Role Modeling in Medical Education: The Importance of a Reflective Imitation
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Abstract
The medical literature almost uniformly addresses the positive aspects of role modeling. Still, some authors have questioned its educational value, a disagreement that is probably due to differing definitions of role modeling. If defined as demonstration of skills, provision of feedback, and emulation of specific professional behaviors, then role modeling is an important component of clinical training. However, if it is defined as a learner’s unselective imitation of role models and uncritical adoption of the messages of the learning environment, then the benefits of role modeling should be weighed against its unintended harm.

In this Perspective, the author argues that imitation of role models may initially help students adapt to the clinical environment. However, if sustained, imitation may perpetuate undesirable practices, such as doctor-centered patient interviewing, and unintended institutional norms, such as discrimination between private and public patients. The author suggests that the value of role modeling can be advanced not only by targeting role models and improving faculty performance but also by enhancing students’ reflective assessment of their preceptors’ behaviors, especially so that they can better discern those that are worth imitating. This student-centered approach may be accomplished by first, warning students against uncritically imitating preceptors who are perceived as role models; second, showing students that their preceptors share their doubts and uncertainties; third, gaining an insight into possible undesirable messages of the learning environment; and finally, developing policies for faculty recruitment and promotion that consider whether a clinical preceptor is a role model.

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Medical students’ observations of behaviors, specifically those of their role models, are believed to affect learning more than formal teaching. Research shows that, indeed, as many as 90% of medical graduates remember role models who shaped their professional attitudes. The medical literature almost uniformly addresses role modeling as a powerful, albeit underexploited, teaching strategy. There is evidence that students can identify positive role models; student-identified role models agree with their students about what is important to model; and peer-identified, positive role models devote more time to teaching and stress the importance of the doctor–patient relationship and the psychosocial aspects of medicine. Additional research has shown that exposure to physicians at various clinical settings affects students’ career choices; that viewing videotaped teacher performance changes learners’ attitudes, and that demonstrations, as opposed to lectures, promote students’ acquisition of skills.

Educators have interpreted these findings as an endorsement of role modeling’s value. They have suggested that students’ “pain of medical training” may be alleviated by role models with appropriate attitudes, and by faculty development aimed at role model training that reinforces empathy, compassion, and caring. Still, some authors have questioned the broader implications of role modeling, pointing out that its standards are elusive, and that “educators lack an adequate understanding of the process through which learners respond to models.”

Other authors have argued that role models merely reinforce views held at the start of training, and therefore, they exert little influence on students’ values; that some clinical tutors may show unethical behavior and cause students’ confusion; and that role modeling encourages imitative rather than active learning. What, then, is the value of role modeling in medical education, and should students be encouraged to emulate role models? In this Perspective, I address these questions. I argue that faculty efforts to improve role modeling, first and foremost, should promote learners’ reflective assessment of their preceptors’ professional behaviors, especially so that they can better discern those that are worth imitating; second, identify and correct undesirable messages of the learning environment; third, show students that preceptors share their doubts and uncertainties; and only then, finally, develop role models with desirable professional attributes. I start by examining the various definitions attributed to role modeling, and then I consider the educational value of role modeling. Next, I examine how the learning environment can affect role modeling. I conclude with a discussion of reflectivity and how it can improve role modeling.

Definition of Role Models and Role Modeling
Role modeling eludes precise definition. Clearly, it is different from mentoring and teaching in the sense that “a teacher … facilitates learning, while role-models are persons from whom [one] wants to gain some of their attributes.” Still, different authors have explicitly or implicitly used definitions with varying degrees of blurring the boundary between role modeling and effective teaching. Some authors have used the term role modeling to refer to deliberate teaching interventions, such as demonstration
of skills or behaviors, which are intended to achieve specific learning objectives. This definition implies a conscious activity by both teachers and learners. Other authors define role modeling as either unconscious or conscious teaching by practicing physicians who are by default role models because they are observed by students, and as both unconscious and conscious learning by students through reflection and abstraction. Still other authors have implied that role modeling is a predominantly unconscious adoption or imitation of the role models’ attributes by the learners.

A second ambiguity is related to the definition of the role models themselves. The term “role model” was first used to refer to a person who “occupies the social role to which an individual aspires.” This definition is consistent with claims that medical students are drawn to figures of status; however, it is at variance with how medical education research defines a role model: a person who is considered as a standard of excellence to be imitated because of his or her professional attributes.

Studies of role modeling commonly use surveys and focus groups to gain insight into students’ reasons for recognizing role models as such, and into the role models’ self-reported attributes. Students’ reasons for identifying a positive role model have included personality, skills, competence, and teaching ability, but not research achievements and academic position. Students perceived preceptors who appeared insensitive to patients as negative role models. Role models’ self-reported attributes were their competence and teaching skills; respect for and personal interest in patients; enthusiasm for specialty, reasoning skills, and close doctor–patient relationships; and consideration of the psychosocial aspects of medicine.

These observations suggest that students perceive role models as such because of their personal and professional attributes. However, this conclusion is at odds with the claim that medical students emulate those doctors who have responsibility and status. It is possible, therefore, that the reasons students provide for choosing role models are different from the real ones: Students may say they admire a head of a clinical service, for example, because of her competence, while actually emulating her, consciously or subconsciously, because they aspire to her social role.

The Educational Value of Role Modeling

The educational value of role modeling depends on how it is defined. If defined as a demonstration of skills and provision of feedback after observing students’ performance, then role modeling is a crucial component of clinical training. If defined as encouraging students to observe and reflect on the benefits and drawbacks of their preceptors’ behaviors and emulate those which they feel are important, then role modeling is similarly essential for students’ professional development. However, if role modeling refers to a conscious or unconscious unselective imitation of a role model’s behaviors and/or to an uncritical conformity with the formal (institutional culture) and unacknowledged (hidden curriculum) messages of the learning environment, then its benefits should be weighed against its unintended harm.

The benefit of imitation is that it helps students’ initial coping with the overwhelming challenges of clinical rotations, which have been described as “how to survive in a threatening environment and how to please authority figures.” Treadway and Chatterjee have claimed that “the rules governing the responses to [clinical] experiences are unclear … so students take their cues from the behaviors they observe.” In other words, just as children learn by imitating, so also role modeling meets an important need of medical students—namely, to take their cues from observed behaviors. Contrary to the claim that imitative learning is incompatible with active learning, Schon has argued that although “we do not like imitating … we are continually doing it … the imitative reconstruction of an observed action is a kind of problem solving.”

However, although imitation is important for students’ initial adaptation to the clinical environment, sustained uncritical imitation of role models may “stifle students’ critical reflection” and prevent students from responding to evolving ethical norms and patients’ needs. It may also promote a judgmental right/wrong dualism towards values and behaviors. Therefore, I suggest that faculty should warn students against the tendency to uncritically imitate one or more of their tutors, because none of them is error-proof, and none of them combines, at all times, all of the qualities of the ideal clinician. Rather, students should be encouraged to critically assess the attributes of their clinical preceptors, with an intention to select those attributes that are perceived useful and worth adopting.

Here again, the analogy with children’s learning seems appropriate. Children do not learn language through imitation alone because the language spoken around them is highly irregular, and because adults’ speech is often broken up and ungrammatical. Chomsky suggests that the principles of a language and its grammatical structures are “hard-wired” in the brain, thereby providing children with an ability to learn despite the irregularities in the language that is spoken around them. Similarly, medical students should be trained to encode the principles of professional attitudes and behavior so that they are able to recognize and ignore instances when these principles are violated.

Indeed, there is evidence that not all doctors with teaching responsibilities have the attributes that students say they seek in role models. In one study, only 40% of the attending physicians were identified by one or more residents as role models, and another survey found that as many as half of the clerks felt their teachers were not good role models. Still, as pointed out by Skeff and Mutha, faculty members who are not generally identified as role models can still be important in reshaping and broadening learners’ views. In other words, rather than being morally distressed by clinical preceptors’ unethical behavior, students should be encouraged to view such behavior as a learning opportunity and to critically assess the advantages and disadvantages of the observed behaviors. Instead of telling students that there is a right and a wrong way to interview patients, preceptors should urge students to discuss different interviewing techniques in an atmosphere characterized by respect for the techniques’ worth, critical assessment of various approaches, and student
empowerment to choose for themselves the elements that they like best among the different interviewing styles. Finally, students should be encouraged to discriminate among behaviors, rather than among preceptors, and treat all of them with respect—rather than admiring “positive” role models, and deriding “bad” role models—because everybody can learn something from everybody else.

The Educational Value of the Learning Environment

Clinical training is delivered by clinical preceptors in a defined learning environment, both of which are interdependent and complementary, and so it is sometimes impossible to discern between the influence of role modeling and that of the learning environment in general, and particularly of the hidden curriculum. The hidden curriculum affects the behavior of role models, and role models deliver its messages to students. Therefore, any discussion of role modeling must transcend individuals and examine the hidden curriculum and institutional culture.

The hidden curriculum may negatively affect some clinical learning environments by enhancing rather than alleviating students’ fear of personal inadequacy, and by failing to mitigate students’ prejudice against mental illness. The hidden curriculum may also perpetuate undesirable behaviors, such as doctor-centered patient interviewing in order to save time; humiliating students as a misguided attempt to encourage critical self-reflection in order to improve role modeling should be targeted at students. Efforts to reduce the impact of a learning environment’s undesirable messages should complement those aimed at increasing the number of positive role models among clinical preceptors. First and foremost, though, faculty should encourage students to observe, criticize, and be selective in adopting the messages of their preceptors and learning environment. In other words, students’ reflectivity is the most important prerequisite for effective role modeling.

Definitions of Reflectivity and Difficulties in Promoting It

Reflectivity is an all-inclusive term for several overlapping constructs, defined below. “Reflective practitioners” think about what they do while doing, particularly when confronting a new, unfamiliar problem. “Mindful practitioners” attend to their mental processes during everyday tasks, using critical self-reflection in order to recognize their own errors, and clarify their values. Other concepts, such as self-awareness and introspection, refer to one’s understanding of one’s self; social intelligence and empathy refer to one’s understanding of others. Theory of Mind and Reflective Function include an understanding of both oneself and others. Finally, these concepts are related to a person’s intellectual and moral development, and tolerance of uncertainty. Reflectivity and tolerance of uncertainty are relevant for clinical practice.

Perry’s intellectual and ethical development scale is a commonly used model to describe the development of reflectivity. According to Perry’s model, development occurs along a sequence of stages, which Perry called dualism, multiplicity, relativism, and commitment in relativism.

At the dualism stage, students believed in the existence of absolute truth and of a single correct answer for every question. They thought in terms of right and wrong, and made comments like “I disagree, and therefore, you are wrong.” The transition to the multiplicity stage began when students came across teachers / role models who answered “I don’t know.” Still, students’ belief in the existence of absolute truth remained unchallenged: Even if we do not know the right answer, in due time we shall know it. Until then, a multiplicity of opinions is legitimate, and therefore, “opinions can’t be judged.” Towards the end of the multiplicity stage, students realized that one can judge opinions, and that even in areas of uncertainty, a problem may have a limited number of legitimate solutions that are congruent with available data, and an unlimited number of illegitimate approaches, which are illogical and divorced from reality. This realization signaled their transition to relativism. Now students would say, “I disagree, but you may be right,” rather than, “I disagree and, therefore, you are wrong.” At this stage, the merits of each alternative appear so clearly that choosing among them became impossible. Students progressed to the final stage—commitment in relativism—when they understood that, unless they were to remain frozen in indecision, they would have to commit themselves to a decision, even if they would regret it in light of future evidence. The development along Perry’s scheme may be seen as an increase in tolerance of uncertainty: Uncertainty was rejected in dualism, viewed as temporary in multiplicity, accepted as legitimate during relativism, and dealt with when students affirmed themselves in their commitments. The development along Perry’s scheme may be also seen as a transition from blind imitation of role models to a critical and selective adoption of specific role models’ behaviors and attitudes.

Studies of medical students’ reflectivity or related concepts have shown that most students believed that value judgments were either true or false; that their intellectual development was mainly at
the dualism or multiplicity stage; that they expressed “predominantly simplistic levels of thinking”8; that their reflective ability decreased over the course of the final academic year; and that there were no detectable differences in tolerance of uncertainty between junior and senior students. Qualitative observations have suggested that medical students differ in their responses to observed inconsistencies in the communication styles of their clinical preceptors. Although some students thought that there was no excuse for a “poor” patient-interviewing technique, others attempted to reflect on, and understand, the reasons for the variability in their tutors’ communication styles. Still other students have been reported to stick to “principles” that do not always apply to specific situations, or to express the cynical attitude of “give them what they want” that characterizes Perry’s stage of multiplicity.

The evolution of a novice into a reflective practitioner is intellectually difficult and emotionally demanding. The assumption that, in the uncertain realm of clinical practice, there is an absolute truth known to role models, is extremely attractive. Conformity with authority has been identified as a means by which medical students control anxieties generated by the complexity of the clinical environment. In other words, it is easier to imitate role models than to grapple with the uncertainties inherent in clinical practice. Reflectivity necessitates more complex thinking than does a social code grounded in dominance, hierarchies, and conformity. Furthermore, research suggests that certain aspects of reflectivity, such as self-awareness and awareness of others’ feelings, are associated with not only higher levels of interpersonal competence but also higher levels of psychological distress and a less favorable perception of one’s self. For all of these reasons, medical students need help maturing into reflective professionals. Students have to be provided with the knowledge and motivation that are needed for developing critical attitudes, for questioning the messages they receive from their clinical preceptors and from the hidden curriculum, and for moving away from the comfort inherent in conformity.

Several specific teaching interventions have been suggested in order to promote students’ reflectivity and tolerance of uncertainty. Although such interventions are certainly worth exploring, I concur with the view that mindfulness cannot be taught explicitly but can be “modeled by mentors and cultivated in learners.” Given Perry’s finding that the transition to the multiplicity stage began when students came across teachers who answered, “I don’t know,” it would appear to me that the main source of support in students’ intellectual and ethical development is the realization that they are not alone, and that their instructors share their doubts and uncertainties. Therefore, I think that role models and role modeling are an important element of medical education. However, the main attribute of clinical role models is their openness in expressing their doubts and visibility in their deliberations. Seeing role models deliberate promotes students’ reflectivity, while students’ reflectivity is a prerequisite of effective role modeling.

Conclusions

Attempts to improve role modeling have been targeted primarily at the promotion of those personal attributes that learners and learner- or peer-identified role models identified as desirable. In this Perspective, I have argued that these attempts alone are not likely to improve the educational value of role modeling. First, I know of no evidence that such attempts increase the proportion of clinical faculty who are “positive” role models. Second, it is uncertain whether the personal attributes, which learners say they admire, are those that they actually emulate. Third, the heterogeneity in the strengths and weaknesses of individual faculty has, in and of itself, a unique educational value.

I believe that attempts to enhance the educational value of role modeling should include not only targeting the role models themselves and improving faculty performance but also targeting the students, with an intent to enhance their reflectivity and critical attitudes to their learning environment and clinical preceptors. Therefore, I suggest that faculty should, first, warn students against their tendency to uncritically imitate any of their preceptors; second, make students realize that their preceptors share their doubts and uncertainties; third, gain an insight into, and correct, undesirable features of the clinical setting’s hidden curriculum and institutional culture; and finally, develop policies for faculty recruitment and promotion that consider whether a clinical tutor is a “positive” role model only in the context of an overall evaluation of his or her strengths and weaknesses.

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