

RESEARCH

Characteristics Valued by the Pharmacy Practice Community When Hiring a Recently Graduated Pharmacist

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Objective. To determine those characteristics that are most valued by members of the pharmacy practice community when hiring a new pharmacist.

Methods. A survey instrument describing 20 characteristics that a pharmacy graduate may possess was created and sent to pharmacists licensed in Colorado. Respondents were asked to select and prioritize the top 5 characteristics considered most important in hiring a new graduate pharmacist. Responses were segregated by practice (retail vs. institutional) and/or by pharmacist role (manager vs. staff).

Results. Three hundred eighteen survey instruments were received. Having good/strong communication skills was the characteristic ranked highest by all groups. Professional behavior and being adaptable were also ranked highly. The characteristics of using the literature and punctuality ranked low overall. Differences were identified in how the groups valued some characteristics.

Conclusions. Characteristics preferred in a new pharmacist varied depending on practice site and the managerial responsibilities of the potential employer. Some characteristics, such as communication skills and professional behavior, were considered of high value by all pharmacist groups.

Keywords: pharmacist, workforce, career, education, curriculum, communication, characteristics

INTRODUCTION

The increasing number of therapeutic agents (including biotechnology products), availability of point-of-care equipment, increased pressure to constrain health care costs, competition from mail-order and large chain pharmacies, decreased/reduced reimbursements, and interaction with and documentation for health care management and insurance companies have all impacted contemporary practice. Perhaps most clearly, the pharmacist has evolved from the role of drug dispenser to that of pharmacotherapeutics consultant. In essence, the nature of practice, as well as the pharmacist's role within the health care team, have been largely redefined.

Colleges and schools of pharmacy routinely develop and modify their curricula to ensure that their graduates have the knowledge and skills to succeed in contemporary and future pharmacy practice environments. External influences also serve to shape curricular changes, such as the establishment of the doctor of pharmacy (PharmD) as the sole entry-to-practice degree by the Accreditation Council for Pharmacy Education (ACPE)¹, accreditation

standards,¹ and position papers, such as the Future Vision of Pharmacy Practice 2015 developed by the Joint Commission of Pharmacy Practitioners.² These advocate the expanded roles of pharmacists including practicing as part of a multidisciplinary team, providing patient care to a diverse patient population, engaging in wellness promotion and disease prevention, and participating in chronic disease management. Pharmacy professional organizations, such as the American Association of Colleges of Pharmacy (AACCP), American Pharmacists Association, American College of Clinical Pharmacy, and American Society of Health-System Pharmacists, have also provided input on the competencies and abilities that an entry-level pharmacist practitioner who has completed a PharmD program should possess. With the contributions and oversight of these stakeholders, colleges and schools of pharmacy are responsible for producing effective generalist pharmacy practitioners who can thrive in today's job market, while also preparing them for the demands of the profession in the future.

The opportunities for employment as a pharmacist have changed dramatically over the last several years. Earlier in this millennium, pharmacist shortages were projected based on a large population of current practitioners entering retirement, coupled with the burgeoning elderly population. The global financial crisis quickly changed this situation such that the supply of new pharmacists now meets or exceeds the demand.³ To be competitive,

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students need to possess attributes, namely, knowledge, skills, and/or attitudes considered important by current prospective employers. Accordingly, the curriculum of each college or school should ensure that it instills these necessary characteristics. Further, graduates should be aware of the attributes valued by potential employers. The objective of this study was to determine the traits most valued by practicing pharmacists in a newly graduated pharmacist being considered for employment.

METHODS

A survey instrument was created that describes 20 characteristics of a pharmacy graduate that may be considered valuable when applying for a position as a pharmacist. During the development of the survey instrument, 10 practicing pharmacists in institutional and retail settings were asked what characteristics were important to them in hiring a new graduate. The characteristics were summarized and grouped. Recognizing the subjective nature of some of the terms used, brief descriptions were created for each characteristic to promote better understanding by the survey respondents. The list of revised characteristics and descriptions was returned to the original 10 practicing pharmacists for additional comment and feedback. They were also asked to complete the survey instrument and provide comments about it. Based on this feedback, the final survey document was created (survey instrument available on request). The final list of characteristics (with their associated descriptions) is provided in Appendix 1. The protocol for this study was reviewed and approved by the university's Institutional Review Board.

First-, second-, and third-year students (P1,P2, and P3, respectively) were sent an electronic copy of the 2-page survey instrument and asked to provide a printed copy of the survey instrument to their introductory pharmacy practice experience (IPPE) preceptor and to any other practicing pharmacists they encountered or knew. The only proviso for participation in the survey was that the pharmacist was licensed to practice in Colorado. First-year (P1) students were primarily assigned to community pharmacy sites, whereas P2 and P3 students were assigned to community and hospital locations. Pharmacists completing the survey instrument were asked to identify the nature of their practice site (retail, institutional, other) and their position (director, manager, staff member, other). Respondents were then asked to review the characteristics and rank the top 5 attributes (in order of most important to fifth most important) that they believed a new pharmacist should possess (or were most important to them) if they were going to hire the person to work in their pharmacy. The top 5 attributes were to be ranked numerically such that 1 was most important and 5 was fifth-most important.

A note was included on the survey instrument requesting that each pharmacist complete only 1 survey instrument. Upon completion, the respondent was asked to fax the survey instrument to the school's Office of Experiential Programs. The administrative assistant receiving the fax removed all identifiers (eg, names, fax number) before conveying the completed survey instrument to the investigators. The students who distributed the survey instruments provided their name on a cover page strictly for tracking purposes; this page was discarded along with the other identifiers. Survey distribution occurred over the fall semester (August-December) of 2010. Twice during this semester, e-mail reminders were sent to students to encourage them to identify at least 1 pharmacist who could complete the survey instrument. The second reminder was directed to specific students who were identified as not having been associated with a submitted survey instrument. Because results from ongoing submission of survey instruments indicated that many of the community preceptors had already completed the survey instrument, students were asked to identify practitioners in the hospital practice environment as only a small number of survey instruments had been submitted from those pharmacists. Near the end of the survey period, the population of hospital pharmacy directors was still underrepresented in the response pool. Consequently, the investigators identified a cadre of approximately 25 directors and contacted them directly by e-mail, asking them to complete the survey instrument.

After the survey was closed, the ranking provided by each respondent of the 20 characteristics was tabulated and the data were analyzed in 1 of 3 ways. First, the proportional frequency at which each characteristic received a ranking was calculated for the population. This involved counting the total number of times a characteristic was ranked by the population and expressing the number as a percentage of the total number of ranked characteristics, ie, total number in population of respondents (n) x 5. Second, the proportional ranking-dependent frequency of each characteristic was calculated. This entailed applying a "weighting" to the ranking of each characteristic as follows:

$$\begin{aligned} \text{weighted frequency} = & ([\# \text{ times ranked } 1] \times 50) \\ & + ([\# \text{ times ranked } 2] \times 40) \\ & + ([\# \text{ times ranked } 3] \times 30) \\ & + ([\# \text{ times ranked } 4] \times 20) \\ & + ([\# \text{ times ranked } 5] \times 10) \end{aligned}$$

This weighted frequency was then expressed as a percentage of the total number of ranked characteristics, ie, $n \times 5$. Third, calculations identical to those described above were repeated using data from subpopulations, ie,

retail manager, retail staff, institutional manager/director, and institutional staff. A significant number of survey instruments from pharmacists in “other” practice environments were received. However, data from this group of pharmacists were not subject to subgroup analysis because of the varied nature of the practice sites, eg, retail in institutional setting, home infusion, ambulatory care clinic.

To explore for the existence of any relationships between the rankings of weighted characteristics by respondent categories, linear regression analyses were conducted (JMP, version 5.0.1.2, JMP Statistical Discovery Software, SAS Institute, Cary, NC). Data are presented as the F ratios of the analysis of variance (ANOVA) results.

In an attempt to identify characteristics that were preferred more (or less) by a subgroup relative to the general pharmacy population, the average frequency with which the characteristic was ranked in the top 5 by the subgroup was expressed as a fraction of the average frequency of the same characteristic ranked in the top 5 by the entire population of survey respondents. Consequently, values greater than 1.0 indicated the subgroup ranked the characteristic more highly than the population. The converse was true when the value was less than 1.0. A value of 0 indicated that the trait was not ranked by the subgroup.

RESULTS

Survey instruments were received from 318 pharmacists. Of these, 127 were retail managers, 83 were retail staff pharmacists, 10 were institutional managers, 71 were institutional staff pharmacists, and 27 were pharmacists in other practice positions. The 5 characteristics most frequently chosen by respondents were communication (15.9%), adaptable (9.2%), professional (8.9%), knowledgeable (7.9%), critical thinking (7.8%), problem-solver (7.7%), and efficient (7.6%). When the ranking (1 = most important to 5 = fifth most important) of the characteristic was taken into account (ie, weighted ranked), communication was again predominate (19.8%), followed by professional (9.0%), adaptable (8.8%), critical thinking (8.4%) and knowledgeable (8.4%). When the ranking in the top 5 was taken into account (ie, “difference” in Table 1), communication was ranked more highly, whereas technologically-adept and receptive tended to be ranked at a lower level.

When the survey results were re-analyzed using the self-reported practice position of the respondents (eg, retail manager), a different pattern of characteristic rankings emerged (Table 2). Retail managers ranked communication most frequently (15.0%), followed

Table 1. Characteristics Valued by All Surveyed Pharmacists^a

Characteristic ^b	Weighted		
	Ranked	Ranked	Difference
Adaptable	9.2	8.8	-0.4
Business sense	1.1	0.9	-0.2
Communication	15.9	19.8	3.9
Critical thinking	7.8	8.4	0.6
Dedicated	4.4	4.4	0.0
Efficient	7.6	7.6	0.0
Empathetic	3.8	3.5	-0.3
Imaginative	0.9	0.5	-0.4
Knowledgeable	7.9	8.4	0.4
Leader	1.2	1.1	-0.1
Methodical	1.3	1.1	-0.1
Patient	3.5	3.2	-0.3
Personable	6.7	6.1	-0.5
Problem-solver	7.7	7.6	-0.1
Professional	8.9	9.0	0.0
Punctual	1.6	1.3	-0.4
Receptive	2.3	1.7	-0.7
Self-learning	3.5	3.1	-0.3
Technologically-adept	2.4	1.6	-0.8
Utilizing literature	1.3	0.9	-0.3

^a The frequency with which a characteristic was ranked is shown as a percentage of the total number of ranked characteristics for the population of survey respondents (n = 318). The percentage of respondents that selected the characteristic in the top 5 rankings is shown in the ranked column. The weighted-ranked column shows the percentage when it is weighted according to its rank in the top 5. Difference = (weighted ranked value) - (ranked value). A positive difference implies that when the characteristic was ranked, it was ranked highly, ie, towards 1. Conversely, a negative difference implies that the characteristic, when selected, was ranked less highly, ie, towards 5.

^b Order in which characteristics were listed in the survey instrument.

by efficient and professional (9.0%), adaptable (8.3%), knowledgeable (8.0%), and personable (7.6%). Retail staff members also ranked communication the most frequently (17.1%), but differed from managers in ranking professional second (9.9%), followed by knowledgeable (9.6%), efficient (8.9%), adaptable (8.2%) and problem-solver (7.0%). Institutional managers ranked communication most frequently (16.0%), followed by adaptable and critical thinking (12.0%), and knowledgeable, personable, problem-solver, and self-learning (8.0%). Institutional staff members most frequently ranked communication as most important (16.9%), followed by critical thinking (12.7%), adaptable (10.1%), problem-solver (9.3%), and professional (7.9%).

When the position of the characteristic in the top-5 ranking was taken into account, subtle differences in ranking patterns emerged. Across all groups, communication remained the most highly ranked characteristic

Table 2. Characteristics Valued by Pharmacists in Different Practice Positions^a

Characteristic	Retail		Institutional	
	Manager (127)	Staff (83)	Manager (10)	Staff (71)
Adaptable	8.3	8.2	12.0	10.1
Business sense	2.2	0.7	0.0	0.0
Communication	15.0	17.1	16.0	16.9
Critical thinking	6.3	5.1	12.0	12.7
Dedicated	5.7	4.6	2.0	4.8
Efficient	9.0	8.9	6.0	4.8
Empathetic	5.2	4.1	0.0	2.5
Imaginative	0.8	1.0	0.0	0.8
Knowledgeable	8.0	9.6	8.0	7.0
Leader	0.9	0.7	4.0	1.4
Methodical	1.9	0.7	0.0	0.6
Patient	3.8	5.5	2.0	1.4
Personable	7.6	6.5	8.0	5.1
Problem-solver	7.2	7.0	8.0	9.3
Professional	9.0	9.9	6.0	7.9
Punctual	1.6	1.2	0.0	2.3
Receptive	1.6	1.2	4.0	4.5
Self-learning	2.4	2.7	8.0	5.1
Technologically-adept	2.4	3.4	4.0	1.4
Utilizing literature	0.6	1.7	0.0	1.4

^a The frequency with which a characteristic was ranked is shown as a percentage of the total number of ranked characteristics for each subcategory of survey respondents. The percentage of respondents that selected the characteristic in the top 5 rankings is shown. The number in parentheses indicates the number of respondents for each group.

(Table 3) at 18.2% to 21.9%. Retail managers ranked efficient (9.9%), professional (9.5%), knowledgeable (8.1%) and adaptable and problem-solver (8.0%) as the second through fifth most important characteristics. After communication, retail staff ranked knowledgeable (10.3%), professional (8.9%), efficient (8.6%), adaptable (8.3%), and problem-solver (7.3%) as the second through fifth most important characteristics. Institutional managers ranked critical thinking (12.0%), adaptable (10.7%), professional and self-learning (8.0%), and then personable and problem-solver (7.3%) as the second through fifth most important characteristics. Institutional staff pharmacists also ranked critical thinking (14.5%) and adaptable (9.8%) after communication, followed by knowledgeable (7.9%), problem-solver (7.8%), and professional (7.6%) as the second through fifth most important characteristics.

Linear correlations existed ($p \leq 0.0001$) between the weighting of the characteristics by the pharmacist subgroups. Some characteristics were more strongly correlated than others as reflected in the magnitude of the F ratio. Specifically, retail managers' and staff

Table 3. Weighted Characteristics Valued by Pharmacists in Different Practice Positions^a

Characteristic	Retail		Institutional	
	Manager (127)	Staff (83)	Manager (10)	Staff (71)
Adaptable	7.0	8.3	10.7	9.8
Business sense	1.9	0.5	0.0	0.0
Communication	18.2	21.9	18.7	21.1
Critical thinking	6.4	5.4	12.0	14.5
Dedicated	5.7	4.7	2.7	4.9
Efficient	9.9	8.6	5.3	4.0
Empathetic	4.9	3.4	0.0	2.6
Imaginative	0.5	0.5	0.0	0.5
Knowledgeable	8.1	10.3	6.7	7.9
Leader	0.8	0.6	6.7	1.3
Methodical	1.8	0.6	0.0	0.4
Patient	3.5	5.3	2.7	0.9
Personable	7.0	6.3	7.3	4.0
Problem-solver	8.0	7.3	7.3	7.8
Professional	9.5	8.9	8.0	7.6
Punctual	1.2	1.0	0.0	1.6
Receptive	1.1	0.6	1.3	3.8
Self-learning	1.9	2.3	8.0	4.8
Technologically-adept	1.4	2.7	2.7	0.9
Utilizing literature	0.5	0.7	0.0	1.6

^a Each characteristic was weighted according to its ranking in the top 5 by each respondent (see Methods section for explanation of calculation). It was then expressed as a percentage of all of the weighted rankings. Numbers in parentheses indicate the number of respondents for each group.

members' ratings related more strongly (F ratio = 279.2) than did either groups' ratings related with those of pharmacists in the institutional environment (F ratios = 29.6 – 45.5). Similarly, institutional managers' and staff members' ratings related more strongly (F ratio = 83.3) than did either groups' ratings relate with those of retail pharmacists.

In an attempt to identify characteristics that were valued more (or less) by a subgroup relative to the entire respondent population, the average frequency of ranking of a characteristic by the subgroup was expressed as a percentage of the average frequency for all respondents (Table 4). Relative to all respondents, retail managers valued the characteristics business sense and methodical more highly and using literature the least. Retail staff members valued patience most highly and being receptive the least. Institutional managers valued leader, self-learning, receptive, technologically-adept and critical thinking most highly and business sense, empathetic, imaginative, methodical, punctual, and using literature the least. Institutional staff members valued receptive and critical thinking the highest and business sense, methodical, and patient the least.

Table 4. Values of Characteristics by Pharmacists in Different Practice Positions Relative to the Overall Pharmacist Respondent Population^a

Characteristic	Retail		Institutional	
	Manager (127)	Staff (83)	Manager (10)	Staff (71)
Adaptable	0.9	0.9	1.3	1.1
Business sense	1.9	0.6	0.0	0.0
Communication	0.9	1.1	1.0	1.1
Critical thinking	0.8	0.6	1.5	1.6
Dedicated	1.3	1.0	0.5	1.1
Efficient	1.2	1.2	0.8	0.6
Empathetic	1.4	1.1	0.0	0.7
Imaginative	0.9	1.1	0.0	1.0
Knowledgeable	1.0	1.2	1.0	0.9
Leader	0.8	0.6	3.3	1.2
Methodical	1.5	0.6	0.0	0.4
Patient	1.1	1.6	0.6	0.4
Personable	1.1	1.0	1.2	0.8
Problem-solver	0.9	0.9	1.0	1.2
Professional	1.0	1.1	0.7	0.9
Punctual	1.0	0.7	0.0	1.4
Receptive	0.7	0.5	1.7	1.9
Self-learning	0.7	0.8	2.3	1.5
Technologically-adept	1.0	1.4	1.7	0.6
Utilizing literature	0.5	1.3	0.0	1.1

^a The average frequency with which a characteristic was ranked in the top 5 by a sub-group (eg, retail manager) is shown as a fraction of average frequency with which the same characteristic was ranked by the entire population of survey respondents (n = 318). Numbers in parentheses indicate the number of sub-group respondents for each group.

DISCUSSION

The present study identified characteristics deemed most desirable by practicing Colorado pharmacists in a candidate applying for a position in their pharmacy. In addition, the influence of practice environment (institutional vs. retail) and position of pharmacist (manager vs. staff) on characteristic selection was determined. These practice environments are uniquely different, making it likely that expectations for a new pharmacist would be different as well.⁴ Similarly, pharmacy managers and staff pharmacists would be expected to have different views given the new pharmacist likely would be working *for* the manager and *with* the staff member.

Of all of the characteristics, having good communication skills was considered to be the most important by the entire population of pharmacists responding to the survey instrument. Communication skills, while important, are not uniquely associated with the pharmacy profession, and may have varied emphasis within pharmacy degree programs. Requirements for communication courses as

prerequisites for admission vary by pharmacy program, as well as whether communication skills themselves show up as standalone courses within pharmacy curricula. The perceived value of communication skills became even more pronounced when the position of the ranking in the top 5 characteristics was taken into account. Communication tended to be ranked highly within the top 5 characteristics by the pharmacist population, regardless of setting or whether the pharmacist was manager or staff member.

Communication is recognized as an important skill for a pharmacy student to master.^{5,6} Written and oral communication skills of applicant students are 2 of the top 5 characteristics considered important in the admission process for colleges and schools of pharmacy.⁷ While this does show up as an emphasis in the literature, the consistency of its ranking as the most important characteristic when considering hiring a new graduate suggests that having a communication skills focus within the curriculum would be appropriate. Indeed, communication is an element considered in the ACPE accreditation process² and by the AACP Center for the Advancement of Pharmaceutical Educational outcomes in the delivery of pharmaceutical care.⁸

The traits of being adaptable and professional showed up as the next most desirable characteristics. Adaptability was more highly valued by institutional pharmacists than retail pharmacists. This may be a reflection of the more varied responsibilities of pharmacists in an institutional environment. In contrast, retail pharmacists rated being professional more highly than institutional pharmacists. Concerns relating to professionalism permeate pharmacy practice and, in turn, colleges and schools of pharmacy. It is 1 of the 5 cross-cutting abilities that colleges and schools of pharmacy should develop in students.⁹ The perceived value of this characteristic in the community setting may relate to the greater accessibility of retail pharmacists to the general public for health care concerns, such as resolving nonprescription drug issues and responding to insurance and health questions. Waterfield contended that professionalism in community pharmacy was based on the idea that pharmacists were knowledgeable experts in pharmacology; hence, possessing a strong knowledge also translates to being more professional.¹⁰ Institutional pharmacists, on the other hand, have less opportunity for such diverse, unpredictable patient interactions and, as such, may be less concerned about the public's perception of their roles as professionals.

There was some disparity between pharmacists from the 2 practice settings over the characteristic of critical thinking, in that twice the proportion of pharmacists

from the institutional environment ranked it as important compared to the proportion of retail pharmacists. When the ranking hierarchy was taken into account, critical thinking was ranked second only to communication by institutional managers and staff pharmacists. This difference in perception could be explained by institutional practice being responsible for treating patients who are more ill and/or who have more complicated prognoses than patients encountered in a community setting, thereby requiring pharmacists to have a higher level of decision-making ability. Interestingly, such high rankings were not applied to problem-solving, a characteristic that usually goes hand-in-hand with critical thinking. This may be due to the assumption that one trait is the result of another, ie, one may logically problem-solve once the problem is approached using critical thinking. Still, the emphasis on valuing the thought process rather than the ability to find an actual solution to the problem is interesting.

Further comparisons between retail and institutional practitioners' rankings revealed additional marked differences. Efficiency was one trait ranked quite highly by retail practitioners but much lower by the institutional cadre. Likewise, the characteristics of being patient and empathetic, while not scoring extremely highly, were uniquely preferred by retail practice. These differences could relate to the nuances associated with unique demands placed on each practice. Retail pharmacists tend to have a higher volume of patients and, as noted, are more readily accessible to the general public. By contrast, institutional pharmacists are more likely to be interacting with other health care providers in treating patients with more complex health issues. Given such differences between practice settings, one may pose the question of whether pharmacy educational programs should focus on one generalist degree or offer a track system that develops unique skills and traits that could be preferred in a given practice environment? Alternatively, should development of these skill sets rest in residency training? The apparent variations in needs of the practice environments provide a rational basis for the difficulties pharmacy practitioners may experience when transitioning from one type of pharmacy practice to another.¹¹

When comparing the preferences of those practitioners in management positions with their staff pharmacist counterparts, a few differences emerge. Institutional managers valued leadership much more highly than institutional staff pharmacists, a difference that was not seen on the retail practice side. This is consistent with concerns that have been expressed regarding a future vacuum in leadership in health-system pharmacy

departments.^{12,13} Self-learning was also much more highly ranked by institutional managers, while empathy did not show up at all. Retail managers valued business sense and the ability to be methodical as part of an applicant's skill set, unique characteristics that rarely, if ever, showed up in any of the other 3 groups. Identification of such traits in students applying to pharmacy school could allow the admission and development of students who may be qualified to excel in a management or leadership setting.¹⁴

In reviewing the traits overall, it is interesting to observe those which consistently were not valued in the top 5 attributes. For example, while the ability to use the literature is an area often strongly emphasized by faculty members as a critical skill for a new graduate, it was rarely chosen as 1 of the top 5 desirable characteristics listed by pharmacists from the 4 practice groups. Likewise, punctuality gained little attention from the practice community, perhaps because it was assumed to be part of professionalism, which scored much higher. Finally, being imaginative showed little value as a core characteristic in a prospective new hire. The lack of emphasis on these traits, which are highly valued in a student within the pharmacy curriculum, begs the question as to how the characteristic rankings would change if practitioners were asked to evaluate a successful *student* rather than a potential new hire. Punctuality, for example, shows up routinely on experiential evaluations when a student is in violation, suggesting that, during practice experiences, this is a high expectation and reflects on the student's overall performance. Similarly, the ability to locate reliable drug information and to learn and use technology are themes that commonly show up during advanced pharmacy practice experiences (APPEs); these received much lower emphasis by members of the practice community. If a disconnect between desirable characteristics in a pharmacy student and desirable characteristics in a new pharmacist does exist, it leads to the following enigmatic questions: does training students to be successful on practice experiences ultimately prepare them for success in the pharmacy job market, and why would a pharmacy practitioner evaluate a student one way and an employee another? Given that faculty members at colleges and schools of pharmacy develop the rubrics and performance criteria for APPEs, perhaps the answer to the latter question rests in a disconnection between educational goals and practice needs. That communication is highly valued by practitioners and a critical component routinely emphasized to and strongly critiqued in students on practice experiences indicates that any disconnections that may exist likely occur in domains specific to practice settings.

Part of the original purpose of this study was to compare the characteristics emphasized and valued by academic pharmacy with those preferred by the pharmacy practitioners actually doing the hiring upon graduation. In preparation, characteristics, such as critical thinking, adaptability, and adeptness with technology and informatics, are emphasized as tools that will help students prepare for tomorrow's practice. With this preparation, however, students must still be trained to be effective and competitive in today's job market. Because other characteristics emerge as being more preferred in practice settings, it is the responsibility of pharmacy institutions to not lose sight of the needs of the profession today, while producing professionals capable of handling the pharmacy practice needs of tomorrow.

There were unique challenges in the development of this study that must be recognized. The list of characteristics provided to the survey respondents was not exhaustive. Furthermore, any of the characteristics could be interpreted differently by different practitioners. To minimize variations in interpretation, examples or qualifiers were provided for each characteristic to convey how the term should be interpreted. While the list was piloted by practitioners in all practice subgroups prior to distribution in an attempt to identify if any characteristics were left out or missing, other characteristics possibly should have been included as part of a pharmacy practitioner's skill set. Although the descriptive definitions were included with the characteristics, practitioners may have had their own interpretations of the different traits and ranked them accordingly. The distribution of these survey instruments was done by students in their first through third years of pharmacy school, and this impacted the demographics of the survey respondents. Given that students were actively engaged in classes during the period of distribution, the majority of practitioners completing the survey instrument practiced in an urban setting in the same state, ie, close to metropolitan Denver and its suburbs. In addition, the majority of these pharmacists were preceptors and their preferences and priorities may differ from those of pharmacy practitioners who do not precept students. Finally, it was difficult to obtain a large response from the institutional manager population, resulting in this group being proportionally underrepresented with only 10 responders. Nevertheless, the relative consistency in the responses from this group provides some confidence in the quality of the data.

CONCLUSIONS

Characteristics valued in a new pharmacist vary depending on the practice site (retail vs institutional) and this may relate to the unique demands of the site. For a new graduate of a pharmacy college or school, the ability to communicate is a critical skill, regardless of the practice setting chosen. Being adaptable and professional are also valuable characteristics in securing a position as a new pharmacist. Some characteristics emphasized in pharmacy APPE programs, such as using literature and punctuality, received little consideration by pharmacy practitioners, indicating that further study is needed to address these disparities.

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Appendix 1. List and explanation of possible desirable characteristics in new pharmacy graduates hired to work in retail and institutional pharmacy settings.

Adaptable	responds positively and easily to changing environments, such as different work flows or volumes
Business sense	demonstrates an understanding of basic business operations; has a strong grasp on financial, marketing, inventory and human resource skills
Communication	can convey information in a clear, confident and succinct manner to patients, care-givers and other health care providers; able to speak clearly so that they are understood, communicates effectively with co-workers
Critical Thinker	reflects on performance and identifies strengths or weaknesses; makes decisions based upon sound logic and solid evidence
Dedicated	shows true passion for work, stays until the task is done, committed to patient care and takes pride in performance
Efficient	accomplishes a task quickly and correctly without compromising quality
Empathetic	maintains cultural sensitivity and accepts role in working with diverse populations; has the ability to convey compassion, relate to patient situations, displays a caring attitude
Imaginative	can think outside of the box and come up with creative solutions to identify or resolve dilemmas
Knowledgeable	provides accurate pharmacy-related information without needing to refer to computer or text resources with minimal need to refer to computer or text resources
Leader	takes initiative to explore options and takes on new challenges, can rally personnel; looks for ways to advance pharmacy practice
Methodical	creates an organized system for performing a task and follows that system through to a logical conclusion
Patient	maintains calm and helpful demeanor during potentially frustrating situations
Personable	easy to get along with, well-liked by pharmacy staff, other providers and patients
Problem-solver	ability to create a solution to a problem for which there is no immediate or obvious answer
Professional	respects confidentiality; carries self in a manner expected of a role model of the pharmacy profession in terms of appearance and attitude
Punctual	arrives on time to start the day, after breaks or lunch, and to meetings/appointments
Receptive	open to new ideas and change; responds well to feedback and constructive criticism
Self-learning	takes on the responsibility of educating self by learning from experiences and reflecting on ways to enhance continuous professional development
Technologically-adept	uses computer and internet-based resources with a high level of efficiency and accuracy
Utilizing literature	efficiently uses appropriate references and primary literature