisions (1). For example, assume that a patient presents to a pharmacist a dosage regimen for a particular drug that requires it be taken four times a day. If a patient is unable or unwilling to take the medication four times a day, a significant nonadherence problem might exist. The patient may, however, be willing and able to take the medication two times a day. Unless the pharmacist asks the question, "Are you willing and able to take this medication four times a day?" he or she will not be aware of the potential adherence problem and its resolution.

The provision of pharmaceutical care may also increase the number of ethical dilemmas faced by pharmacists (2). Often, when a task is nonstandardized and a situation ill-defined (as may often be the case with the provision of pharmaceutical care), individuals with inadequate conceptual tools for handling ethical dilemmas may be less able to make optimal decisions (3). These conceptual tools are a measure of moral development and are similar to other forms of development. For example, in mathematics, one must first learn to subtract before learning long division because the conceptual tools that allow individuals to perform long division also allow them to perform higher level mathematical operations (3). It is in this manner that individuals who are more morally developed are better able to make sense of and to resolve difficult ethical dilemmas.

In addition, several studies in the health professions have demonstrated a pragmatic and significant relationship between moral development and clinical decision making (4-8). Thus, enhancing the moral development of pharmacy students may increase the probability of future pharmacists not only adhering to the profession's code of ethics but also optimizing their clinical decision-making skills (the hallmark of pharmaceutical care).

Much of the work in the moral development of health professionals has been in the areas of medicine, dentistry, and nursing. A question might arise, Is there commonality between health professions when it comes to moral development? Although a definitive answer is not possible, plausible explanations can be put forward. If it can be assumed that health professions are helping professions and that clinical performance is a hallmark of all health professions, then an argument could be made that all health professions have a common goal (i.e., to do what is

right for the patient). Indeed, a much researched component of moral development, moral judgment, has been empirically tested with both pharmacists and pharmacy students (6, 9). It was revealed that those pharmacists at higher levels of moral judgment provided higher levels of clinical performance.

The present paper uses Rest's Four Component Model of Morality as a theoretical framework to discuss its potential implications for pharmacy education regarding educational goals, strategies, and assessments of learning (10, 11).

The remainder of this paper is organized as follows. First, the literature pertaining to the Four Component Model of Morality is reviewed. Included in this review is a discussion of the limitations of Cognitive Moral Development Theory. Then, the model's implications for pharmacy education are discussed. Finally, possible avenues of future research in pharmacy are discussed.

THE FOUR COMPONENT MODEL OF MORALITY

Most research on the psychology of morality is dominated by one of the following theoretical schools of psychology: cognitive developmental, psychoanalytic, or social learning (12). Using one of these frameworks as a basis for studying the psychology of morality may limit attention to moral reasoning, empathy and guilt, or observable behavior. Beginning with the question, What major components are involved in the production of moral behavior? Rest suggests that for one to behave morally in a particular situation, he or she must have carried out at least four psychological or component processes (12).

Component I: Ethical Sensitivity

First, one must interpret the situation as being moral. Component I posits that the person must identify who is involved, possible lines of action, and how each line of action might affect the welfare of each party involved. Rest called this component of morality "moral sensitivity" (10). Although a pharmacist confronted with an ethical dilemma may think about a specific moral principle that might apply to the situation, it is only necessary that the pharmacist realize he or she can do something that could affect the interests, welfare, or well-being of the patient or other stakeholder to be considered morally sensitive.

Three findings from the literature are pertinent to Component I in relation to pharmacy practice. The first is that pharmacists might find it exceedingly difficult to interpret even simple situations. Early research on bystander reaction to emergencies demonstrated that helping behavior was directly related to the ambiguity of the situation (13). The greater the ambiguity in understanding what was happening, the less bystanders helped. A myriad of situations in pharmacy practice may potentially be perceived as ambiguous. Haddad, in a review of the pharmacy literature, discussed many of them (2). For example, "whether to fill an inappropriate prescription that is essentially unharmful but will not benefit the patient when another drug would" and "whether to provide medication without a prescription" may be perceived different ways by different pharmacists.

Component II: Moral Judgment

Component I revolves around the pharmacist being cognizant of alternative courses of action to an ethical dilemma. The pharmacist recognizes what the consequences of each alternative course of action would be for all parties involved. Component II answers the question: Which of the alternative courses of action is morally right and fair?

Component II has been the focus of much of the cognitive developmental research. The psychology of moral reasoning was initially based on the seminal work of child psychologist Jean Piaget (14). By interviewing children about moral issues, Piaget found that changes in their cognitive development could explain developmental changes. He posited that children pass through three stages in the development of their reasoning: the intuitive, the concrete operational, and the formal operational.

One tenet of the cognitive development approach posited by Piaget is that an individual's perception of reality is cognitively constructed as opposed to being the sole function of prevailing group norms (14). A second tenet is that developmental progress evolves, in the sense that progression results from more advanced conceptual skills for making sense of social and moral problems.

Based on Piaget's work, Kohlberg developed a model that emphasizes the cognitive decision-making process and the reasons individuals use to justify moral choices, rather than the outcomes of decisions (15). Kohlberg's work focused on individual thinking processes; it examined how people construct reality and meaning from different social situations. Kohlberg extended Piaget's research by proposing a stage theory

of moral development (15). Kohlberg, based on the extensive interviewing and observation of adolescents, derived a model that conceptualized ethical judgment, which he defined as a series of developmental stages. Kohlberg's Theory of Cognitive Moral Development (CMD) posits that individuals advance along a stage-sequence continuum that represents a series of cognitive levels akin to the rungs of a ladder. Most individuals move upwardly through these developmental levels beginning with what is termed "preconventional morality" to the second, termed "conventional morality," and sometimes to the highest level, called "postconventional morality." Each level has two developmental stages, and individuals progress upward in an invariant sequence. In other words, an individual progresses from stage to stage in a logical sequence. Theoretically, stages cannot be skipped (15).

According to Rest, the logic for a person's moral development being invariant in sequence is that initially an individual's problem-solving strategies include the use of simple concepts (3). Then, as new considerations become relevant and new complexities are appreciated, individuals change their moral problem-solving strategies. One cannot progress to the next stage until he or she has mastered the problem-solving skills of the present stage. For example, in mathematics, an elementary school student must learn subtraction before he or she can learn long division. This is because long division presupposes the ability to subtract. It is in this way that Piaget and Kohlberg claim that their stages represent a sequence of logically more complex operations.

Rest states that one can conceptualize Kohlberg's six stages of cognitive moral development by viewing them in terms of six conceptions of how to organize cooperation in society (Table 1) (3).

Stages 1 and 2 comprise the preconventional level of cognitive moral development. The focus at this level is on the self. At Stage 1, the person is most impressed by the prestige and power of others. For example, a child's parents make demands on the child, and the child quickly realizes that disobedience brings punishment. This stage highlights the morality of obedience. To cooperate with people, one must do what one is told. At Stage 1, being good is synonymous with being obedient to the demands of superior others.

At Stage 2, the person realizes that every individual has his own interests. The highlight of this stage is that "doing good" is doing what is instrumentally satisfying to "me," rather than doing what another person demands. Cooperation boils down to making short-term deals with others (e.g., I'll do this if you do that). Fairness at Stage 2 is living up to your side of the bargain.

TABLE 1. Six Stages in the Concept of Cooperation.[a]

Stage 1	The morality of obedience: Do what you're told.
Stage 2	The morality of instrumental egoism and simple exchange: Let's make a deal.
Stage 3	The morality of interpersonal concordance: Be considerate, nice, and kind, and you'll make friends.
Stage 4	The morality of law and duty to the social order: Everyone in society is obligated to and protected by the law.
Stage 5	The morality of consensus-building procedures: You are obligated by the arrangements that are agreed to by due process procedures.
Stage 6	The morality of nonarbitrary social cooperation: Morality is defined by how rational and impartial people would ideally organize cooperation.

[a]As reported in Rest and Narvaez, 1994, *Moral Development in the Professions*, (p. 5) see Ref. 3.

Stages 3 and 4 comprise the conventional level of cognitive moral development. The focus at this level is on relationships. At Stage 3, the theme for cooperation is loyalty and commitment to a relationship. The individual realizes that life is more than a series of one-shot deals. People establish long-term relationships that involve loyalty and mutual caring. People do not keep "score" of favors (i.e., who owes whom what favor). Stage 3 is the morality of making and sustaining friendships and of being cooperative by being loyal and caring to others in the relationship.

At Stage 4, the individual sees the shortcomings of Stage 3, namely, that the basis for cooperation only involves friends and loved ones. Stage 4 provides guidelines for cooperating with strangers, competitors, and enemies. The solution to the problem of morality at Stage 4 is to develop a scheme of cooperation for society in general, not merely for cooperating with friends and loved ones. 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 a society-wide basis.

To assist in the measurement of moral judgment, Kohlberg developed the "Moral Judgment Interview," which measures one's moral development via a series of dilemmas that the subject verbally resolves (15).

James Rest developed a recognition-type instrument in the assessment of moral reasoning (16). He called the instrument the Defining Issues Test (DIT). Rest writes:

The DIT is based on the premise that people at different points of development interpret moral dilemmas differently, define the critical issues of the dilemmas differently, and have intuitions about what is right and fair in a situation. Differences in the way that dilemmas are defined therefore are taken as indications of their underlying tendencies to organize social experience. These underlying structures of meaning are not necessarily apparent to a subject as articulative rule systems or verbalizable philosophies—rather, they may work "behind the scenes" and may seem to a subject as just commonsensical and intuitively obvious. (16, p. 196)

Table 2 presents the average scores on the DIT of several first-year health professions student groups as well as the scores from other groups. The DIT is a self-administered questionnaire that measures subjects' moral reasoning according to cognitive developmental theories posited by Piaget, Kohlberg, and Rest (14-16). It consists of six hypothetical dilemmas (a short-form version includes three dilemmas). Each dilemma is followed by a series of 12 statements about the dilemma.

TABLE 2. Mean Moral Reasoning Scores of Different Health Professional Students.[b]

FIRST-YEAR HEALTH PROFESSIONAL STUDENT GROUP	DIT *P%**	*N*	DIT% CATEGORY**
Medical	47.28	39	High
Physical therapy	47.05	58	High
Dental	46.8	720	High
Veterinary	45.69	54	High
Nursing	44.58	155	High
Pharmacy	38.51	244	Middle
OTHER GROUPS			
College graduate students	53.3	183	High
College students	42.3	2,479	High
Adults	40	1,149	Middle

* Generally, scores greater than 50% represent principled thinking.
**Rest's recommended cutoff scores for DIT P% are: up to 26 (Low), 28-41 (Middle), 42 and above (High).
[b]Modified from Rest and Narvaez, 1994, p. 14, *Moral Development in the Professions*, see Ref. 3.

For each dilemma, subjects must select and rank order those issues that have, in their opinion, the most significant influence on the dilemma's resolution. The four highest ranked items are included in scoring the DIT. Of these four items, only those that represent principled thinking are included in a "*P*" score (defined as "the relative importance a subject gives to principled considerations in making a decision about ethical dilemmas") (16). Raw "*P*" scores can range from 0 to 57 for the 6-story DIT, and from 0 to 28 for the 3-story one. This score is then converted to a *P%* simply by dividing the raw score by .60 (for the 6-story DIT) or .30 (for the 3-story DIT).

The DIT has been used in over 1,000 studies, and its reliability and validity have been well documented (16). Cronbach's alpha is generally in the upper .70's, and the correlational patterns of the moral reasoning support both divergent and convergent validity of the instrument (3). Rest says that:

> . . . those who develop in moral judgment have an advantage in receiving encouragement to continue their development. They profit from stimulating and challenging environments, and from social milieus that support their work, interest them, and reward their accomplishments. As young adults, the people who develop in moral judgment are more fulfilled in their career aspirations, have set a life direction of continued intellectual stimulation and challenge, are more involved in their communities, and take more interest in the larger societal issues. (16, p. 57)

One concern of pharmacy faculty is preparing students to practice pharmaceutical care. Blasi, in a meta-analysis, reviewed many studies that have reported a relationship between moral thought and moral action (17). Particularly germane to pharmacy educators are the significant relationships reported between the various health professions and clinical performance (4-8). These studies have demonstrated that those at higher levels of moral judgment (Component II) are rarely found to be poor clinical decision makers.

Another concern is the notion that professional education may inhibit moral judgment because of the focus on the technical aspects of the profession (10). Early studies exploring the change in attitudes of medical students indicate a loss of idealism during medical education (18, 19). Research demonstrates that DIT scores are highly correlated with years of formal education (16). In a 10-year longitudinal study of the DIT, Rest reported that years of formal education accounted for between

38% and 52% of the variance in DIT *P%* scores (16). Despite this correlation, several studies in veterinary medicine and medicine have demonstrated that normally expected increases in moral judgment did not occur during four years of education, suggesting that students' professional educational experience may have inhibited rather than facilitated their moral reasoning abilities (20-22). Studies in the accounting profession have reported similar findings (23). A pertinent question is, Can changes in the curricula of a professional health program foster the moral development of its students? Bebeau and Thoma demonstrated that a dental curriculum consisting of 39 contact hours of problem-oriented ethics distributed over 4 years can have a significant and positive effect on DIT scores (24). In a longitudinal study of eight classes of dental students, it was shown that students' moral reasoning scores improved significantly between their freshman and senior years.

Kohlberg's Cognitive Moral Development Theory is not without its detractors. The four most commonly cited criticisms and limitations include a justice orientation focus, a focus on only one component process of morality, the assumption that individuals' moral development takes place in an invariant sequence, and a lack of empirical evidence of postconventional thinking (3).

A major challenge to Kohlberg's theory surfaced during the late 1970's and early 1980's. 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 (25). Gilligan hypothesized that women reasoned through a caring approach rather than through Kohlberg's justice approach. 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. Gilligan asserts that males as a group exhibit a predominantly justice orientation, whereas females as a group exhibit a predominantly caring orientation. This premise has not been empirically supported (3). In fact, continuing studies using the Defining Issues Test as a proxy for moral reasoning report that, on average, females score similarly or slightly higher than men (3).

A second limitation of Cognitive Moral Development Theory is a focus on only one component process (i.e., moral judgment) in the larger psychology of morality and neglecting moral motivation, moral sensitivity, and moral character and implementation (26). As discussed previously, ethical decision making involves more than moral judgment.

Indeed, the additional components discussed in this paper highlight the limitation of focusing solely on ethical judgment.

A third limitation is the notion that a person's moral development may include the use of multiple stages of thinking at the same time rather than progressing in a staircase fashion up a continuum of moral development (26). This point is well taken by Rest et al. who believe that development can include, depending on the situation, both higher and lower levels of moral judgment (26).

Finally, little empirical evidence exists of postconventional thinking from Kohlberg's studies. Rest's DIT differs from Kohlberg's approach in that, methodologically, it is a recognition instrument rather than a production task. Kohlberg's method has more stringent verbal requirements, whereas the DIT measures tacit understanding which allows for the finding of postconventional thinking (26).

Component III: Moral Motivation

Component I pertains to the recognition that an ethical dilemma exists. Component II addresses the processes one goes through when deciding which course of action to take. In Component III, one must choose from among the various alternatives of action in the resolution of an ethical dilemma. Often, people choose courses of action that may be less moral, even if they are aware that the course of action may not be the most moral. Rest cites a research example to illustrate this point: Damon asked children their view on how to distribute candy bars as a reward for making bracelets (10, 27). The children, in interviews, described various fair-minded methods of distributing the candy bars. However, when the children were given the actual candy bars and asked to distribute them, the majority deviated from their prior statements by giving themselves a disproportionately large number of candy bars. So, the moral ideals of the children were usurped by other motives, primarily a desire to eat the candy bars.

So, why would one have the moral motivation to choose the most moral alternative, especially if that alternative may involve sacrifice or hardship? According to Rest, the following are a few answers to this question that have been proposed (10):

1. It is in our genetic inheritance to behave morally (28).
2. Shame, guilt, and fear of God motivate us to act in a moral manner (29, 30).

3. One has no special motivation to be moral; rather, one responds to reinforcement and modeling opportunities to learn social behavior (31, 32).
4. Empathy is the framework for altruistic motivation (33).
5. The life experiences of living in justice-based communities can demonstrate how cooperative communities are possible and can lead to moral motivation (34, 35).
6. Concern for one's identity as a moral agent fosters moral motivation (17).

Component IV: Moral Character and Implementation

One may have the best of intentions and may be motivated to carry out a particular course of action. However, this motivation and these intentions do not necessarily translate into deeds. Component IV revolves around overcoming impediments to actually carrying out one's intentions (10). These impediments might include situational pressures in the workplace to do something other than what was intended. For example, a pharmacist may have the best intentions of providing pharmaceutical care to a patient, but situational pressures (e.g., a line of patients or little support from the organization for pharmaceutical care) may result in–despite the pharmacist's best intentions–the pharmacist not providing pharmaceutical care.

The hallmarks of Component IV are ego-strength, perseverance, and resolve. While these attributes can be used for good or bad, let us assume that two pharmacists were motivated to not fill an inappropriate (but not harmful) prescription. Pharmacist A has weak resolve, ego-strength, and perseverance. Pharmacist B is strong on these attributes. Pharmacist A had the intention of not filling the prescription. However, when she read who the prescribing physician was, she filled it (presumably because that particular physician has a habit of reacting negatively to those who question his prescribing habits). On the other hand, Pharmacist B (who was aware of the prescribing physician's tendency to react negatively to those who question his prescribing habits) called the physician and suggested an alternative medicine (knowing that a conflict might arise between the pharmacist and the physician). Although both pharmacists had the intention of not filling the inappropriate prescription, it was Pharmacist B who had the ego-strength (despite the potential impediment) to persevere in the goal of not filling the prescription.

IMPLICATIONS OF THE FOUR COMPONENT MODEL
FOR PHARMACY EDUCATION

The major implication of the Four Component Model is that all four processes of morality should be fostered (10). A major value of this framework is its usefulness for understanding the "why" of moral failing. This may enable educators to design effective educational experiences for students. Often, professional education, because it is so focused on the technical aspects of the job, results in "professional socialization," whereby students become socialized not to look for moral issues in the workplace (10). In other words, students completing pharmacy programs may not expect that moral issues are an inevitable component of pharmacy practice. The implications of this may be significant if a pharmacist is not equipped to deal with an ethical dilemma. The result may be frustration, hurt, embarrassment, and a malpractice suit for the pharmacist. Therefore, what are the implications of the Four Component Model for pharmacy education? More specifically, are there educational strategies that pharmacy students can use to develop their skills in each component area? Equally important, are there ways to test the efficacy of these strategies?

IMPLICATIONS OF ETHICAL SENSITIVITY

According to Nortvedt, there is an important connection between ethical sensitivity and clinical competency (36). Specifically, ethical sensitivity affects clinical competency simply because optimal clinical decision making embodies many moral qualities and values. Thus, a pharmacist providing pharmaceutical care must be aware that the potential resolution to a particular situation requires that he or she do something that could affect the interests, welfare, or well-being of the patient. To this end, an educational goal for pharmacy curricula could include practice at seeing things from the perspective of other individuals, groups, laws, institutions, and society. A major goal is to develop interpretive abilities needed in the pharmacy work setting (11).

What are some strategies pharmacy educators can use to attain these goals? Several strategies can be recommended. First, providing students practice at interpreting real or hypothetical clinical situations may increase students' sensitivity by increasing their abilities to recognize ethical issues common to pharmacy practice. For example, at the author's school of pharmacy, students are exposed, in part, to these situa-

tions throughout the curriculum. Other strategies for teaching ethical sensitivity might include engaging students in structured controversies in which they must change sides on a particular issue (e.g., euthanasia). Doing so may increase students' awareness of different views of the same issue and thus increase their ethical sensitivity. Still another strategy is to teach about the characteristics of different patients (i.e., cognitive competence, beliefs and values about health, trust in providers). Two assessment strategies tests are ethical sensitivity and empathy. Bebeau discusses the development of assessing students' verbal responses to four audiotapes concerning ethical problems with practicing dentists (11). A similar assessment process could be developed by researchers of pharmacy ethics. In addition, a reliable and valid pre-test and post-test empathy instrument could be administered to assess ethical sensitivity development (33, 37).

IMPLICATIONS OF ETHICAL JUDGMENT

As previously discussed, most of the research in cognitive moral development has targeted ethical judgment. The educational goals for this component might include the following:

- Stating the criteria for judging the adequacy of a moral argument
- Distinguishing between a well-reasoned and a less well-reasoned argument
- Making morally defensible decisions
- Testing hypotheses systematically in terms of their logical implications
- Identifying the moral assumptions of various moral theories.

Educational strategies for the ethical judgment component include the use of ethical dilemma discussion where students have an opportunity to question other individuals' assumptions concerning possible courses of action in the resolution of the dilemma. Latif discussed and demonstrated the efficacy of this method with pharmacy students (38). Another strategy is to directly teach moral judgment criteria and pharmacists' professional code of ethics. Assessment strategies include testing knowledge of the code of ethics and pre- and post-tests of ethical judgment. This strategy is discussed elsewhere (38).

IMPLICATIONS OF ETHICAL MOTIVATION

As discussed previously, it is not enough to recognize an ethical dilemma and to reflect on possible courses of action. How does one choose from various alternatives when resolving a dilemma? Educational goals should include students' prioritizing moral values over competing values and acknowledging and adhering to the pharmacy profession's code of ethics (11). Educational strategies might include learning through didactic instruction and readings what the pharmacy professional role is and what its expectations are for those who enter the profession. The participation in community service programs and clerkships where the student actually experiences ethical dilemmas may foster the development of ethical motivation.

Assessment strategies of moral motivation may include students rank ordering values, observational assessments of prosocial helping behaviors (e.g., during fourth-year rotations), and moral motivation assessment tools such as the one developed by Bebeau (11). Bebeau et al. developed a tool designed to assess the dimensions of professionalism that are linked to professionalism models described in the professional ethics literature, specifically authority and responsibility dimensions (39). Authority refers to "the degree to which a person sees the self as knowledgeable, a good judge of outcomes, respected, and deferred to for expertise" (39). People who are strong on the authority dimension believe that they know what is best for themselves and others in issues pertaining to their profession. Those not strong on the authority dimension are more likely to believe that other people's considerations are as deserving as their own on professional matters. For example: "Once a patient decides to use my service, he or she should follow my advice without questioning my authority (strong on authority) versus "The public should have more control over health-related policy and regulatory agencies" (39).

"Responsibility" refers to the "breadth of one's commitment to others" (39). Those who are strong on responsibility see their role as including some form of care to the disadvantaged or to society at large (e.g., "I feel I have an obligation to use my knowledge and skills to help those who cannot pay for my services") (39). Those weak on the responsibility dimension believe that everyone should be responsible for caring for himself or herself. If people look after themselves, society will operate most efficiently (e.g., "my first professional obligation is to myself").

Bebeau and colleagues report that the Professional Role Orientation Inventory scales have been shown to delineate first-year students, practitioners, and final-year students on conceptualizations of their professional role (39). Specifically, final-year students at the dental school at the University of Minnesota consistently demonstrate a significantly greater sense of responsibility to others than either first-year students or practicing dentists. This finding has been consistent through five cohorts of graduates ($N = 379$) (11).

In pharmacy, work by Hammer et al., as well as others, has produced scales that measure student professionalism (40, 41). Further development, using the authority and responsibility dimensions of role concept, may yield additional measurement tools to use in the assessment of moral motivation.

IMPLICATIONS OF ETHICAL CHARACTER AND IMPLEMENTATION

Although there is a relationship between intentions and actions, it is not a particularly strong one (17). Often intentions do not translate into deeds. Educational goals concerning this component include the development of self-regulation and implementation abilities for effective moral action (11). Also, the development of conflict resolution skills may be helpful to avoid acquiescing to a different alternative than originally intended. Guided practice in problem solving, interpersonal communications, and role-playing would be appropriate educational strategies for this component. Educational assessments could include observer ratings (e.g., during communication lab and rotations) of task completion and persistence. An additional assessment tool could occur during a problem-based learning situation in which students are given a specific clinical case and asked to interpret the facts of the case. They can ask questions and the facilitator must only answer students' questions. Students must address what is needed to resolve the case. They then must produce a plan of action that describes and defends why they chose a certain course of action and then must implement their course of action.

INTERACTION AMONG COMPONENTS

It is important to understand that the Four Component Model is not linear in nature (10). In other words, moral motivation may influence

moral sensitivity, and moral character (Component IV) may influence moral judgment. The following example illustrates this interaction.

> Joan, a pharmacist at Tiger Pharmacy, senses a problem when her coworker, Ralph (another pharmacist), comes to work under the influence of alcohol (for the third time in the last two weeks). Joan knows that Ralph has been going through a bad divorce, and she considers him a friend. However, she is aware of a problem and realizes that her action or inaction (from among various alternatives) can affect the welfare of patients (Component I). Joan believes that the most justifiable alternative is to report Ralph to the owner of Tiger Pharmacy (Component II). Furthermore, Joan decides that this is the alternative to take (Component III).

Before Joan reports Ralph, she decides that she does not have the resolve to carry through (Component IV). So, she does a reappraisal of the situation, and consequently alters her interpretation of the situation (Component I). Why? So that she can reduce the dissonance of her initial thoughts by reconciling those thoughts with her subsequent actions (i.e., not reporting Ralph). Thus, in accordance with the theory, the components can be nonlinear.

CONCLUSIONS AND AVENUES OF FUTURE RESEARCH

The purpose of this paper was to use Rest's Four Component Model of Morality as a theoretical framework to discuss the implications for pharmacy education. An assumption is made that those students who are more morally developed will be able to handle ethical dilemmas in the workplace more effectively than those who are less morally developed. A discussion concerning educational goals, strategies, and assessment pertaining to pharmacy education and using the Four Components as a guide is provided.

Avenues of future research concerning the Four Component Model for pharmacy could include developing and assessing reliable behavioral outcomes for each of the components. To date, the main focus of researchers has been in dentistry. However, it seems reasonable to expect the transportability of the measurement design processes to the pharmacy setting (42). For example, a Pharmacist Ethical Sensitivity

Test could be designed to assess pharmacy students' ability to identify specific ethical issues hidden within the ethical problems pharmacists routinely encounter in practice.

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