

Compounding Pharmacy

Background

Compounding pharmacy may be defined as practicing the duties of a pharmacist with an emphasis on preparing customized dosage forms and/or prescription medications to meet an individual patient's or physician's needs. Because every patient is different and has unique needs, customized medications are a vital part of quality medical and patient care. Today, compounding is also addressing the needs of veterinarians, dentists, and their patients.

Compounding prescription medications was a common activity in pharmacy prior to the advent of manufactured medicines in the 1960s. There has been a "rebirth" of compounding in the past decade because of the need for specialized medications for individual patients. A pharmacy compounding provision was attached to the Food and Drug Administration Modernization Act of 1997 recognizing the importance of compounding and providing for its continued practice. Recent concerns about appropriate and safe compounding practices have been addressed in draft legislation by sectors of the government. The pharmacy profession recently formed the Pharmacy Compounding Accreditation Board to help address some of these issues.

The basis of the profession of pharmacy has always been the "triad": the patient-physician-pharmacist relationship. Through this relationship, patient needs are determined and decisions are made about treatment regimens, which may call for a compounded medication, including but not limited to:

- *Medications that are not commercially available*—Manufacturers must be ensured that there will be a return on their investment when entering the marketplace with a drug product. Therefore, limited chemical forms, dosage forms, strengths, flavors, and packaging are available for the physician to prescribe and the pharmacist to dispense. Compounding allows the physician to prescribe a custom-tailored medication that is not available commercially.
- *Medications that are not stable*—Pharmacists prepare small quantities of a prescription more frequently to ensure stability of the product for its intended use.
- *Altered commercially available medications*—Physicians prescribe a commercially available medication in a different dosage form to meet a specific patient need and ensure patient adherence. For example, a patient may be allergic to a preservative or dye in a manufactured product for which compounding pharmacists can prepare a dye-free or preservative-free dosage form. Some patients have difficulty swallowing a capsule and require a troche or lozenge. Many pediatric patients are nonadherent because their medications are bitter, but become adherent when the medication is flavored to their liking.

No health care professionals, other than pharmacists, have studied the physical and chemical compatibilities of medications and can prepare extemporaneous dosage forms. Even when modern scientific technologies have produced new chemical entities, the ability to combine one or more chemicals into a new preparation, or process the existing dosage form into one that is better suited to the patient's needs, has remained the domain of the pharmacist. The right—if not the obligation—to compound exists under the pharmacy laws of each of the 50

states and is pervasively regulated by the states. Many pharmacy schools, as part of their core curriculum, instruct students on the compounding of pharmaceuticals.

Respondents indicated that they spend 43% of their time compounding. This is followed by 16% in the role of medication dispensing (including associated counseling). Seven percent of their time is spent on business management and 6% on the following: data management, personnel management, and consulting.

In describing the appeal of such a practice, one respondent from New Hampshire summed it up as “working extremely close with physicians to find the best therapy options for our patients.”

Characteristics

Sixty-three percent reported having an entry-level pharmacy degree, with 30% having earned a PharmD degree. Another 20% reported having an advanced degree (MA, MS, MBA, PhD, or other) with an additional 10% earning a nonpharmacy BA or BS degree. Thirteen percent reported having achieved a certificate for special training, with smaller percentages reporting a residency (7%) and other training (10%).

The mean age of these respondents is 51 years, with 53% being male. Close to half (47%) reported that they are in management.

Income data show that 16% earn between \$80,000–\$100,000, while 52% earn \$100,000 or more per year and of that 12 % earn more than \$170,000. The average time worked per week was 39 hours. Respondents represented 7 states.

Compounding pharmacists enjoy their area of practice: 60% are “extremely” satisfied and 30% are “somewhat” satisfied. Only 10% report otherwise. Only slightly different is their response regarding their level of challenge in this career path. A majority (57%) are extremely challenged, with 37% reporting they are somewhat challenged.

Insider’s Perspective

What aspects of the job are most appealing?

These are “people” pharmacists. Twenty-three percent indicated “interaction with people”/“direct patient care” as the most appealing aspect of this practice area. Another 10% listed working with veterinarians as most appealing.

One respondent from Arizona stated, “I actually help patients fix the issues they present.” Another from Oklahoma enjoyed the ability to “employ all areas of science.”

What aspects of the job are least appealing?

In contrast to the most appealing aspects, only one item seemed to resonate with some of the respondents. Thirteen percent listed “difficult patients” as the least appealing. While not listed in large numbers, concerns also were expressed about insurance issues. Given the unique customized nature of the products they compound, third-party reimbursement problems may be greater for these pharmacists than other practitioners.

What advice should students and practitioners consider when selecting the option of compounding pharmacy?

Compounding pharmacists indicate that they are passionate about their work. A respondent from New Hampshire stated, “I’ve never met an unhappy compounding pharmacist.”

Another from Arkansas indicated the importance of being a people person as “you deal with people every day.” One respondent from Texas had a slightly different take in that one must be “willing to work in a team with other health care professionals.”

A respondent who focuses more on the nonhuman aspects of compounding stated, “I consult and provide medications for lab animals. I have daily interactions with lab animal veterinarians and preclinical researchers.”

Critical Factor Ratings

Interaction With Patients

Despite being the aspect of compounding pharmacy practice most appealing to these pharmacists, they were in the mid-range on the scale at 6.2. Considering that they spend almost 60% of their time in the compounding and dispensing mode, this is easy to understand.

$$= 6.2$$
$$\sigma = 2.9$$



Conducting Physical Assessments

Respondents were in the lower range with a 2.8 mean rating. The compounding pharmacist's expertise comes to bear more in the refining of medications and/or dosage forms to meet the patient's needs and monitoring results to maximize the benefits.

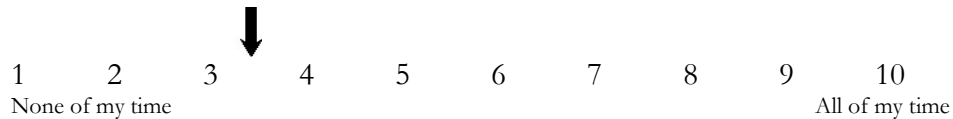
$$= 2.8$$
$$\sigma = 1.9$$



Interpreting Laboratory Values

Interpreting laboratory values received a slightly higher score because some of the respondents have access to look into the values as a means to determine the needs of the patients.

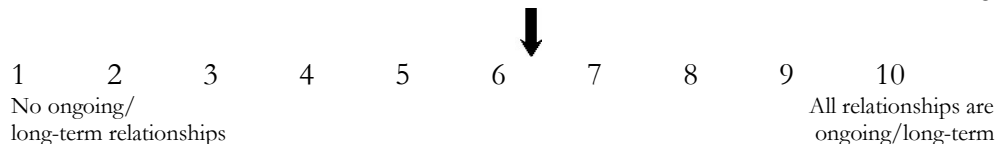
$$= 3.4$$
$$\sigma = 2.8$$



Continuity of Relationships

Compounding pharmacists maintain a moderate level of continuity with their patients. This is not surprising because many of their patients have special needs with long-term conditions (e.g., asthma) requiring continuing care and close monitoring of the effects of the medication regimen. Other patients, however, may have very acute medication needs for a single compounded prescription.

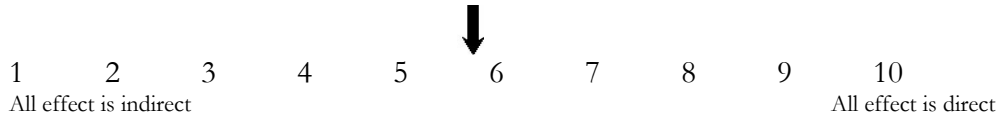
$$= 6.3$$
$$\sigma = 3.1$$



Helping People

Considering the “people” aspect these practitioners say they enjoy, compounding pharmacists are mid-range in directly helping their patients. Most of a compounding pharmacist’s work involves creating individualized prescription medications for the special needs of their patients.

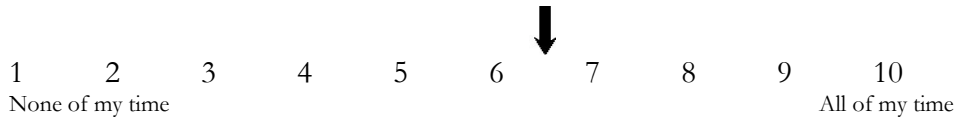
= 5.8
 $\sigma = 2.5$



Collaboration With Other Professionals

Ranking in the mid-range area (6.5), compounding pharmacists spend a moderate amount of their time in collaborating with health professionals other than pharmacists. Often, compounding pharmacists work closely with a patient’s physician to ensure that appropriate medication is provided. In addition, the veterinarian interaction is a component for compounding pharmacists.

= 6.5
 $\sigma = 2.9$



Educating Other Professionals

Compounding pharmacists rated this factor a 5.0. Their role in educating other professionals likely includes time spent discussing patients’ individual needs with their prescribing physicians (or pets’ needs with owners and vets) to arrive at a conclusion regarding the appropriate therapy and dosage regimen.

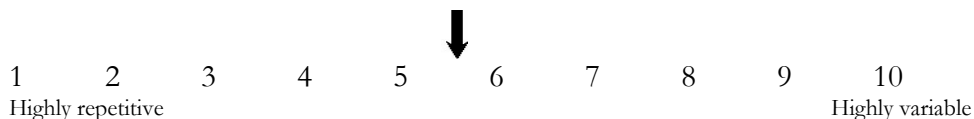
= 5.0
 $\sigma = 2.8$



Variety of Daily Activities

Compounding pharmacists experience a variety of daily experiences and rank among the upper quarter of careers profiled in terms of this measure.

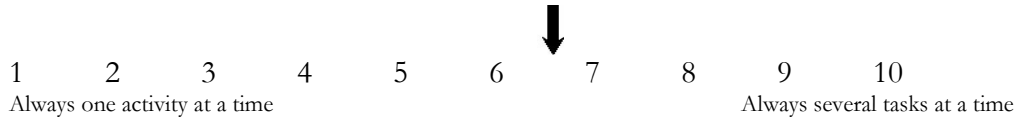
= 5.7
 $\sigma = 2.7$



Multiple Task Handling

Compounding pharmacists are confronted with the challenge of multitasking in the high mid-range at 6.6. In a busy setting, that may include such responsibilities as supervising nonprofessional staff, monitoring the phone, answering patients' queries, and compounding a special preparation—all at the same time.

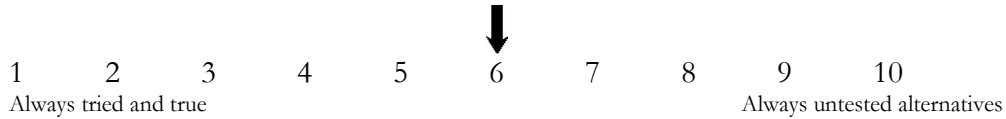
= 6.6
 $\sigma = 2.3$



Problem Solving

With a 6.0 rating, compounding pharmacists are more often than not called upon to be innovative, solving problems with new strategies, rather than relying on older solutions. Their work involves individualizing prescription medications to meet specific patient needs.

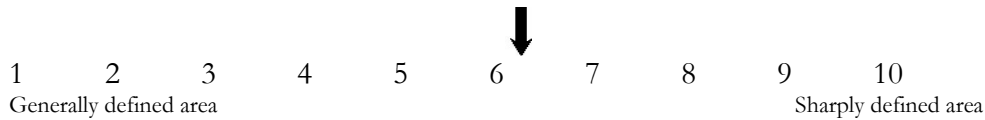
= 6.0
 $\sigma = 2.3$



Focus of Expertise

Compounding pharmacists are focused on utilizing their expertise in their work, which is very specific and individualized to particular patients. In addition to understanding the physical and chemical nature of products, these pharmacists also balance the needs of communication in talking with patients and practitioners.

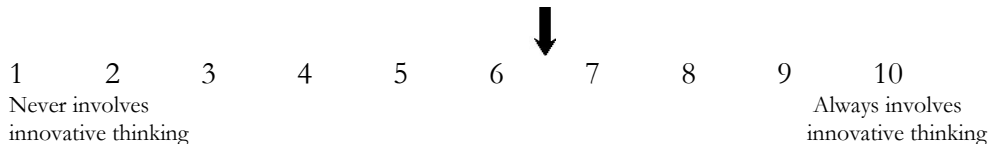
= 6.2
 $\sigma = 2.7$



Innovative Thinking

A ranking of 6.5 identifies compounding pharmacists as being among those whose innovative thinking talents are called upon with greater frequency. This aspect is closely related to, and consistent with, such other elements as problem solving and focused expertise.

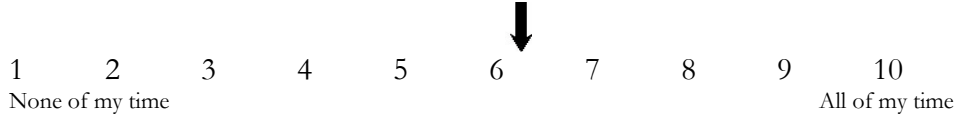
= 6.5
 $\sigma = 2.8$



Applying Scientific Knowledge

Prescription compounding processes require great attention to scientific detail. This is reflected by the 6.2 rating.

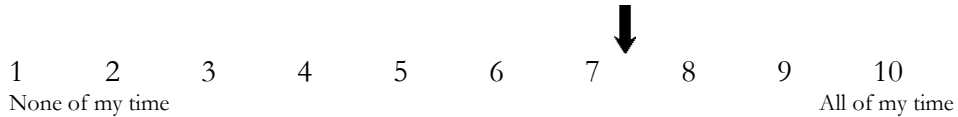
$$= 6.2$$
$$\sigma = 2.6$$



Applying Medical Knowledge

Designing specific dosage forms for individual patients can require considerable medical knowledge and compounding pharmacists rated this factor higher than the application of scientific knowledge.

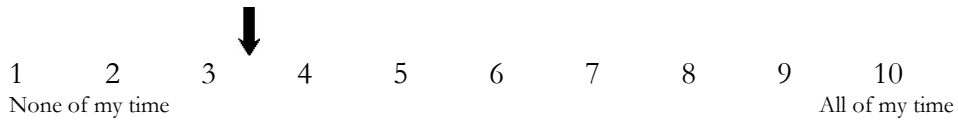
$$= 7.3$$
$$\sigma = 2.2$$



Creating New Knowledge by Conducting Research

In the lower mid-range with a 3.4 rating, compounding pharmacists report that they are only moderately involved in conducting research within their practice settings. Compounding prescription medications for new patients and conditions might involve trying different methods thereby creating new knowledge.

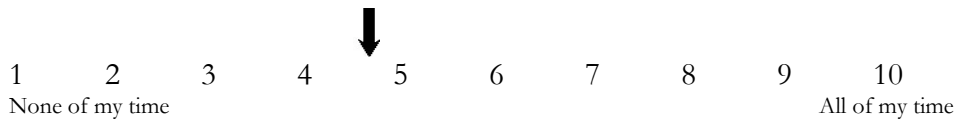
$$= 3.4$$
$$\sigma = 2.4$$



Management/Supervision of Others

In the mid-range with a 4.7 rating, compounding pharmacists report that they are usually engaged in organizing, managing, or supervising others within their business or practice settings.

$$= 4.7$$
$$\sigma = 2.8$$



Management/Supervision of a Business

Compounding pharmacists are mid-range with regard to management of a business.

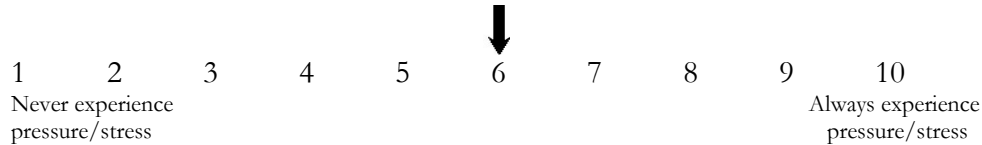
$$= 4.6$$
$$\sigma = 3.1$$



Pressure/Stress

Compounding pharmacists are usually experiencing some pressure or stress in their daily practice activities, reflected by the 6.0 ranking. Multitasking, variety in daily activities, innovative thinking, and other aspects of their jobs are all involved in creating and maintaining this pressure.

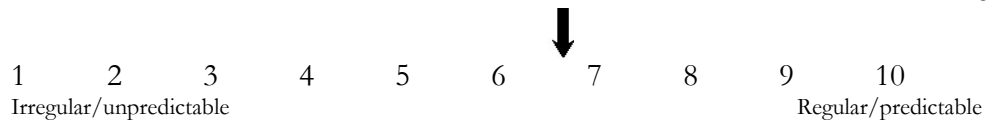
= 6.0
 $\sigma = 2.2$



Work Schedule

These respondents enjoy a regular, predictable work schedule. Nonetheless, the standard deviation, at 3.2, represents a high degree of variance among respondents, indicating that there is a wide range of responses with some pharmacists having a significantly more, and others a less, predictable work schedule.

= 6.7
 $\sigma = 3.2$



Part-Time Opportunities

To a moderate degree, compounding pharmacists are in practice settings that provide opportunity for part-time work. Once again, the high standard deviation (3.7) shows a wide variation in the responses.

= 4.9
 $\sigma = 3.7$



Job-Sharing Opportunities

Compounding pharmacists indicated that there is little opportunity for job-sharing.

= 3.3
 $\sigma = 2.9$



Exit/Re-entry Opportunities

A rating of 4.1 indicates that there is some opportunity for exit/re-entry in the compounding field.

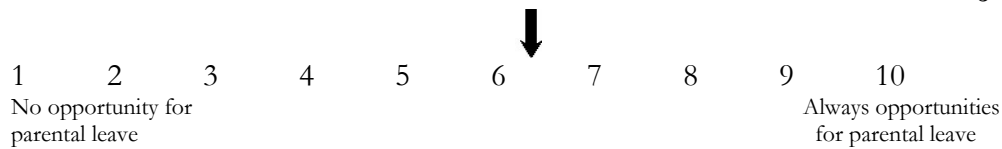
$$= 4.1$$
$$\sigma = 3.2$$



Parental Leave Opportunities

This factor rated the highest at 6.3 among the work-related questions.

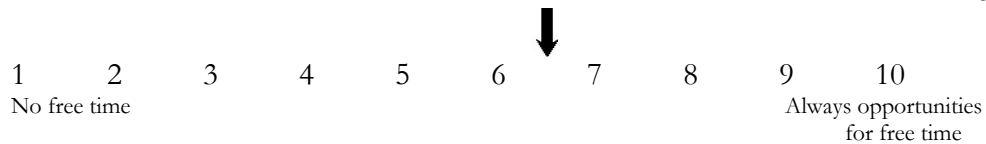
$$= 6.3$$
$$\sigma = 3.2$$



Leisure/Family Time

In the mid-range, compounding pharmacists report that they usually have free time for family and personal leisure activities. This is related to the regularity and predictability of their work schedule.

$$= 6.5$$
$$\sigma = 2.8$$



Job Security

This factor was rated the second highest for this group at 8.1. Compounding pharmacists enjoy a high level of job security. To the extent that many in this category may own their pharmacy, they are self-employed and thereby enjoy job security and stability. To the extent that these are employee pharmacist responses, they enjoy job security even though they are not under an employment contract and are generally employed by smaller business entities, rather than large corporations.

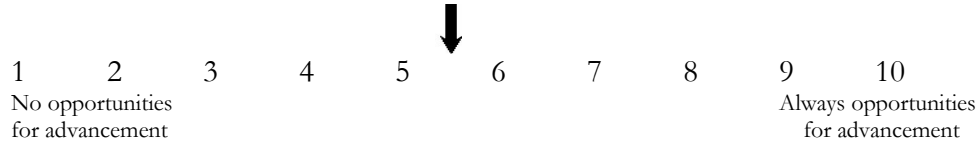
$$= 8.1$$
$$\sigma = 1.7$$



Opportunities for Advancement

Within the mid-range, compounding pharmacists report a moderate level of opportunity to advance within the practice. This may be due to the fact that some are pharmacy owners already.

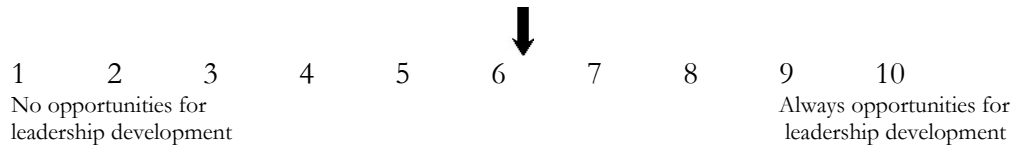
$$= 5.5$$
$$\sigma = 3.3$$



Opportunities for Leadership Development

With a rating of 6.2, compounding pharmacists have the opportunity to develop their leadership skills. They may be asked to speak at continuing education programs, professional association meetings, or other venues about their specialized area of practice.

$$= 6.2$$
$$\sigma = 2.7$$



Community Prestige

Compounding pharmacists report enjoying a high level of prestige within their communities through their practice settings.

$$= 7.0$$
$$\sigma = 2.5$$



Professional Involvement

A ranking of 7.3 shows that compounding pharmacists have the opportunity to engage in affairs of the profession by attending and participating in meetings, association events, continuing education seminars, and other activities within pharmacy.

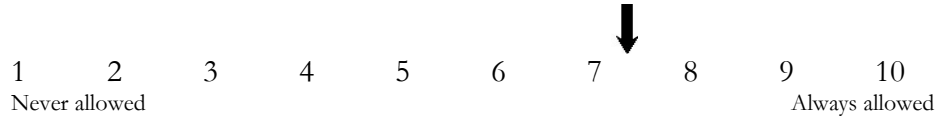
$$= 7.3$$
$$\sigma = 3.0$$



Self-Worth

Another high rating shows that compounding pharmacists enjoy the opportunity within their practice settings to create self-worth and positive outcomes through their work.

= 7.3
 $\sigma = 2.5$



Future Focus

With a 6.2 ranking, compounding pharmacists are in the upper career range of those surveyed related to the need to be future focused. Compounding individualized prescriptions requires keeping up with new products and methods to create solutions for patients.

= 6.2
 $\sigma = 2.3$



Professional Prestige

Within the profession of pharmacy, compounding pharmacists rated their professional prestige as mid-range. They have a specialized practice, work with physicians, veterinarians, and patients to craft individualized medications for therapy and are often asked to share their learning with others in pharmacy.

= 6.4
 $\sigma = 2.9$



Unique Practice Environment

Compounding pharmacists tend to practice in a unique environment. While at times the physical environment maybe similar to other practices, the environment itself is unique.

= 7.6
 $\sigma = 3.4$



Travel

For the most part, compounding pharmacists have lower needs to travel for their day-to-day activities.

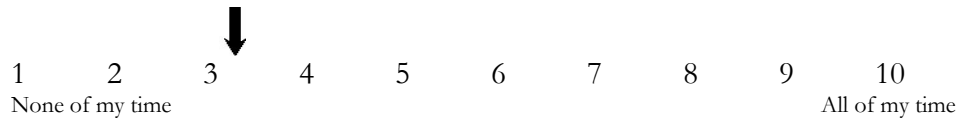
= 2.7
 $\sigma = 2.0$



Writing

Respondents were in the lower range regarding writing. Compounding pharmacists usually provide written documentation of how a prescription was compounded but rarely need to provide reports or lengthy written documents.

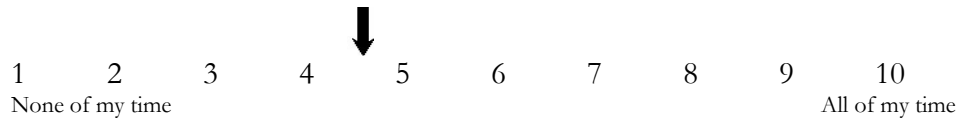
= 3.2
 $\sigma = 2.2$



Working With Teams

Compounding pharmacists were in the mid-range for working in teams. While they communicate regularly with others, many times they work individually when compounding a specific prescription.

= 4.7
 $\sigma = 2.9$



“On Call”

Respondents indicated a mid-range “on call” need for the positions. Specific project activities may require an “on call” status but these are not commonplace.

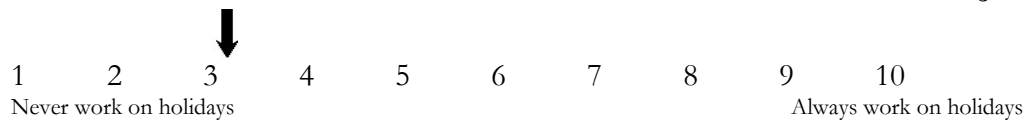
= 3.8
 $\sigma = 3.4$



Work on Holidays

Compounding pharmacists rated this low-range. Many pharmacies are open for limited hours on some holidays.

= 3.1
 $\sigma = 2.7$



Work on Weekends

Similar to above, respondents were in the mid-range for working on the weekends, which was slightly higher than holidays.

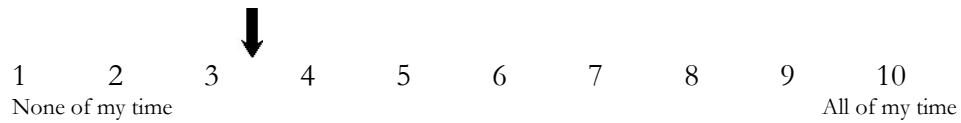
$$\begin{aligned} &= 3.8 \\ \sigma &= 3.0 \end{aligned}$$



Presentations

Presentations ranked in the lower range of the scale. While many do not provide presentations, others who are involved with colleges of pharmacy may provide occasional presentations to student pharmacists.

$$\begin{aligned} &= 3.4 \\ \sigma &= 2.4 \end{aligned}$$



Mean Scores for Critical Factors

| | |
|---|-----|
| 1. Interaction With Patients | 6.2 |
| 2. Conducting Physical Assessments | 2.8 |
| 3. Interpreting Laboratory Values | 3.4 |
| 4. Continuity of Relationships | 6.3 |
| 5. Helping People | 5.8 |
| 6. Collaboration With Other Professionals | 6.5 |
| 7. Educating Other Professionals | 5.0 |
| 8. Variety of Daily Activities | 5.7 |
| 9. Multiple Task Handling | 6.6 |
| 10. Problem Solving | 6.0 |
| 11. Focus of Expertise | 6.2 |
| 12. Innovative Thinking | 6.5 |
| 13. Applying Scientific Knowledge | 6.2 |
| 14. Applying Medical Knowledge | 7.3 |
| 15. Creating New Knowledge by Conducting Research | 3.4 |
| 16. Management/Supervision of Others | 4.7 |
| 17. Management/Supervision of a Business | 4.6 |
| 18. Pressure/Stress | 6.0 |
| 19. Work Schedule | 6.7 |
| 20. Part-Time Opportunities | 4.9 |
| 21. Job-Sharing Opportunities | 3.3 |
| 22. Exit/Re-entry Opportunities | 4.1 |
| 23. Parental Leave Opportunities | 6.3 |
| 24. Leisure/Family Time | 6.5 |
| 25. Job Security | 8.1 |
| 26. Opportunities for Advancement | 5.5 |
| 27. Opportunities for Leadership Development | 6.2 |
| 28. Community Prestige | 7.0 |
| 29. Professional Involvement | 7.3 |
| 30. Income | 6.7 |
| 31. Benefits (vacation, health, retirement) | 7.6 |
| 32. Geographic Location | 6.1 |
| 33. Autonomy | 7.3 |
| 34. Self-Worth | 7.3 |
| 35. Future Focus | 6.2 |
| 36. Professional Prestige | 6.4 |
| 37. Unique Practice Environment | 7.6 |
| 38. Advanced Degree | 1.8 |
| 39. Entrepreneurial Opportunity | 4.9 |
| 40. Additional Training | 9.1 |
| 41. Interacting With Colleagues | 7.6 |
| 42. Travel | 2.7 |
| 43. Writing | 3.2 |
| 44. Working With Teams | 4.7 |
| 45. "On Call" | 3.8 |
| 46. Work on Holidays | 3.1 |
| 47. Work on Weekends | 3.8 |
| 48. Presentations | 3.4 |

Reference

Schommer JC, Brown LM, Sogol EM. *Career Pathway Evaluation Program 2007 Pharmacist Profile Survey*. June 2007.

Professional Organizations

American College of Apothecaries (ACA)
Research and Education Resource Center
P.O. Box 341266, Memphis TN 38184
Tel: 901-383-8816 Toll-Free: 800-828-5933 Fax: 901-383-8882
www.acainfo.org

American Pharmacists Association (APhA)
1100 15th Street NW, Suite 400, Washington, DC 20005
Tel: 800-237-APhA Fax: 202-783-2351
www.pharmacist.com

International Academy of Compounding Pharmacists (IACP)
P.O. Box 1365, Sugar Land, TX 77487
Tel: 281-933-8400 Toll-Free: 800-927-4227 Fax: 281-495-0602
www.iacprx.org

National Community Pharmacists Association (NCPA)
205 Daingerfield Road, Alexandria, VA 22314
Tel: 703-683-8200 Toll Free: 800-544-7447 Fax: 703-683-3619
www.ncpanet.org

Pharmacy Compounding Accreditation Board (PCAB)
1100 15th Street NW, Suite 400, Washington, DC 20005
Tel: 515-341-1250
www.pcab.org

NOTE: For further pharmacy organization information, please visit the American Association of Colleges of Pharmacy Web site at www.aacp.org and click on the “Related Pharmacy Organizations” link.