Speaking the same language

Cross-sectional assessment of perceived contributors to professionalism across generations

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Abstract

Background: Professionalism is integral to medical training and practice. Recent studies suggest generational differences in perceptions of professionalism, which have not been adequately explored in academic neurology. **Methods:** A cross-sectional study was performed to describe perceptions of professionalism among representative physicians across the academic training spectrum of neurology. A self-report questionnaire adapted from a published instrument was distributed to students, residents, fellows, and faculty in neurology at a single institution. Responders rated 4 domains of professionalism: Personal Characteristics, Interactions with Patients, Social Responsibility, and Interactions with the Health Care Team (5-point Likert scale, not at all important to very important), and selected the “top 2” characteristics critical to professional behavior in each domain. **Results:** A total of 296 of 312 (95%) responded, including 228 students, 24 residents, 19 fellows, and 25 faculty. Respondents ranked the following components to be important/very important contributors to the expression of professional behavior: Personal Characteristics (98%, mean rating 4.6 ± 0.3), Interactions with Patients (97%, 4.6 ± 0.4), and Interactions with the Health Care Team (96%, 4.6 ± 0.5). Although mean ratings were high for Social Responsibility (4.3 ± 0.6), only 82% indicated that this was important/very important in the expression of professionalism, with a gradual decline from students (4.4 ± 0.6) to residents (3.99 ± 0.8 , $p = 0.02$). The “top 2” contributors to each domain were similar across responders. **Conclusions:** Professionalism was perceived as critically important across the academic training spectrum in neurology, and the view regarding the top contributors to the expression of professionalism remained consistent among the responders. *Neurol Clin Pract* 2016;6:230-240

Professionalism, as defined by Epstein and Hundert, is “the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community.”¹ It is an integral component of medical practice and a core competency in graduate

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medical training.² In the wake of recent publications citing changes in perceptions of professionalism,^{3,4} the American Association of Medical Colleges (AAMC) called for policy changes to address and define professionalism in the modern era, highlighting its current importance.

Although the basic tenets of professionalism are common across professions both in and outside of medicine, the manner in which these core values are expressed is dependent on numerous factors, including sex,⁵ institution,⁵ age,⁶ culture,⁵ and generation.^{7,8} A study in psychiatry comprehensively identified 4 domains of what constitutes modern professionalism, including personal characteristics, interactions with patients, social responsibility, and interactions with the health care team.⁹ Authors reported that contributors to professional conduct differed between medical students, residents, and attending psychiatrists, suggesting that the perceptions of professionalism may differ by generation.⁹

None would argue that professionalism is not equally critical in neurology; however, few studies have described the language of modern professionalism across the stages of medical practice (i.e., medical student training, postgraduate training, and practice) in an academic neurology environment. Here, we describe a cross-sectional study examining professionalism as a physician across students, residents, fellows, and faculty in academic neurology.

METHODS

Study design

A cross-sectional study was designed consisting of medical students, residents, clinical fellows, and faculty physicians in the department of neurology at a single academic institution. A previously published questionnaire used for assessing attitudes toward professionalism in psychiatry was adapted with permission and distributed to all study participants using our institutional electronic evaluation system.⁹ All medical students rotating through the required 4-week neurology core clerkship completed the survey as a part of orientation. In addition, the survey was distributed to all postgraduate year (PGY) 2–4 adult neurology residents, PGY 3–5 pediatric neurology residents, clinical neurology fellows, and active clinical teaching faculty who work consistently with students and trainees in the department of neurology. Responses were collected and deidentified for analysis.

Standard protocol approvals, registrations, and patient consents

Approval was obtained from the institutional ethical standards committee for this study.

Survey instrument

The survey consisted of demographic questions on level of training, age (categorized in 5-year increments), sex, ethnicity, and year of medical school graduation and fellowship type (when applicable). Using the previously published instrument, questions pertaining to professionalism were divided into 4 components, as previously described: (1) Personal Characteristics (e.g., internal motivation, punctuality), (2) Interactions with Patients (e.g., respect for patients, maintaining confidentiality), (3) Social Responsibility (e.g., treating the underprivileged), and (4) Interactions with the Health Care Team (2 items: respect toward health care team, reporting dishonesty).⁹ In each section, respondents were asked to rate the importance of each individual factor as a contributor to the expression of professional behavior (5-point Likert scale: not at all important, somewhat important, neutral, important, and very important). In addition, respondents then selected the 2 characteristics they considered to be the most important (“top 2”). The final questions required respondents to rate the importance of 6 additional factors in the expression of professional behaviors, as described previously (5-point Likert scale, not at all important to very important).⁹

Data analysis

Data were collected electronically and deidentified. Statistical analysis was performed using Stata/SE v14 (Stata Corp, 2014). Missing values were rare: 1 student completed only the

demographic questions and a second did not indicate the “top 2” Personal Characteristics. These missing data were excluded from analysis of professionalism. Data were analyzed as previously described, averaging across factors within each of the 4 domains.⁹ Internal consistency between items within the Personal Characteristics, Interactions with Patients, and Social Responsibility domains was determined by Cronbach α . Descriptive statistics were performed to determine means, SDs, medians, and ranges of responses to each item in the questionnaire and for each of the 4 major domains. Analysis of variance (ANOVA) was used to compare responses by level of training, with pairwise comparison by the Bonferroni method when applicable. Likert responses were also divided binarily into important (i.e., “very important” or “important”) and less important (i.e., “neutral,” “somewhat important,” and “not at all important”). Logistic regression analysis was performed controlling for age, sex, and ethnicity. For each of the “top 2” characteristics, proportions were calculated and compared by ANOVA.

RESULTS

A total of 296 of 312 (95%) responded to the survey: 228 medical students (99% of 230 surveyed), 24 residents (86% of 28), 19 fellows (68% of 28), and 25 faculty (93% of 27). Age, sex, and ethnicity are reported in table 1; demographics by responder type are reported in table e-1 at Neurology.org/cp.

Psychometrics and reliability

Items were internally consistent for each of the domains of professionalism, including Personal Characteristics (Cronbach α : 0.87), Interactions with Patients (0.79), and Social Responsibility (0.86). Despite the previous report stating that the item *Managing Conflicts of Interest* may not relate to the category of Social Responsibility,⁹ in the current study it was closely related to the other items in this domain and included in this analysis. The internal consistency of the items in the Interactions with Patients domain was acceptable (0.79) but slightly lower than that previously reported (0.85). When the item *Placing Patient's Concerns Before Your Own* was removed from this 5-item group, the consistency improved to an acceptable range (0.84); however, analysis with and without this item did not significantly differ, and in order to allow comparison with prior published results this item was included in the final analysis.

Major findings

Overall, all responders (i.e., medical students, residents/fellows, and faculty) indicated that each of the 4 major domains (i.e., Personal Characteristics, Interactions with Patients, Social Responsibility, and Interactions with the Health Care Team) strongly contributed to the expression of professional behavior, with mean ratings of 4.6 ± 0.3 for Personal Characteristics, 4.6 ± 0.4 for Interactions with Patients, 4.3 ± 0.6 for Social Responsibility, and 4.6 ± 0.5 for Interactions with the Health Care Team (table 2). High mean ratings were observed for each of the individual questions that made up these total domain scores, and ratings from undergraduates, graduate medical trainees, and faculty were similar (table 1). There were no differences in the mean ratings for these 4 domains by age category (all $p > 0.57$), sex (all $p > 0.19$), or ethnicity (all $p > 0.09$). The percent indicating that these domains were important or very important to professional behavior was high for Personal Characteristics (98%), Interactions with Patients (97%), and Interactions with the Health Care Team (96%) but lower for Social Responsibility. Only 82% indicated that Social Responsibility was important or very important, with 15% indicating neutral importance and 3% indicating it to be only somewhat important. This relative decline was most evident for the items *Treating the Underprivileged* (18% $\leq$ neutral), *Improving Access to Health Care* (19% $\leq$ neutral), and *Promoting Just Distribution of Resources* (20% $\leq$ neutral) but not *Advocating for Patients* (1% $\leq$ neutral), *Commitment to Teaching* (9% $\leq$ neutral), and *Managing Conflicts of Interest*

Supplemental Data

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Table 1 Demographic characteristics of 296 participants in this cross-sectional study

Demographic characteristic	n (%)
Level of training	
Medical student, second year	11 (4)
Medical student, third year	168 (57)
Medical student, fourth year	49 (17)
Resident	24 (8)
Fellow	19 (6)
Faculty	25 (8)
Age, y	
20–25	3 (1)
26–30	225 (76)
31–35	51 (17)
36–40	10 (3)
>40	7 (3)
Male sex^a	138 (50)
Race^b	
White	179 (61)
Black	24 (8)
Asian	74 (25)
Other	16 (6)
This table describes the characteristics of all medical students, residents, fellows, and faculty enrolled in this cross-sectional study.	
^a Data not available for 18 responders.	
^b Data not available for 3 responders.	

(8.5% ≤ neutral). When controlling for age, sex, and ethnicity, these findings were not significantly changed.

The mean ratings for each of the 4 major domains of professionalism did not differ when residents and fellows were considered together (i.e., undergraduate vs graduate medical trainee vs faculty). However, when residents and fellows were considered separately (i.e., medical student vs resident vs fellow vs faculty), significant differences in the mean rating of Social Responsibility were observed (table 3). Pairwise comparison of overall ratings for the Social Responsibility domain revealed that mean resident ratings (3.99 ± 0.8) were significantly lower than mean medical student ratings (4.4 ± 0.6 , figure). This relative decline in mean ratings was gradual by year of schooling, with ratings of 4.6 ± 0.5 in second-year students, 4.4 ± 0.6 in third-year students, and 4.3 ± 0.5 in fourth-year students. Mean ratings then rose numerically in fellows, although this difference was not significant (4.5 ± 0.5 , $p = 0.065$).

When responses were analyzed by the proportion of responders who indicated that each factor was important or very important (by 5-point Likert scale), at least 80% of students, fellows, and faculty indicated that Social Responsibility was an important or very important feature of professionalism. In contrast, only 50% of residents indicated similarly ($p = 0.005$), with 46% indicating neutral importance and 4% considering it to be only somewhat important (table 3). Of the individual factors contributing to the Social Responsibility domain, this difference in rating for residents was most evident for *Treating the Underprivileged*

Table 2 Mean ratings of professionalism by the 296 students, residents, fellows, and faculty in this cross-sectional study

Professionalism domain	All responders (n = 296)	Students (n = 228)	Residents/ fellows (n = 43)	Faculty (n = 25)	p Value
Personal Characteristics					
Motivation	4.6 (0.6)	4.6 (0.6)	4.4 (0.6)	4.6 (0.6)	0.11
Punctuality	4.5 (0.5)	4.5 (0.6)	4.5 (0.6)	4.5 (0.5)	0.86
Attendance	4.5 (0.7)	4.5 (0.7)	4.6 (0.6)	4.6 (0.6)	0.74
Appearance	4.2 (0.7)	4.2 (0.7)	4.3 (0.6)	4.2 (0.7)	0.66
Reliability in patient care	4.9 (0.4)	4.8 (0.4)	4.9 (0.3)	4.9 (0.3)	0.31
Commitment to lifelong learning	4.4 (0.7)	4.4 (0.7)	4.4 (0.6)	4.6 (0.5)	0.39
Knowledge of limits	4.6 (0.6)	4.6 (0.6)	4.6 (0.5)	4.6 (0.6)	0.97
Response to assessment	4.7 (0.5)	4.7 (0.5)	4.6 (0.5)	4.6 (0.5)	0.67
Self-improvement	4.5 (0.6)	4.6 (0.6)	4.4 (0.5)	4.5 (0.6)	0.36
Honesty	4.8 (0.4)	4.8 (0.4)	4.8 (0.4)	4.9 (0.3)	0.58
Avoiding abuse of power	4.8 (0.4)	4.8 (0.5)	4.8 (0.4)	4.9 (0.3)	0.30
Adhering to ethics	4.8 (0.5)	4.7 (0.5)	4.7 (0.6)	4.9 (0.3)	0.42
Accountability for decisions	4.8 (0.4)	4.8 (0.4)	4.8 (0.4)	4.9 (0.3)	0.27
Combined scores	4.6 (0.3)	4.6 (0.4)	4.6 (0.3)	4.7 (0.2)	0.75
Interactions with Patients					
Respect for patients	4.8 (0.4)	4.8 (0.4)	4.7 (0.4)	4.8 (0.4)	0.66
Patients' involvement in decisions	4.7 (0.5)	4.7 (0.5)	4.7 (0.5)	4.7 (0.5)	0.99
Confidentiality	4.7 (0.5)	4.7 (0.5)	4.7 (0.4)	4.8 (0.5)	0.87
Respect for family	4.6 (0.5)	4.6 (0.5)	4.6 (0.5)	4.6 (0.5)	0.85
Patient concerns first	4.4 (0.7)	4.4 (0.7)	4.3 (0.8)	4.4 (0.7)	0.91
Combined scores	4.6 (0.4)	4.6 (0.4)	4.6 (0.4)	4.6 (0.3)	0.93
Social Responsibility					
Treating underprivileged	4.2 (0.9)	4.2 (0.9)	4.1 (0.9)	3.9 (0.9)	0.14
Improving access	4.2 (0.9)	4.2 (0.9)	4.0 (0.9)	4.0 (0.9)	0.33
Just distribution of resources	4.1 (0.9)	4.2 (0.9)	3.9 (0.9)	4.1 (0.9)	0.27
Teaching and disseminating knowledge	4.4 (0.7)	4.4 (0.7)	4.3 (0.8)	4.4 (0.7)	0.95
Advocating for patients	4.7 (0.5)	4.8 (0.4)	4.6 (0.7)	4.7 (0.6)	0.05
Managing conflicts of interest	4.4 (0.7)	4.4 (0.7)	4.2 (0.8)	4.2 (1.0)	0.38
Combined scores	4.3 (0.6)	4.4 (0.6)	4.2 (0.7)	4.2 (0.7)	0.19
Interactions with Health Care Team					
Respecting other members	4.8 (0.4)	4.8 (0.4)	4.8 (0.4)	4.8 (0.4)	0.98
Reporting dishonesty	4.3 (0.7)	4.3 (0.7)	4.3 (0.7)	4.3 (0.8)	0.99
Combined scores	4.6 (0.5)	4.6 (0.6)	4.6 (0.5)	4.6 (0.5)	1.0

Data are mean ratings (SD) of professional conduct for each of the 4 domains: Personal Characteristics, Interactions with Patients, Social Responsibility, and Interactions with the Health Care Team for all responders and by level of training (i.e., undergraduate, graduate medical trainee, and faculty). *p* values determined by analysis of variance.

Table 3 Assessment of differences in perceptions of professionalism across the stages of training in this cross-sectional study

	Student (n = 228)	Resident (n = 24)	Fellow (n = 19)	Faculty (n = 25)	p Value
A. Mean ratings of 4 domains of professionalism by stage of practice, mean $\pm$ SD					
Personal Characteristics	4.6 $\pm$ 0.4	4.6 $\pm$ 0.3	4.7 $\pm$ 0.3	4.7 $\pm$ 0.2	0.70
Interactions with Patients	4.6 $\pm$ 0.4	4.6 $\pm$ 0.4	4.7 $\pm$ 0.4	4.6 $\pm$ 0.3	0.91
Social Responsibility	4.4 $\pm$ 0.6	4.0 $\pm$ 0.8	4.5 $\pm$ 0.5	4.2 $\pm$ 0.7	0.02
Interactions with Health Care Team	4.6 $\pm$ 0.6	4.4 $\pm$ 0.5	4.8 $\pm$ 0.3	4.6 $\pm$ 0.5	0.08
B. Proportion perceiving Social Responsibility as important, n (%)					
Not or somewhat important	6 (3)	1 (4)	0 (0)	1 (4)	0.005
Neutral importance	30 (13)	11 (46)	1 (5)	4 (16)	
Important or very important	191 (84)	12 (50)	18 (95)	20 (80)	

(A) Comparison of mean ratings $\pm$ SD of the 4 major domains of professional behavior (Personal Characteristics, Interactions with Patients, Social Responsibility, and Interactions with the Healthcare Team) in students, residents, fellows, and faculty. (B) Comparison of the importance of Social Responsibility as a contributor to professionalism based on response to "How important would you rate social responsibility as contributor to professional behavior?" (5-point Likert scale: not important, somewhat important, neutral importance, important, very important). *p* values were determined by analysis of variance test.

(*p* = 0.007), *Improving Access to Health Care* (*p* = 0.045), and *Promoting Just Distribution of Resources* (*p* = 0.005) but not *Advocating for Patients* (*p* = 0.07), *Commitment to Teaching* (*p* = 0.36), and *Managing Conflicts of Interest* (*p* = 0.33).

The "top 2" contributors to professional behavior were highly conserved across responders by stage of training (i.e., undergraduate vs graduate medical trainee vs faculty) for each of the major domains of professionalism (table 4). Reliability and accountability were the "top 2" Personal Characteristics for medical students, residents, and fellows. On average, faculty selected accountability and honesty as the "top 2" Personal Characteristics, with adherence to ethics and reliability being third and fourth most important, respectively. Faculty responses tended to cluster somewhat more on these common factors, although no statistical difference was observed and all groups agreed on the top 4. The "top 2" factors for the Interactions with Patients and Social Responsibility domains were the same for medical students, residents and fellows, and faculty. When residents and fellows were considered independently, there was no decline in the "top 2" factors for residents for any of the Social Responsibility items. In fact, 88% of residents indicated that patient advocacy was a top contributor to professionalism. Of note, faculty were less likely to select the item *Maintaining Confidentiality* (*p* = 0.003).

The majority of participants reported that *Direct Observation and Modeling Behaviors* (94%) and *Individual Mentoring* (94%) were important or very important factors in the formulation of professional behavior. In contrast, fewer responders reported that *Formal Ceremonies* (40%), *Awarding Those Who Demonstrate Professionalism* (53%), and *Formal Curricular Activities* (e.g., lectures, small groups) (54%) were important or very important characteristics of professionalism. Although no differences in reporting were observed for these 5 items by stage of practice, the importance of *Including Assessment of Professional Behavior in the Evaluation Process* did differ. For this item, 92% of faculty, 79% of residents and fellows, and 63% of students indicated that this was important or very important in formulating professional behavior (*p* = 0.003). This finding was recapitulated when comparing differences in mean rating of this item by age, such that a gradual increase was observed from <25 years (2.7 $\pm$ 0.6) to 26–30 years (3.7 $\pm$ 1.1), 31–35 years (3.9 $\pm$ 1.0), 36–40 years (4.5 $\pm$ 0.7), and >40 years (4.6 $\pm$ 0.5, total *p* < 0.009).

Figure Rating of social responsibility by level of training in this cross-sectional study

Box plots of ratings of social responsibility by 5-point Likert scale (not important = 1, somewhat important = 2, neutral = 3, important = 4, and very important = 5) by level of training showing a gradual decline in ratings for second-year (MS2) (4.6 ± 0.5), third-year (MS3) (4.3 ± 0.6), and fourth-year medical students (MS4) (4.3 ± 0.6), residents (3.9 ± 0.8), fellows (4.5 ± 0.5), and faculty (4.3 ± 0.7 , overall $p = 0.04$).

DISCUSSION

In this study, we show that despite varying stages of practice, health care professionals across the academic training spectrum rate perceived contributors to professionalism highly and in general place similar emphasis on personal characteristics, interactions with patients, and interactions with the health care team. We did observe some consistent differences in the rank prioritization of certain items of social responsibility, including treating the underprivileged, improving access to health care, and promoting just distribution of resources, in which residents rated these items lower than students and fellows did. However, the “top 2” contributors to professional behavior were highly consistent across responders for all domains, including social responsibility. Consistent with prior reports, we found that individual mentoring and modeling of professionalism to trainees were critical factors used to develop professional behavior but that differences exist in the perceived importance of assessing professionalism during training.¹⁰

The recent conversation around professionalism has been reinvigorated by calls from the AAMC to address an apparent rise in reporting of student mistreatment on the national Graduation Questionnaire (GQ).^{3,4} In a review of data compiled from the 2000–2011 GQs, the authors outline important steps in addressing student mistreatment, calling for redefining its inclusion in the teaching and assessment of professionalism.⁴ They acknowledged the challenges of this effort, specifically in establishing a universal definition of mistreatment and taking into account the effect of local professional culture and the need for a common language for describing professional conduct across generations.⁴ They also called for policies to promote cultural change in academic institutions.¹¹ However, before such policies can be generated or change initiated, we must address the concern that perceptions of professional conduct may differ by generation and stage of practice.

A number of studies have addressed potential differences in attitudes toward professionalism in modern learners. In 1 study evaluating the effect of Facebook on perceptions of professionalism, 45% of students and only 17% of senior faculty considered what happens on social media separate from their professional practice.⁶ Despite this, more than 75% of students and

Table 4 “Top 2” contributors to professional behavior by stage of training for the participants in this cross-sectional study

Professional characteristic	All responders (n = 296)	Medical students (n = 228)	Residents and fellows (n = 43)	Faculty (n = 25)	p Value
Personal Characteristics					
Reliable	136 (46)	111 (49)	19 (44)	6 (24)	0.05
Accountable	115 (39)	83 (37)	20 (47)	12 (48)	0.31
Honesty	87 (30)	65 (29)	12 (28)	10 (40)	0.49
Adhere to ethics	75 (26)	54 (24)	13 (30)	8 (32)	0.49
Motivation	43 (15)	34 (15)	5 (12)	4 (16)	0.84
Punctuality	6 (2)	4 (2)	2 (5)	0 (0)	0.29
Attendance	11 (4)	8 (4)	2 (5)	1 (4)	0.87
Appearance	3 (1)	2 (1)	1 (2)	0 (0)	0.55
Commitment to lifelong learning	17 (6)	15 (7)	2 (5)	0 (0)	0.56
Know limits	32 (11)	26 (12)	5 (12)	1 (4)	0.61
Respond to criticism	11 (4)	9 (4)	1 (2)	1 (4)	1.0
Improve oneself	32 (11)	27 (12)	2 (5)	3 (12)	0.36
Avoid abuse of position	18 (6)	12 (5)	2 (5)	4 (16)	0.11
Interactions with Patients					
Respect patient as individual	204 (69)	150 (66)	32 (74)	22 (88)	0.059
Respect for patients' rights	198 (67)	151 (67)	32 (74)	15 (60)	0.46
Maintaining confidentiality	92 (31)	77 (34)	14 (33)	1 (4)	0.003
Patient concerns first	67 (23)	53 (23)	6 (14)	8 (32)	0.20
Respect family	24 (8)	19 (8)	1 (2)	4 (16)	0.12
Social Responsibility					
Advocate	211 (72)	159 (70)	31 (72)	21 (84)	0.36
Teaching	101 (34)	73 (32)	15 (35)	13 (52)	0.15
Access	85 (29)	69 (30)	10 (23)	6 (24)	0.59
Resources	67 (23)	54 (24)	10 (23)	3 (12)	0.46
Pharma	64 (22)	48 (21)	11 (26)	5 (20)	0.77
Underprivileged	58 (20)	48 (21)	8 (19)	2 (8)	0.30

This table describes the proportion selecting each item as 1 of the “top 2” contributors to professional behavior by stage of training. The “top 2” contributors question was not included for the Interactions with the Health Care Team domain because there were only 2 individual factors. Data are n (%). All p values were determined by analysis of variance test.

only 33% of senior faculty thought that their professional integrity could be compromised by using Facebook.⁶ These results underscore the importance of rigorous evaluation of the generational differences in defining professional conduct in medicine.

We show that in an academic neurology setting, perceived contributors to professionalism were rated similarly for students, trainees, and faculty, who all rated personal, peer, and patient contributors to professionalism highly. The top contributors to professional behavior in each of these domains were also consistent despite differing ages, eras of training, generations, and educational curricula. Although these findings are different from those reported in the prior study in psychiatry, similarly high ratings (generally >4 on the same 5-point Likert scale) were

Of the many interactions health care providers have with patients and society, individual actions including respect for and advocating on behalf of one's patient were especially valued.

observed.⁹ Aside from being conducted in a different specialty, our study included second- and fourth-year students as well as fellows, all of which could account for the differences.⁹ Our response rate was quite high, with 95% of those surveyed responding. In addition, the inclusion of the “top 2” contributors to professionalism provides important perspective, allowing for additional interpretation of the clinical relevance of small statistical differences in mean ratings. In our study, personal character traits including reliability, accountability, honesty, and adherence to ethics were highly valued by all responders. In contrast, external reflections of behavior including appearance, punctuality, attendance, and other outward indicators were relatively less valued. Of the many interactions health care providers have with patients and society, individual actions including respect for and advocating on behalf of one's patient were especially valued. Although all factors were rated highly, somewhat less emphasis was placed on communal and societal factors. Of interest, this study was performed before resurgence in social discussions around racially biased policing and discrimination in our region. Whether this would affect perceptions of social responsibility now is unclear. The results observed may reflect the emphasis on the doctor-patient relationship, its intimacy, and the call to care for the patient as an individual.

Despite the overwhelming consistency of responses across the phases of training for most of the domains, we did observe differences in the rank prioritization of social responsibility that may be important. A gradual decline in ratings of treating the underprivileged, improving access to health care, and promoting just distribution of resources was observed as medical students proceeded from second to fourth year, with a nadir in residency. This relative decline has been observed in other studies of resident perceptions of health advocacy and may reflect long hours, loss of control over personal schedules, physician burnout, or increased stress.¹² Modern restrictions on resident duty hours have been shown to negatively affect aspects of professionalism, with faculty expressing concerns over less patient ownership and resident work ethic.¹³ The “hidden curriculum” and physician burnout have also been shown to erode professionalism and empathy.^{14–17} We did observe a strong emphasis placed on individual mentoring and modeling of behaviors as critical in professional development. Social media, texting, and other Web-based methods of networking are changing the language with which the next generations communicate and conduct their professional practice. Although methods may change over generations, our data suggest that the language of professional conduct remains the same.

Whether the tendency toward lower ratings of social responsibility by residents is in fact a reflection of a true decline in social professionalism or simply a feature of resident training itself is unclear. Postgraduate medical training focuses on the personal development of the resident and may shift focus away from societal responsibility. The “top 2” contributors to Social Responsibility were highly consistent across the levels of training and were the same for residents as for students and faculty, with more than 85% of residents indicating that patient advocacy was a critical factor. Thus, while the difference in mean ratings may reflect a true difference in attitudes toward professionalism during this phase of training, it may also be the case that the value of social professionalism remains high and that this difference reflects a shift in the focus of residency training on personal development.

Attitudes toward assessing professional behavior did differ by stage of practice. Whereas just over half of medical students indicated that assessment of professionalism was important in

Postgraduate medical training focuses on the personal development of the resident and may shift focus away from societal responsibility.

their development of professional behaviors, the overwhelming majority of faculty emphasized this. A similar result was observed by age. Although attitudes about contributors to professional behavior may not necessarily reflect conduct, this finding is important as the AAMC standardizes the assessment of professionalism and student mistreatment. At our institution, we have witnessed some conflict between students and faculty over assessing professional skills as our educators grapple with the need to evaluate this important domain despite student concerns over its equivalence to grading knowledge and skills. As educators and administrators review best practices for professionalism curricula and incorporate assessment of professional conduct,⁸ early engagement with students reiterating its importance and the reasoning behind its incorporation into student assessment will be critical to address these different attitudes and allay anxiety and frustration surrounding assessment of this critical aspect of the medical profession.

This study, while strengthened by the use of a previously studied instrument, assesses only the aspects of perceived contributors to professionalism incorporated into this survey and does not represent a comprehensive review of all aspects of professionalism. This survey assessed perceptions of professionalism and not professional conduct (i.e., professional acts). Likert scales, such as those used in this survey, are subject to social desirability bias, or the tendency of survey respondents to answer questions in a manner that will be viewed favorably by others, which could account for the differences in Social Responsibility and the lack of differences in the other domains. The findings in this study are limited to an academic neurology setting and may not generalize to nonacademic environments or other specialties. Nonphysicians, including nurses, ancillary staff, health care administrators, and patients, were not included in this study. Perceptions of professional conduct from these important stakeholders in modern medical practice may also be informative in developing a comprehensive language of modern professionalism and further exploring perceptions of social responsibility. In the current study, responders were categorized by stage of practice and category of age, which provided a means of assessing differences in perception of professionalism by these important indicators; however, a strict generational definition was not used.

In conclusion, we show in a group of students, residents, fellows, and faculty in neurology that contributors to professional behavior are highly valued and remain consistent across the academic training spectrum. These data show that students, trainees, and clinical educators share a language of professional conduct. Mentoring, role modeling, and exemplifying professionalism are critical in promoting the development of optimal professional behaviors for the next generation of clinicians.

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AUTHOR CONTRIBUTIONS

Dr. Strowd contributed to the study design, analysis, and drafting the manuscript. Dr. Saylor contributed to the study design, analysis, and drafting the manuscript. Dr. Salas contributed to the study design, analysis, and drafting the manuscript. Dr. Thorpe contributed to the study design and drafting the manuscript. Ms. Cruz contributed to the study design and drafting the manuscript. Dr. Gamaldo contributed to the study design, analysis, and drafting the manuscript.

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