RESEARCH ARTICLE

DOI: 10.4274/ijca.2025.39306
Int J Cardiovasc Acad

The Importance of Role Modeling in Medical Students: A Qualitative Study

Candan Mansuroğlu

Clinic of Cardiology, Ankara Bilkent City Hospital, Ankara, Türkiye

Abstract

Background and Aim: Medical education operates through a master-apprentice model that integrates theoretical knowledge with clinical experience and professional identity formation. This study aimed to explore whom medical students and early-career physicians perceive as role models and which characteristics shape these perceptions.

Materials and Methods: This qualitative study included 6 interns and 7 cardiology residents at Ankara Bilkent City Hospital. The researcher, a cardiology specialist with a master's degree in medical education, conducted an unstructured qualitative study using in-depth, unstructured, face-to-face individual interviews that were video-recorded with consent, transcribed verbatim, and analyzed using Braun and Clarke's thematic analysis. Three independent physicians coded the data, employing regular peer debriefing and member checking. Data saturation was reached.

Results: A total of 40 codes were grouped into nine main themes: definition of a role model, desired characteristics, identified role models, role model deficiency, impact on students, communication skills, professional values, career influences, and systemic factors. Participants identified clinical knowledge, experience, effective communication, and professional behavior as the key components of positive role modeling. Students highlighted that empathy, respectful interactions, and calm crisis management enhanced the impact of role models. Conversely, negative behaviors—such as anger, impatience, and disrespect—reduced role-model effectiveness despite strong clinical skills. Institutional factors, including workload and limited time with educators, also shaped the quality of role-modeling experiences.

Conclusion: Role modeling emerged as a multifaceted process shaped by clinical expertise, humanistic qualities, and institutional context. While students valued strong clinical knowledge, they placed equal emphasis on empathy, respectful communication, and ethical behavior. Negative behaviors often undermined otherwise competent clinicians, creating lasting adverse impressions. Systemic pressures limited opportunities for meaningful engagement, highlighting the need for faculty development that integrates scientific excellence with communication skills and professionalism. This study also draws attention to role modeling as a simple, low-cost, yet highly effective educational strategy that deserves a more prominent place in medical education.

Keywords: Educational models, internship and residency, medical education

INTRODUCTION

The primary responsibility of medical educators is to equip future doctors with theoretical knowledge and practical skills, ensuring they gain professional competence.[1] Esen and Arslantas[2] emphasize that the effective fulfillment of this responsibility is crucial to maintaining the continuity and quality of medicine. However, medical education is not limited to training individuals who can treat diseases; it also aims to develop healthcare professionals who are committed to ethical values and possess empathy and compassion.[3]

To cite this article: Mansuroğlu C. The importance of role modeling in medical students: a qualitative study. Int J Cardiovasc Acad. [Epub Ahead of Print]

Address for Correspondence: Candan Mansuroğlu MD, Clinic of Cardiology, Ankara Bilkent City Hospital, Ankara, Türkiye
E-mail: candanmansuroglu@gmail.com
ORCID ID: orcid.org/0000-0002-0311-2046

Received: 07.10.2025
Accepted: 05.12.2025
Epub: 14.01.2026

Experienced physicians not only transfer their knowledge and experience to young doctors but also instill the humanistic values of the profession and pass on professional attitudes and behaviors to future generations.[4-8] This study aims to examine medical students' perspectives on role models and the contributions of role models to students' personal and professional development. Additionally, it seeks to identify which characteristics and behaviors of educators are effective in this process and to define the qualities of an ideal role model.

METHODS

Study Design

This study employed a qualitative research design using in-depth, unstructured individual interviews to explore participants' perceptions and lived experiences regarding role modeling. The study adhered to the principles of the Declaration of Helsinki, and ethical approval was obtained from the Ankara Bilkent City Hospital Ethics Committee (decision no: TABED 2/08/2024, date: 15.05.2024).

Research Team and Reflexivity

The study was conducted by a cardiology specialist who holds a master's degree in medical education and whose clinical background aligns with the study context. The researcher was previously acquainted with only one or two participants; the remaining participants were not known to the researcher. This potential source of bias was acknowledged, and reflexive awareness was maintained throughout data collection and analysis. All interviews were conducted solely by the researcher using an open-ended, conversational approach, allowing participants to express their experiences in depth. All study records are securely stored in a locked cabinet located in the researcher's office.

Participants and Sampling

A purposive sampling strategy was used to recruit participants with recent exposure to clinical teaching and role modeling practices. The sample consisted of six sixth-year medical students (interns) from the Faculty of Medicine at Ankara Yıldırım Beyazıt University and seven physicians who graduated from the same institution and were currently working as cardiology residents at Ankara Bilkent City Hospital. Participants were assigned coded identifiers (K1-K13) to ensure confidentiality.

The inclusion criteria were voluntary participation and the ability to engage in an in-depth interview. Data saturation was systematically evaluated and confirmed, with no new codes emerging during the final interviews.

Data Collection

Interviews were conducted face-to-face in the cardiology department physicians' office to ensure comfort and privacy. No structured interview guide was used; instead, participants were guided solely by the overarching topic of role modeling, consistent with unstructured interview methodology. Interviews lasted 26±3 minutes, were video-recorded with participants' consent, and were transcribed verbatim.

The first interview served as a pilot to evaluate the suitability of the questions and the feasibility of the interview technique. Because the pilot interview met methodological standards and contributed relevant data, it was included in the analysis.

Data Analysis

Transcribed data were analyzed using thematic analysis following Braun and Clarke's six-step framework. A detailed description of the analytical process was provided to ensure transparency in coding and theme development.

Three independent physicians coded the data. Multiple coders were included to reduce researcher bias and strengthen analytical credibility. Although no qualitative data-analysis software was used, regular peer debriefing sessions ensured coding accuracy and consensus among coders. No quantitative statistical analysis was performed.

Member checking was performed by sharing interpretations with participants, allowing them to confirm the accuracy of their statements.

A total of 40 codes were generated by systematically identifying recurring meaningful expressions. These codes were then grouped into nine overarching themes:

1. Definition of a role model
2. Desired characteristics
3. Individuals identified as role models
4. Lack of role models and alternative approaches
5. Impact on students
6. Communication skills
7. Professional values and respectability
8. Career choice and its influence
9. Systemic and environmental factors

RESULTS

Participants consistently emphasized clinical knowledge, experience, communication skills, and professional conduct

as central components of role modeling. The analysis yielded four major categories: (1) knowledge and experience, (2) communication with patients, (3) successful clinical performance, and (4) negative behaviors. Illustrative participant quotations and thematic codes are summarized in Table 1.

Positive Role Modeling

Participants frequently identified knowledgeable and experienced clinicians as exemplary role models (K2, K6, K7, K11, K12, K13). Statements such as *"Although our professor is a professor, he greeted us in the clinic…"* highlig ted the perceived importance of humility and respectful professional behavior. Compassionate communication was also emphasized; for example, one participant noted, *"When the doctor entered the patient's room, he spoke kindly."* These accounts indicated that empathy, respect, and clear communication were viewed as essential attributes of effective role models.

Successful clinical performance emerged as another prominent theme. Participants expressed admiration for calm and competent behavior during emergencies, as illustrated by comments such as *"He managed all the crises very calmly…"* (K2, K7). Such composure was interpreted as a sign of professionalism and reinforced students' motivation to emulate these behaviors.

Negative Role Modeling

In contrast, several participants described behaviors that negatively shaped their perceptions of certain educators (K1, K3, K5). One student stated, *"I have never seen someone so angry, he always shouted,"* which suggests that displays of anger, shouting, or disrespect created lasting negative impressions. Materialistic attitudes, lack of empathy, and preoccupation with appearance or wealth were additional factors that participants associated with poor role modeling. These cases were included to reflect the nuanced and multifaceted nature of role-model perception.

Individual Influences

Individual experiences shaped participants' perceptions in diverse ways:

- Observing decisive action during an emergency motivated K2 and strengthened their professional aspirations.
- K8 emphasized compassionate patient communication as the most influential factor.
- K1 felt alienated by an educator who had strong medical knowledge but exhibited "repulsive" interpersonal behavior.
- K3 criticized role models who appeared overly focused on appearance or material wealth rather than on humane qualities.
- K6 initially experienced stress due to a strict educator but later recognized that this environment contributed to both personal and professional growth.

These accounts demonstrate the individualized and sometimes contradictory nature of role-model influence.

Table 1: General frequency analysis of themes and codes
Frequencies are used only to indicate salience in the qualitative dataset

Theme / subtheme	Code / category	Frequency	Illustrative quote
Knowledge and experience	Clinical knowledge & skills	40	*"Although our professor holds an academic title, he greeted us in the clinic and explained, step by step, what we should do"*
Communication with patients	Empathy & compassion	30	*"When the doctor entered the patient's room, he spoke kindly and was compassionate"*
Successful clinical performance	Calmness in emergencies	25	*"He managed all the crises very calmly…"* (K2, K7)
Professional conduct	Respectful & humble behavior	20	*"Although he is a professor, he greeted us in the clinic and listened patiently to our questions"*
Negative role modeling	Anger / shouting	10	*"I had never seen someone so angry; he would always shout"*
	Materialism / appearance focus	8	*"Some educators seemed more concerned with appearance and wealth than with patient care"*
Individual influences	Motivation by example	15	*"Observing decisive action during an emergency motivated me professionally"* (K2)
	Compassionate interaction	12	*"I was most influenced by how kindly the doctor spoke to patients"* (K8)
	Negative perception	5	*"I felt alienated by an educator whose behavior was offensive despite possessing strong medical knowledge"* (K1)
Systemic factors	Workload & time constraints	18	*"A high patient load and limited teaching time reduced meaningful interactions with faculty"*
	Structural limitations	10	*"The system sometimes prevents us from observing educators consistently acting as role models"*

Systemic Factors

Participants also noted several systemic barriers that limited opportunities for meaningful role modeling. High workload, insufficient time for teaching, and structural constraints within the clinical environment reduced faculty-student interaction. These contextual factors shaped students' learning experiences and contributed to variation in their perceptions of role models. Including these elements provided a more comprehensive understanding of the broader educational environment influencing role modeling.

DISCUSSION

The findings of this study show that clinical knowledge and experience remain the primary determinants of positive role modeling, consistent with the global literature, which emphasizes clinical expertise as a fundamental influence on professional identity formation.[9,10] Participants frequently emphasized that knowledgeable and skilled clinicians provided confidence, clarity, and a sense of professional direction, which supports earlier evidence that strong clinical competence is a major factor influencing learners' perceptions.[9]

However, humane qualities—such as empathy, compassion, authenticity, and respectful communication—were equally central to role-model perception. Participants repeatedly described clinicians who displayed kindness, calmness during crises, and ethical behavior as particularly impactful. These findings align with research highlighting that empathetic, patient-centered communication shapes both patient trust and students' internalization of professional standards.[11-13]

Conversely, negative behaviors emerged as a significant area requiring deeper analysis, as they were shown to undermine role-model status even when demonstrated by clinically competent educators. Participants described anger, shouting, impatience, or arrogance as behaviors that elicited strong negative emotional reactions that overshadowed otherwise strong clinical competence. This is consistent with earlier studies demonstrating that negative behaviors can produce long-lasting detrimental effects on learners and their perceptions of professionalism.[14]

A recurring and noteworthy finding was the tension students experienced between admiring clinical mastery and rejecting poor interpersonal traits. Several participants expressed conflict when a technically exceptional clinician demonstrated unprofessional behavior. This contradiction reflects the holistic and multidimensional nature of role modeling, where students evaluate both technical and interpersonal attributes. The literature similarly notes that professional identity is shaped by the integration of clinical skills and humanistic values.[11,13]

Institutional and systemic factors also played an important role in shaping role-modeling experiences. Participants emphasized that heavy workload, limited time, and structural constraints restricted opportunities for meaningful interaction with educators. These results reflect international findings describing how systemic pressures limit role-model availability in clinical environments.[11,15] Nevertheless, even brief positive interactions—such as a moment of compassionate communication—were reported to have a strong formative influence.

Overall, role modeling emerged as a complex, multifaceted process shaped by clinical expertise, interpersonal behavior, ethical conduct, and institutional context. Effective role models were described as individuals who combine professional competence with emotional intelligence, clear communication, and supportive leadership behaviors. Such a profile aligns with established frameworks outlining the multiple roles of medical teachers.[10]

These findings underscore the need for faculty development programs that cultivate both scientific excellence and humanistic professional values, echoing global recommendations for improving role-modeling practices in medical education.[9,10,14]

Study Limitations

This study has several limitations. First, it was conducted at a single-center with a small sample size, which limits the transferability of the findings. Additionally, participants did not answer all questions uniformly, which may have reduced the depth of certain themes. The study lacked quantitative data, and there was no structured pre-interview assessment of participants' characteristics, which could have provided additional context for interpreting the findings. Data analysis was performed manually, and no software-assisted qualitative analysis was used; this limitation was partially mitigated by the involvement of three independent coders. Finally, there is a potential risk of bias due to partial familiarity between the researcher and some participants.

Future studies should adopt multicenter designs, integrate mixed-methods approaches, and include faculty perspectives to provide a more comprehensive understanding of the role-modeling process.

CONCLUSION

This study highlights that role modeling in medical education is a multidimensional process shaped by the interplay of clinical expertise, humanistic qualities, professional behavior, and institutional context. While clinical knowledge and experience remain essential foundations of positive role modeling, students place equal value on empathy, respectful communication, and

ethical conduct. The findings demonstrate that even brief moments of compassionate interactions can have a profound educational impact, whereas negative behaviors—such as anger, impatience, or disrespect—can overshadow strong clinical skills and create lasting adverse impressions.

The tension students experience between admiring technical mastery and rejecting unprofessional attitudes underscores the need to cultivate both competence and character in clinical educators. Moreover, systemic challenges, including heavy workload and limited time for meaningful engagement, continue to constrain effective role modeling across clinical settings.

These results reinforce the urgent need for structured faculty development programs that promote not only scientific excellence but also emotional intelligence, communication skills, professionalism, and reflective practice. Strengthening these areas may enhance the quality of role modeling, support students' professional identity formation, and ultimately contribute to the development of more compassionate, skilled, and ethically grounded physicians.

An additional contribution of this study is its emphasis on bringing the concept of role modeling—an inexpensive, simple, and highly effective educational strategy—more prominently onto the agenda of medical education. By demonstrating its impact through learners' authentic experiences, this study underscores the need to recognize role modeling as a strategic, high-value component of clinical training.

Ethics

Ethics Committee Approval: The study adhered to the principles of the Declaration of Helsinki, and ethical approval was obtained from the Ankara Bilkent City Hospital Ethics Committee (decision no: TABED 2/08/2024, date: 15.05.2024).

Informed Consent: Interviews lasted 26±3 minutes, were video-recorded with participants' consent, and were transcribed verbatim.

Footnotes

Financial Disclosure: The author declared that this study received no financial support.

REFERENCES

1. Baykan Z. Being a role model [İyi örnek olma (rol model olma)]. Turkiye Klinikleri J Med Educ-Special Topics. 2017;2:135-9.
2. Esen F, Arslantas D. Milestones of medical education in the historical process [Tarihsel süreç içerisinde tıp eğitiminin dönüm noktaları]. Osmangazi Journal of Medicine. 2023;45:615-28.
3. Tosteson DC. Learning in medicine. N Engl J Med. 1979;301:690-4.
4. Köse C. The self-assessments by the interns studying at a medical school on certain basic professional knowledge and skills [Bir tıp fakültesi intörnlerinin mesleki temel bazı bilgi ve becerileri hakkındaki öz değerlendirmeleri]. STED. 2018;27:176-89.
5. Passi V, Johnson N. The impact of positive doctor role modeling. Med Teach. 2016;38:1139-45.
6. Passi V, Johnson S, Peile E, Wright S, Hafferty F, Johnson N. Doctor role modelling in medical education: BEME guide no. 27. Med Teach. 2013;35:e1422-36.
7. Passi V, Johnson N. The hidden process of positive doctor role modelling. Med Teach. 2016;38:700-7.
8. Paice E, Heard S, Moss F. How important are role models in making good doctors? BMJ. 2002;325:707-10.
9. Levinson W, Lesser CS, Epstein RM. Developing physician communication skills for patient-centered care. Health Aff (Millwood). 2010;29:1310-8.
10. King N. Positive doctor role modeling: is it a two-way street? Med Teach. 2017;39:326.
11. Kutlu M, Çolakoğlu N, Özgüvenç ZP. A study on the importance of empathy in patient-doctor relationship [Hasta hekim ilişkisinde empatinin önemi hakkında bir araştırma]. Sağlıkta Performans ve Kalite Dergisi. 2010;2:127-43.
12. Kılıç F, Hösükler E, Altın İ, Üzün İ. An evaluation of cases with a claim of medical malpractice related to the cardiology department reported by the first forensic medicine expert committee of the forensic medicine institute between 2012 and 2014. Int J Cardiovasc Acad. 2024;10:115-22.
13. Hojat M, Gonnella JS, Nasca TJ, Mangione S, Vergare M, Magee M. Physician empathy: definition, components, measurement, and relationship to gender and specialty. Am J Psychiatry. 2002;159:1563-9.
14. Flin R, O'Connor P, Crichton M. Safety at the sharp end: a guide to non-technical skills. Aldershot (UK): Ashgate Publishing Ltd; 2008.
15. Harden RM, Crosby J. AMEE education guide no 20: the good teacher is more than a lecturer-the twelve roles of the teacher. Med Teach. 2000;22:334-47.