Adv Physiol Educ 37: 298–302, 2013;
doi:10.1152/advan.00076.2013.

Medical students' participation in and perception of unprofessional behaviors: comparison of preclinical and clinical phases

Esin Kulac,[1] Mekin Sezik,[2] Halil Asci,[3] and Duygu K. Doguc[4]

[1]*Department of Medical Education and Informatics, Suleyman Demirel University School of Medicine, Isparta, Turkey;* [2]*Department of Obstetrics and Gynecology and Department of Medical Education and Informatics, Suleyman Demirel University School of Medicine, Isparta, Turkey;* [3]*Department of Pharmacology Suleyman Demirel University School of Medicine, Isparta, Turkey; and* [4]*Department of Biochemistry, Suleyman Demirel University School of Medicine, Isparta, Turkey*

Submitted 8 July 2013; accepted in final form 26 August 2013

Kulac E, Sezik M, Asci H, Doguc DK. Medical students' participation in and perception of unprofessional behaviors: comparison of preclinical and clinical phases. *Adv Physiol Educ* 37: 298–302, 2013; doi:10.1152/advan.00076.2013.—We aimed to compare reported observations, participation in, and perceptions of unprofessional behaviors across preclinical and clinical medical students using a 23-item questionnaire that asked participants whether they witnessed or participated in the behavior and considered it unprofessional. Overall, 111 preclinical (*year 3*) and 104 clinical (*year 4*) students responded. For all of the behaviors, significant positive correlations were present between participation and affirmative perceptions. Participation rates for several unprofessional behaviors (14 of 23 items) were higher in the clinical phase. Clinical students more frequently perceived unprofessional behaviors as appropriate (17 of 23 items) compared with preclinical students. In conclusion, both preclinical and clinical medical students in our setting commonly witness unprofessional behaviors. Clinical students participate in and tend to rationalize these behaviors more frequently than preclinical students do.

medical student; professionalism; unprofessional behavior

ALTHOUGH IT REMAINS somewhat difficult to define the term "professionalism," it aspires to "altruism, accountability, excellence, duty, service, honor, integrity, and respect for others" according to Roberts et al. (22). Previous data (11, 13, 21) have indicated a significant contribution of noncurricular elements such as medical teachers to deviant behaviors of medical learners. Such actions of faculty members or others witnessed by the medical student actually comprise the "hidden curriculum" practiced in an unprofessional learning environment (3, 7, 14, 23).

Long-term effects of lapses in professionalism may have significant consequences as well. For example, unprofessional behavior during medical school has been associated with consequent disciplinary action by medical boards (2, 19). This emphasizes the proper timing of interventions for professionalism issues to create a longitudinal environment of awareness and to promote student well-being (8, 16). Therefore, students' perceptions in the early (i.e., preclinical) years of medical education need to be considered for the development of effective strategies against lapses in medical student behavior (6, 12).

Within this context, our aim was to identify and examine how preclinical and clinical medical students perceived of and participated in unprofessional behaviors. We hypothesized that there were significant differences across preclinical and clinical learners considering lapses in professionalism issues.

MATERIALS AND METHODS

Participants. This study was subject to local ethics committee approval. All medical students in *year 3* (preclinical phase, $n = 163$) and *year 4* (clinical phase, $n = 155$) at the School of Medicine, Suleyman Demirel University (Isparta, Turkey), were approached by March 2013 (after the midterm break). Of the 318 students initially approached, 215 students (response rate: 68%) consented to participate. Printed questionnaires were handled to students after a 10-min standard presentation by one of the authors (E. Kulac). The presentation incorporated a brief description of professionalism as well as the aim and content of the study. A 10-min conversation session with a brief discussion on the subject was then arranged. Students were particularly informed that there were no "right" or "wrong" answers and that no personal/demographic information, including name/surname, sex, and ethnicity, would be asked for. There were three standard briefing sessions, and each included ~100 students jointly from the third and fourth years. Because all questionnaires were entirely anonymous, the investigators collecting them were not aware of the student level. Data on rejection rates in different sessions were not available due to anonymity.

Suleyman Demirel University School of Medicine implements an integrated-hybrid curriculum with five thematic blocks in the third year. The third year entirely includes a preclinical program, and students are in a nonclinical setting. On the other hand, the fourth year is exclusively clinically oriented with a department-based education program. Fourth-year students reside invariably in the university hospital setting. Therefore, third-year students are practically always in a preclinical setting, whereas the opposite holds true for fourth-year students.

Instrumentation. The clinical medical student professionalism survey, developed within an institution-wide "Roadmap to Professionalism" program at the Pritzker School of Medicine, University of Chicago, was selected as the baseline of our questionnaire (15, 21). We obtained permission by e-mail to modify and use the original Pritzker School of Medicine survey, which includes a 27-item list of behaviors with yes/no answers and asks students whether they observed, participated in, and considered the behavior unprofessional (21).

Based on the Pritzker School of Medicine survey, we held a focus group that incorporated interdisciplinary faculty members. The group translated the survey into the Turkish language and provided recommendations for including and/or modifying items depending on the specific issues thought to be important in the current setting. Afterward, the investigators reviewed the suggestions and established a final draft. The questionnaire then under-

Address for reprint requests and present address: E. Kulac, Dept. of Medical Education, School of Medicine, Kocaeli Univ., Umuttepe 41380, Kocaeli, Turkey (e-mail: kulacesin@yahoo.com).

1043-4046/13 Copyright © 2013 The American Physiological Society

Downloaded from http://advan.physiology.org/ by 10.220.33.3 on June 18, 2017

went linguistic review by an expert, and a pilot testing with 10 students was performed. After final revisions, the modified questionnaire, including 23 items with yes/no questions, was ready for use. The questions are shown in Table 1.

Statistical analyses. All data were rendered anonymous to protect student identity and facilitate truthful reporting. Two of the investigators (E. Kulac and M. Sezik) performed the statistical analyses. The responses were manually exported to PASW Statistics 18 software (SPSS, Chicago, IL). Unprofessional behaviors were categorized by authors into the following three type: egregious, discourteous, and controversial. Data are expressed as frequencies. χ^2-contingency table analyses were used for comparisons with P values set at <0.05 for statistical significance. To determine the significance and magnitude of the relationships across dichotomous variables, ϕ-correlation analyses were used, and correlation coefficients were calculated.

Table 1. *Comparisons of observations, participation in, and perceptions of unprofessional behaviors between preclinical and clinical medical students*

Behavior	Observed			Participated in			Considered Unprofessional		
	Preclinical students	Clinical students	P value	Preclinical students	Clinical students	P value	Preclinical students	Clinical students	P value
Egregious									
Making fun of patients, peers, or physicians	56.3 (49)	65.0 (67)	0.219	21.3 (17)	32.7 (33)	0.088	96.3 (103)	83.2 (84)	0.002*
Being introduced as "doctor" to patients	33.3 (20)	56.9 (58)	0.004*	14.5 (9)	50.0 (52)	0.0001*	77.5 (79)	45.5 (46)	0.0001*
Reporting an impaired colleague to faculty before approaching the individual	27.5 (14)	29.6 (29)	0.784	3.9 (2)	11.3 (11)	0.220	88.8 (87)	84.7 (83)	0.400
Poor condition of white coats	86.5 (77)	75.0 (75)	0.046*	40.2 (33)	32.3 (32)	0.269	95.3 (101)	87.6 (85)	0.049*
Taking food meant for patients	16.1 (10)	29.7 (30)	0.050	11.1 (6)	20.0 (20)	0.160	90.1 (91)	76.8 (76)	0.011*
Discussing patients in public spaces	63.5 (47)	74.5 (76)	0.016*	29.2 (19)	67.3 (68)	0.0001*	75.2 (76)	64.0 (64)	0.083
Making derogatory comments about patients	50.7 (36)	52.5 (53)	0.819	7.8 (5)	25.0 (25)	0.005*	97.0 (97)	83.8 (83)	0.002*
Discuss with patients information beyond your level of knowledge	52.3 (34)	56.4 (57)	0.602	12.7 (8)	26.7 (27)	0.033*	95.1 (98)	80.8 (80)	0.002*
Discourteous									
Late to rounds	65.4 (34)	94.2 (97)	0.0001*	10.3 (3)	68.3 (69)	0.0001*	98.8 (84)	76.7 (79)	0.0001*
Absent from mandatory lectures	93.3 (84)	92.1 (93)	0.740	79.6 (78)	68.7 (68)	0.081	84.8 (89)	68.3 (69)	0.005*
Wear white coats/scrubs in a nonclinical environment (e.g., the cafeteria)	93.7 (89)	94.2 (97)	0.885	18.3 (13)	67.3 (68)	0.0001*	83.7 (87)	41.4 (41)	0.0001*
Wear white coats/scrubs out of the hospital (e.g., the hospital courtyard)	95.0 (96)	92.2 (95)	0.410	26.0 (19)	70.6 (72)	0.0001*	83.5 (86)	48.5 (48)	0.0001*
Untidy dress	84.2 (80)	80.2 (81)	0.464	26.7 (23)	33.0 (33)	0.354	91.5 (97)	73.0 (73)	0.0001*
Not correcting someone who mistakes you for a physician	29.0 (20)	47.1 (48)	0.018*	19.1 (13)	29.4 (30)	0.130	79.2 (80)	59.4 (60)	0.002*
Being introduced as "student doctor" to patients	37.3 (19)	69.6 (71)	0.0001*	7.5 (4)	60.8 (62)	0.0001*	71.1 (69)	34.0 (35)	0.0001*
Eating or drinking in patient corridors	71.6 (53)	88.0 (88)	0.006*	37.3 (25)	74.7 (74)	0.0001*	80.8 (80)	47.9 (46)	0.0001*
Taking food from lectures you are not attending	52.2 (35)	84.3 (86)	0.0001*	27.5 (19)	63.4 (64)	0.0001*	77.8 (77)	42.9 (42)	0.0001*
Having personal conversations in patient corridors	86.8 (66)	87.9 (87)	0.838	54.0 (34)	82.7 (81)	0.0001*	69.7 (69)	44.3 (43)	0.0001*
Competition between students	87.9 (80)	85.1 (86)	0.576	45.6 (36)	40.4 (40)	0.489	55.7 (59)	52.5 (52)	0.653
Controversial									
Using workrooms for extracurricular activities	77.4 (65)	68.4 (65)	0.180	54.7 (47)	52.6 (51)	0.779	58.8 (57)	56.8 (54)	0.788
Attending a drug representative's social event	31.0 (18)	60.2 (62)	0.0001*	3.6 (2)	38.2 (39)	0.0001*	41.2 (40)	39.2 (40)	0.771
Accepting a pen from a pharmaceutical representative	77.8 (56)	77.5 (79)	0.959	38.6 (22)	68.4 (67)	0.0001*	32.3 (32)	27.6 (27)	0.465
Inebriation at school events	64.6 (51)	47.5 (48)	0.023*	12.0 (9)	24.2 (24)	0.041*	91.4 (96)	76.0 (73)	0.003*

Values are percentages with numbers of students in parentheses. *Statistically significant.

Downloaded from http://advan.physiology.org/ by 10.220.33.3 on June 18, 2017

RESULTS

Of the 215 students, 111 (51.6%) and 104 (48.4%) students were in the preclinical and clinical phases, respectively. The response rate was similar across these groups (68.1% for the preclinical phase vs. 67.1% for the clinical phase, $\chi^2 = 0.01$, $P = 0.92$).

Correlation analyses for observations, participation in, and perceptions of unprofessional behaviors were performed. Except for only two behaviors (late to rounds and competition between students), there were significant correlations between observations and participation. Therefore, the more an unprofessional behavior is observed, the more it is participated in. Similarly, observations of all but two behaviors (absence from mandatory lectures and untidy dress) were related with an affirmative perception toward the behavior. Moreover, there were significant correlations across participation and perceptions (as acceptable) for all of the surveyed behaviors. Hence, the acceptability of an unprofessional behavior generally increased when that behavior was observed and was participated in. Considering perception, correlation coefficients for participation were generally higher than that of observation. Thus, participation in a certain unprofessional behavior seemed more indicative than observation for perceiving that behavior as acceptable.

Table 1 shows comparisons for observations of, participation in, and views on unprofessional behaviors across preclinical and clinical students. For 12 of 23 behaviors, the observation rate was similar between study groups. More than 90% of both preclinical and clinical students reported that they had witnessed absence from mandatory lectures and wearing white coats/scrubs in a nonclinical environment or out of the hospital, with no significant differences among the groups. Preclinical students witnessed poor condition of white coats and inebriation at school events more frequently than clinical students did. Students at the clinical phase reported higher percentages of observations for the remaining behaviors (9 of 23 behaviors) compared with preclinical students (Table 1).

The participation rates of clinical students were significantly higher concerning 14 of the 23 surveyed behaviors. Eating/drinking and having personal conversations at patient corridors were quite common (75% and 83%, respectively) during clinical clerkship (Table 1).

Significant differences for perceptions were also evident. Clinical students were more likely than preclinical students to rationalize the deviant behavior for 17 of the 23 items. There were no differences across groups considering perceptions of the remaining six variables, such as "accepting a pen from a pharmaceutical representative" and "competition between students" (Table 1). Only 28% and 34% of the clinical students considered "accepting a pen from a pharmaceutical representative" and "being introduced as a student doctor to patients" as unprofessional behaviors. About 60% of both preclinical and clinical students considered "attending a drug representative's social event" as acceptable with no significant differences between the groups (Table 1). Further data, including percentages and comparisons, are shown in Table 1.

DISCUSSION

Our data revealed that participation in all the unprofessional behaviors we surveyed was associated with an increased likelihood of considering the behaviors as acceptable. Similar but weaker correlations were present for witnessing the behavior (except for two items, i.e., absent from mandatory lectures and untidy dress). Therefore, medical students in our cohort were more likely to perceive unprofessional lapses as acceptable when they observed and, more significantly, when they were personally involved in that particular unprofessional behavior. This may be partly explained by normalization and rationalization of the professionalism breaches, secondary to the cognitive "disequilibrium" once the students observe and specifically participate in the behavior (14). Hence, cognitive dissonance seems to alter the attitudes or beliefs to decrease discomfort and restore balance.

For two of the items (inebriation at school events and taking food from lectures you are not attending), the correlations among participation and perceptions were relatively stronger. This is probably a negative reaction toward questioning these issues as part of a survey on medical professionalism. Although our survey did not incorporate any quantitative open-ended questions, some students displayed an overt hostility toward these two questions, especially toward the item on inebriation at school events. These students had written down their point of view aside the question on the printed survey material (it is none of your business; I do not quite understand why you are inquiring about this). Those participants probably perceived the survey questions on eating and drinking as a lifestyle intervention aimed toward the right to drink alcohol during social events. Further qualitative studies dissecting out human behavior in the current environment will be needed to resolve this issue. Interestingly, 24% of the clinical students reported inebriation at school events, and virtually the same percentage (24%) considered this appropriate. Therefore, perspectives on questionable deviant behaviors may vary radically across students.

Various studies have compared the perceptions of professional lapses by medical students, physicians, and the public (1, 10, 17, 18, 20, 21). Reddy et al. (21) longitudinally investigated changes in student observations of, participation in, and views on unprofessional behaviors in third-year medical students (clinical clerkship) over time using pre- and postsurveys within 5 mo into their clerkships. Their data revealed changes that were consistent with students perceiving unprofessional behaviors as increasingly appropriate over time (21). A recent report (20) on podiatric medical students' perceptions of professionalism in 88 participants who had just completed their clinical training experiences confirmed various types of professional lapses in behavior. Some erosion and changes in values as students progressed were also demonstrated in other publications (1, 10, 17). Our data expand on previous information by specifying the lapses that differ across preclinical and clinical phases in a non-Western setting.

Based on their prior questionnaires, the Pritzker School of Medicine group (4) subsequently developed a survey for use during internship. Interestingly, perceptions of and participation in most unprofessional behaviors did not increase as students progressed through internship. Another study (9) from the United Kingdom compared perceptions on unprofessional behavior across medical students, physicians, and the public. The authors emphasized that "students were more likely than doctors and public to rationalize, make allowances, or even excuse certain behaviors" (9).

Downloaded from http://advan.physiology.org/ by 10.220.33.3 on June 18, 2017

Overall, the present data, including ours, indicate that initial deficiencies in professional attributes begin during the transition from preclinical to clinical years. However, our design was relatively different from the previous research. We used the modified Pritzker School of Medicine survey initially designed for use in clinical medical students. We intentionally incorporated this survey for both preclinical (*year 3* in our setting) and clinical (*year 4*) students. Therefore, preclinical students were asked to answer questions on certain clinical issues as well. This obviously led to low response rates by preclinical students for some parts of the survey, such as participation in certain behaviors in the clinical setting. However, our design also provided a unique opportunity to evaluate clinical professionalism-related issues during the preclerkship years. For example, ~50% and 70% of preclinical students had observed others making derogatory comments about patients and eating/drinking in patient corridors, respectively. Therefore, our results underline the relative importance of the institutional climate concerning ethical erosions.

One must consider that the preclinical medical student engages in continuous social interactions, including contacts with the clinical environment. Although third-year students in our setting do not have any formal clinical educational or observership obligations defined in our curriculum, our data interestingly reveal that some preclinical students can informally be present in the clinical environment and participate in unprofessional behaviors. For example, 11.1% of preclinical students in our cohort indicated taking food meant for patients. Negative role modeling, especially of senior students, is an issue that needs to be addressed within this perspective (5, 10). Therefore, interventions at earlier phases of medical learning should consider such interactions, as the preclinical learning environment is not "sterile" regarding clinical lapses of professionalism. This certainly demonstrates the need to develop particular institution-wide policies and programs that aim toward very early interventions, for example, at admission or during the first semester of medical school (24). Hence, "educational continuity," avoiding compartmentalization of professionalism education, is warranted (16).

Limitations of our study include nongeneralizable and restricted data involving only one school. Recall bias or fear of being identified may have led to inaccurate data. Response rates for some questions were relatively low, as some behaviors were probably less relevant to preclinical students. Our design was not longitudinal, and we were not able to comment on changes in perceptions of and participation in behaviors over time. Despite these limitations, our data provide a unique snapshot of lapses in clinical professionalism issues at one point in time and reveal striking differences between preclinical and clinical learners. Further studies including more qualitative information on this topic are warranted.

In conclusion, not only clinical but also preclinical medical students frequently observe breaches in professionalism. Clinical students tend to perceive various unprofessional behaviors as acceptable. Interventions commencing with medical school admission need to be developed.

ACKNOWLEDGMENTS

The abstract of the present study was presented at the National Symposium on Postgraduate Medical Education, on May 2–5, 2013, at Kocaeli, Turkey.

DISCLOSURES

No conflicts of interest, financial or otherwise, are declared by the author(s).

AUTHOR CONTRIBUTIONS

Author contributions: E.K. and M.S. conception and design of research; E.K. and M.S. analyzed data; E.K., H.A., and D.K.D. interpreted results of experiments; E.K. and H.A. drafted manuscript; E.K. and M.S. edited and revised manuscript; E.K. and M.S. approved final version of manuscript; H.A. and D.K.D. performed experiments.

REFERENCES

1. **Adkoli BV, Al-Umran KU, Al-Sheikh M, Deepak KK, Al-Rubaish AM.** Medical students' perception of professionalism: a qualitative study from Saudi Arabia. *Med Teach* 33: 840–845, 2011.
2. **Ainsworth MA, Szauter KM.** Medical student professionalism: are we measuring the right behaviors? A comparison of professional lapses by students and physicians. *Acad Med* 81: S83–86, 2006.
3. **Arnold L.** Assessing professional behavior: yesterday, today, and tomorrow. *Acad Med* 77: 502–515, 2002.
4. **Arora VM, Wayne DB, Anderson RA, Didwania A, Farnan JM, Reddy ST, Humphrey HJ.** Changes in perception of and participation in unprofessional behaviors during internship. *Acad Med* 85: S76–80, 2010.
5. **Baernstein A, Oelschlager AM, Chang TA, Wenrich MD.** Learning professionalism: perspectives of preclinical medical students. *Acad Med* 84: 574–581, 2009.
6. **Bernard AW, Malone M, Kman NE, Caterino JM, Khandelwal S.** Medical student professionalism narratives: a thematic analysis and interdisciplinary comparative investigation. *BMC Emerg Med* 11: 11, 2011.
7. **Brainard AH, Brislen HC.** Viewpoint: learning professionalism: a view from the trenches. *Acad Med* 82: 1010–1014, 2007.
8. **Brazeau CM, Schroeder R, Rovi S, Boyd L.** Relationships between medical student burnout, empathy, and professionalism climate. *Acad Med* 85: S33–S36, 2010.
9. **Brockbank S, David TJ, Patel L.** Unprofessional behaviour in medical students: a questionnaire-based pilot study comparing perceptions of the public with medical students and doctors. *Med Teach* 33: e501–e508S33–S36, 2011.
10. **Byszewski A, Hendelman W, McGuinty C, Moineau G.** Wanted: role models–medical students' perceptions of professionalism. *BMC Med Educ* 12: 115, 2012.
11. **Christakis DA, Feudtner C.** Ethics in a short white coat: the ethical dilemmas that medical students confront. *Acad Med* 68: 249–254, 1993.
12. **Elliott DD, May W, Schaff PB, Nyquist JG, Trial J, Reilly JM, Lattore P.** Shaping professionalism in pre-clinical medical students: professionalism and the practice of medicine. *Med Teach* 31: e295–e302249–254, 2009.
13. **Feudtner C, Christakis DA, Christakis NA.** Do clinical clerks suffer ethical erosion? Students' perceptions of their ethical environment and personal development. *Acad Med* 69: 670–679, 1994.
14. **Ginsburg S, Regehr G, Lingard L.** The disavowed curriculum: understanding student's reasoning in professionally challenging situations. *J Gen Intern Med* 18: 1015–1022, 2003.
15. **Humphrey HJ, Smith K, Reddy S, Scott D, Madara JL, Arora VM.** Promoting an environment of professionalism: the University of Chicago "Roadmap". *Acad Med* 82: 1098–1107, 2007.
16. **Jones TW.** Creating a longitudinal environment of awareness: teaching professionalism outside the anatomy laboratory. *Acad Med* 88: 304–308, 2013.
17. **Monrouxe LV, Rees CE, Hu W.** Differences in medical students' explicit discourses of professionalism: acting, representing, becoming. *Med Educ* 45: 585–602, 2011.
18. **Naylor RA, Reisch JS, Valentine RJ.** Do student perceptions of surgeons change during medical school? A longitudinal analysis during a 4-year curriculum. *J Am Coll Surg* 210: 527–532, 2010.
19. **Papadakis MA, Teherani A, Banach MA, Knettler TR, Rattner SL, Stern DT, Veloski JJ, Hodgson CS.** Disciplinary action by medical

Downloaded from http://advan.physiology.org/ by 10.220.33.3 on June 18, 2017

boards and prior behavior in medical school. *N Engl J Med* 353: 2673–2682, 2005.

20. **Parsley NL, Harris IB.** Podiatric medical students' perceptions of professionalism in the clinical setting: a qualitative analysis. *J Am Podiatr Med Assoc* 102: 434–445, 2012.
21. **Reddy ST, Farnan JM, Yoon JD, Leo T, Upadhyay GA, Humphrey HJ, Arora VM.** Third-year medical students' participation in and perceptions of unprofessional behaviors. *Acad Med* 82: S35–39, 2007.
22. **Roberts LW, Green Hammond KA, Geppert CM, Warner TD.** The positive role of professionalism and ethics training in medical education: a comparison of medical student and resident perspectives. *Acad Psychiatry* 28: 170–182, 2004.
23. **Stern DT.** Practicing what we preach? An analysis of the curriculum of values in medical education. *Am J Med* 104: 569–575, 1998.
24. **Swartz WJ.** Using gross anatomy to teach and assess professionalism in the first year of medical school. *Clin Anat* 19: 437–441, 2006.



Downloaded from http://advan.physiology.org/ by 10.220.33.3 on June 18, 2017