Reevaluating Core Elements of Emotional Intelligence in Professional Identity Formation for Inclusion in Pharmacy Education

Margareth Larose-Pierre, Anita J. Cleven, Amy Renaud, Jeremy A. Hughes, Brianna McQuade, Brooke L. Griffin, Charisse Johnson

ABSTRACT

Objectives: The objectives of this review are to (1) analyze the core concepts of emotional intelligence self-perception, self-expression, interpersonal relationships, decision-making skills, and stress management and their role in professional identity formation, and (2) investigate the methods and strategies to incorporate emotional intelligence in pharmacy education.

Findings: A literature review of emotional intelligence in health care education was conducted by searching the electronic databases PubMed, Google Scholar, ProQuest, and ERIC. The following search terms were included: emotional intelligence, emotional quotient, in association with professional identity formation, pharmacy curriculum, pharmacy cocurriculum, entrustable professional activities, medicine, and nursing. Only full-length, free-access, English-text articles were included. Twenty articles addressed the inclusion and/or assessment of core elements of emotional intelligence in pharmacy education. Commonly taught, cultivated, and assessed core elements include self-awareness, empathy, and interdisciplinary relationships. Assessment tools used to evaluate emotional intelligence in pharmacy education are subjective, qualitative, and semiquantitative, and may include pre and postcourse surveys, event surveys, and questionnaires.

Summary: The pharmacy literature is scarce on how best to analyze emotional intelligence and the role it plays in the pharmacist’s education and practice. A comprehensive integration of emotional intelligence into the pharmacy curriculum is a challenging task and requires additional in-depth discussions on how best to incorporate it in the pharmacist’s professional identity formation. The Academy will benefit from re-engaging its constituents in addressing the gaps of emotional intelligence in the professional curriculum in preparation for the Accreditation Council for Pharmacy Education 2025 standards.

1. Introduction

Integration of emotional intelligence (EI) into the pharmacy curriculum requires in-depth discussions on how best to incorporate it in pharmacists’ professional identity formation (PIF), which is the ability to “think, act, and feel like a pharmacist.” Mayer and Salovey define EI as “the ability to perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth.” Elements of EI come into play in childhood development, daily interactions with peers and colleagues, professional and collaborative practice, work performance, and leadership. Society and associated relationship management depend on each person’s level of EI to function. Institutional growth and leadership success are areas of business that are dependent on the EI of their constituents. The value of EI in pharmacy education, patient-centered practice, and leadership is essential in developing PIF and in defining the ever-evolving role of the pharmacist.
The core concepts of EI include self-perception, self-expression, interpersonal relationships, decision-making, and stress management. Self-perception encompasses a distinct level of self-awareness, self-regard, self-actualization, self-esteem, the image that one has of oneself, and how one judges or evaluates that image. Self-expression represents the ability to communicate ideas, thoughts, feelings, assertiveness, and independence, and is demonstrated by our behaviors. Interpersonal relationships involve our ability to develop relations and the characteristics necessary to build and grow effective interactions through empathy, responsibility, communication, trust, transparency, and loyalty. Interpersonal relationships also share common goals and objectives. Decision-making encompasses an individual’s keenness in solving problems, understanding and testing of reality, and controlling impulses; this active process requires knowledge, skills, and critical thinking. Decision-making also requires a set of characteristics relevant to self-perception, self-expression, interpersonal relationships, and stress management. Stress management requires flexibility, stress tolerance, and optimism, which are directly related to self-actualization and self-management, and a set of skills, tools, and strategies to reduce the negative stimuli that cause stress. Experts suggest the practice of self-care, exercise, and relaxation techniques as part of stress management strategies.

Emotional intelligence as an integral part of the pharmacist’s PIF is not yet fully integrated, nor standardized, in pharmacy professional education. This future-focused review will examine elements of EI that are important in fostering PIF in pharmacy education, specifically the core concepts of self-perception, self-expression, interpersonal relationships, decision-making, and stress management. The review also serves to highlight tools and processes that other health professions education programs are using, in hopes of promoting future research and discussion on strategies for developing and assessing EI as part of learners’ PIF. Example descriptions can also serve as potential strategies to inculcate EI concepts into aspects of a pharmacist’s professional identity.

2. Methods

A literature review was conducted through PubMed, Google Scholar, ProQuest, and ERIC, guided by the following search terms: emotional intelligence, emotional competence, emotional quotient, in association with professional identity formation, pharmacy education, pharmacy curriculum, pharmacy cocurriculum, assessment, entrustable professional activities, medicine, and nursing. An additional search was performed to expand on primary EI literature using the Boolean operator AND, as shown in Table 1. Only full-length, free-access, English-text articles were included. Articles that did not provide strategies or studies related to incorporating EI into the health care or pharmacy curriculum or cocurriculum were excluded. The article is organized to reflect and discuss: the core concepts of EI; EI incorporation in pharmacy education; assessment tools currently used in pharmacy education; and suggestions and recommendations for incorporation of EI assessment strategies.

While there is an abundance of published information on the role of EI in popular publications for the business workplace, education, and in other health professions, the literature on the role of EI in pharmacy education and PIF is scarce. The Accreditation Council for Pharmacy Education (ACPE) Standard 4 addresses the role of professionalism in pharmacy education related to self-awareness and professional behaviors. Although professionalism has been addressed significantly in pharmacy education, thinking and feeling like a practicing pharmacist goes beyond knowledge of the basic tenets of professionalism. It involves not only knowledge, but also skills, attitudes/mindsets, confidence, and self-concept, which the Academy begins to address through entrustable professional activities and the Pharmacists’ Patient Care Process.

Teaching professionalism is only one component in PIF. Pharmacy educational programs are revising curricula to incorporate aspects of PIF into learner development. However, there is no standardization for the incorporation and/or assessment of PIF and EI. In addressing the core elements of EI, we focused on elements that have been described in the literature and proposed a working plan that can assist in incorporating EI as an aspect of pharmacists’ PIF in professional pharmacy education.

3. Results and Discussion

The following factors affecting EI have been studied and assessed for their impact on the development of student pharmacists. PIF is a longitudinal process that encompasses a series of behaviors and attitudes, such as self-awareness, self-care, self-expression, empathy, humility, altruism, EI, effective communication, and understanding of the human experience. These have been defined as a set of virtues that can be cultivated and taught, such as integrity and ethics, loyalty and gratitude, attentive listening and benevolence, and learning and teaching self and others. Emotional intelligence, relationship building, and communication are associated skills that are foundational to various professional tenets, including demonstrating respect for others and exuding a professional presence.

Several theories have been postulated on how to test for EI. The common denominators include self-awareness and self-actualization, empathy, social responsibility and interpersonal relationships, problem-solving, and adaptability. These can be summarized into 4 distinct components of EI: intrapersonal, interpersonal, problem-solving, and stress management, which can be tested and measured within pharmacy education.

3.1. Self-Awareness

Emotional intelligence encompasses a wide variety of personal and social competencies that can assist in student pharmacists’ adaptation to future clinician roles. Self-awareness, regulation of one’s emotions, awareness of others’ emotions, social skills, motivation, stress management, empathy, and decision-making are all skills affected by one’s emotional quotient (EQ). Multiple studies have provided evidence of elevated EQ positively influencing academic success, the ability to provide compassionate and competent patient care, and the ability to lead and influence others. Elevated EQ scores in pharmacists, including self-awareness aspects, may be associated with greater success in achieving patient-centered outcomes and decreases in malpractice liability.

According to ACPE Standard 4.1, the self-awareness subset of EI is a core competency required in pharmacy education. Mounce and Culhane used the Emotional Quotient Inventory 2.0 (EQ-i 2.0) to measure the successful completion of an EI course. EQ-i 2.0 is globally

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**Table 1**

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Abbreviations: CERB, cognitive, emotional, relational, and behavioral; EQ, emotional quotient.
accepted for assessment of self-perception, self-expression, interpersonal relationships, decision-making, and stress management. The EQ-i 2.0 was initiated before and after a 4-hour EI course was implemented into a required leadership course. After the course was completed, students exhibited strengths in self-awareness, empathy, self-regard, self-actualization, and social responsibility. The data showed a need for improvement in areas of emotional expression, independence, impulse control, and interpersonal relationships.

The 40-question Emotional Intelligence Questionnaire (EIQu) takes into consideration both social dexterity and noncognitive self-management characteristics, assessing both the positive and negative aspects of EI factors. The social dexterity areas include leadership, communication, relationships, ethics, and conflict management. The noncognitive domains test for self-confidence, discipline, emotional awareness, dependability, initiative, etc. The EIQu proposes that some of these factors are intertwined and are better tested together than in isolation. Enhancement of EI can also be addressed on the basis of the results of the EIQu.

3.2. Empathy

There is evidence suggesting that the inclusion of the arts in medical training increases the empathy of practitioners. In 2018, the Appalachian College of Pharmacy initiated a program promoting community service, outreach, and performing arts. All student participants (100%) agreed that they would be a more empathetic health care provider, and 80% reported intention to continue community outreach after graduation.

The Texas Tech University Health Sciences Center School of Pharmacy used the Jellybean Polypharmacy Simulation Exercise to increase students’ empathy levels. Empathy levels were assessed by pre-and-post scores on the Kiersma-Chen Empathy Scale (KCES) and by open-ended questions on lessons learned from the exercise. There was a significant increase in KCES scores after completing the Jellybean Polypharmacy Simulation Exercise, which was described as a polypharmacy simulation that involved the pharmacy student taking a mock 8-pill daily regimen for 1 week. Similarly, a study at Wingate University School of Pharmacy included students on their ambulatory care rotations, where half of the group participated in an empathy assignment that involved the students planning and following a diet plan appropriate for a diabetic patient. The empathy assignment group had an increase of 6.4 points on the KCES, while the other group had a 1.2 decrease. Empathy helps students develop necessary behaviors and skills to manage pharmacist-physician-to-patient relationships.

3.3. Interdisciplinary Relationships

Wong and Law concluded that a high EQ in leaders is correlated with better overall job satisfaction and interdisciplinary relationships. McCloughen and Foster studied open interviews with pharmacy and nursing students. Students’ EQ was measured in relation to responses discussing challenging interdisciplinary relationships that involved negative workplace politics. Sixty percent of students used tactics such as “not participating,” “not making a fuss,” “staying away,” and “staying silent” to avoid confrontation and associated conflict management. Teaching EI could promote better communication skills to improve these interdisciplinary relationships.

Improvement in overall Emotional Intelligence Appraisal (EIA) scores was reported at the completion of a 3-year leadership degree program when compared with preprogram scores in 3 cohorts of students at the University of Oklahoma College of Pharmacy. Hall and colleagues also reported that pharmacists who completed the American Society of Health-System Pharmacists’ Pharmacy Leadership Academy had a significantly higher EQ according to the results of the EQ-i 2.0 compared with the control group (those entering the leadership training). These findings demonstrate that learning and practicing effective leadership is associated with improved EQ, and that higher EQ scores lead to greater leadership efficacy. Further, improving EI in the form of empathy, self-management, and interpersonal relationships significantly improves both leadership capacity and the delivery of health care, ultimately improving patient outcomes and long-term patient satisfaction.

The cognitive, emotional, relational, and behavioral (CERB) framework is used to help implement emotionally intelligent strategies when health care workers find themselves in challenging interpersonal interactions. The University of Sydney studied both nursing and pharmacy students who had clinical practice exposure and had taken a communication theory course using the CERB framework. The exercise involved navigating angry and aggressive patients, coping with the passing of patients, comforting families, using tact, and maintaining privacy. The CERB framework provides suggestions in 4 modalities: cognitive, emotional, relational, and behavioral. The cognitive model provides techniques, such as positive self-talk and setting realistic expectations, whereas the emotional model encompasses the timeliness and manner of emotional expression. The relational modality provides tools for communication within relationships, and behavioral strategies address the attitudes and ways of dealing with conflict. The CERB model has primarily been used in workplace settings, including major hospitals and health systems.

3.4. Why EI Should Be a Core Competency for Pharmacists’ PIF: Making the Student Pharmacist Think, Act, and Feel Like a Pharmacist

Emotional intelligence and PIF are often intertwined in a dynamic process that can be achieved through learning, self-reflection, and socialization. Both require self-awareness, self-expression, effective communication, decision-making, and stress management skills. Academic medicine identifies PIF as a goal that must be achieved and developed in a continuum from student, to resident, to the practicing physician. Professional identity formation must be cultivated while the individual is learning and training to become a professional. Crues and colleagues likened increased competence to the sum-total of “existing personal identities” being infused with socialization to form the professional identity, resulting in heightened performance. Social compacts not one-size-fits-all, as individuals can bring their social contacts from childhood to adulthood into their profession. However, the goal of PIF is to develop a lifelong, self-directed learning process, in which the practitioner is knowledgeable, assertive, flexible, and trustworthy in practicing the profession. In pharmacy, this dynamic process can be optimized through educational interventions that reinforce self-expression, self-perception, self-care, relationship building, and decision-making, and ensure that students and residents “think, act, and feel like pharmacists.”

PIF occurs in a continuum and may not be fully realized throughout a career; however, the core elements of EI can be assessed separately, in a stepwise manner, throughout the student’s matriculation. While little information on assessment tools for PIF exists, several tools are available that can be used to measure EQ in the curriculum and across cocurricular activities.

3.5. Lessons Learned from the Nursing and Medical Professions

The field of nursing has incorporated EI education in both didactic and experiential settings. Although there is an overall lack of EI standardization and implementation, several nursing schools have incorporated aspects of EI study into their programs. Methods that challenge learners to see the situation from the vantage point of the provider include traditional lectures and group application exercises, such as cases, acting scenarios, and discussions. Additionally, physical exercise has been incorporated into some program sessions.

In the hospital setting, emergency room nurses were provided with the opportunity to participate in a 6-week workplace EI development course, where they developed EI skills such as empathy,
communication, and awareness. These skills were evaluated for improvement upon course completion. Activities included class discussions, role-playing, and various assignments. Course efficacy was evaluated by considering patient satisfaction survey responses.37

Medical education has incorporated EI into curricula and residency programs. Medical students at the Royal College of Surgeons in Ireland completed a professional development course related to EI.36 Emotional intelligence was assessed via the EQ-i and the Mayer-Salovey-Caruso EI test. On the basis of their EI results, students identified opportunities and strategies for improvement.38 Lane and Roberts describe objective structured clinical examinations (OSCEs) that were modeled to create a simulated patient care session. Fourth-year medical students were required to provide care for a simulated patient and family members, and students were required to display EI. Upon completion, participants provided feedback about how they were able to practice and apply EI skills learned in didactic coursework.39

Physicians were surveyed to determine which leadership and EI incorporation methods were the most effective for medical residents.40 The most popular methods implemented in residency leadership and EI training included mentoring, reflections, and discussions.41 A pediatric residency program incorporated EI competencies into their curriculum in the form of group meetings, group discussions, and completed modules.42 At the end of the year, 83% of the surveyed residents responded that the incorporated leadership and EI sessions were useful to their program.43

3.6. Current Published Methods of Teaching and Assessing EI in Pharmacy Education

The Consortium for Research on Emotional Intelligence in Organizations (CREIO) has created guidelines for developing EI, which can be applied to professional education programs, including those in pharmacy.17,42 CREIO recommendations for fostering EI can be classified into 4 stages: preparation, training, transfer, and maintenance. Learners can be prepared for displaying EI in practice through emphasizing EI’s importance for pharmacy practitioners. Preparation steps include evaluating learners for current EI levels and providing constructive criticism. In the training stage, faculty can demonstrate EI skills in interactions with learners and model how to set appropriate goals to improve content-based and experiential knowledge. An example of incorporating EI development into the transfer and maintenance stage includes providing learners with application-based EI activities during experiential rotations. The evaluation stage of EI development can be accomplished by implementing pre- and post-surveys, and administering 1-year follow-up evaluations to determine whether learners have achieved desired EI learning outcomes and developed useful EI skills for future pharmacy careers.17,42

For learners to better understand the importance of EI in pharmacy practice, EI should be regularly integrated into the pharmacy curriculum, rather than relying on a few EI-based workshops.17 In addition to providing learners with progressive EI exposure in both didactic and experiential coursework, application-based courses are recommended for assessing EI development. The incorporation of EI content within nonclinical courses, such as social and administrative sciences, provides learners with the opportunity to practice applying EI skills as future pharmacists.21 Pharmacy schools have begun to incorporate EI into the curriculum, but there is variation among the programs in how EI is presented to learners. Because EI is a fundamental component of a learner’s PIF, core elements should be incorporated as early as possible during matriculation through the program.43

In a mandatory leadership course at Regis University, learners in their third year of pharmacy school participate in class-wide EI discussions and provide feedback about which EI characteristics are most relevant to them as future pharmacists.44,45 Learners use their Emotional and Social Competency Inventory results to evaluate their strengths and weaknesses and compare their results with fellow learners in the class.42,43

The University of Oklahoma provides pharmacy learners with the opportunity to earn a leadership degree during their matriculation through the program.46 The leadership program requires the completion of 10 credit hours of leadership courses, and 2 advanced pharmacy practice experience leadership electives. Within the leadership program, EI is emphasized in both didactic and experiential courses. Learners are required to participate in team-based projects to foster skills in developing relationships. Characteristics such as empathy, self-awareness, and self-management are presented at the beginning and reinforced throughout the duration of the program.46

The Glendale Campus of the Midwestern University College of Pharmacy offers a leadership program certificate for learners.47 The program provides learners with an EI-related focus in extracurricular leadership activities. Competencies such as self-awareness, self-management, social awareness, and relationship management are incorporated into the program through activities such as topic discussions, feedback from written reflections, and reading assignments. Learners are required to meet with assigned faculty mentors throughout the program. At the end of the program, learners complete pre- and postevaluations to assess their improvement in these EI competencies.48

3.7. Incorporation of EI in Interprofessional Education

According to the World Health Organization, interprofessional education (IPE) takes place when students from 2 or more different health disciplines learn about and from each other while also working together to improve patient health outcomes.49 Collaboration in IPE helps break down silos and ensures that students provide patient care in a team setting.45,46 As learners begin to form their professional identities, they must understand their own roles and responsibilities, as well as those of other health care professionals, which requires emotional competence.47,48 To educate and help prepare future health professionals for IPE, the Interprofessional Education Collaborative (IPEC) generated 4 core competencies, which are described in Table 2.49 Each of these competencies can be mapped back to 1 or more EI domains.

3.8. Incorporation of EI in the Curriculum

Both Preston and Jean-Louis24 and Blaszczyk and colleagues25 addressed the importance of incorporating EI in curricular activities. Goodlet and colleagues26 and Buckley and colleagues27 describe the incorporation and assessment of EI through curricular programs. As mentioned, the Glendale Campus of the Midwestern University College of Pharmacy offers learners the option of participating in a curricular leadership program that provides EI development opportunities.44,50 Each participant is required to take a pre- and postprogram EI pre-test to determine the magnitude of EI improvement. Each year, the program has been consistently successful; however, the class of 2021 showed significant improvement in their EI postprogram scores compared with previous years, despite meeting virtually because of the COVID-19 pandemic. Participants perceived that attending virtual meetings helped them to communicate on a deeper level than meeting face-to-face. According to these results, the implementation of a curricular leadership program that allows learners to experience aspects of virtual meeting platforms could be beneficial.44,50

When medical students were surveyed after providing volunteer health care services, they reported a general improvement in both their perceived leadership abilities and EI components such as empathy, communication, and interpersonal relationships. Some participants reported that their service involvement helped improve academic performance.51 Involving pharmacy learners in curricular activities may offer similar EI benefits. Implementing pre- and post-EI assessments can be beneficial in evaluating the efficacy of curricular EI incorporation.51,52 During a simulated brown bag event, medical students role-played as patients or providers. The provider was responsible for...
conducted a mediation reconciliation for the patient and addressing any problems with the patient’s medication regimen. Incorporating IPE into brown bag events, other medication reconciliation activities, and patient care cocurricular opportunities allows learners to practice EI skills such as effective communication and teamwork, and provides patient education.

3.9. Curriculum Organization and Continuous Development of EI Education

There are conflicting ideas about the standards of EI education and whether it should be taught in the classroom, incorporated throughout the curriculum, developed as a longitudinal experience, or incorporated as experiential or cocurricular activities. Lor and colleagues conducted a study using the Jefferson Scale of Empathy-Health Profession Students (JSE-HPS) to measure the impact of a single 3-day intervention on empathy. The students were assessed before the intervention, 7 days after the intervention, and 90 days after the intervention. The measurement of empathy on the JSE-HPS increased following the week of the intervention; however, within 90 days, the difference in empathy was no longer significant. Similarly, the 2012 Best Evidence Medical Education review concluded that EI education is more effective when it is offered later in the curriculum and delivered over a short period of time (<1 month).

Strong evidence for continuous development of EI in health professions education can be extrapolated from the Stony Brook Renaissance School of Medicine Framework and the University of Texas System through their Transformation in Medical Education (TIME) initiative. This initiative recognized that teaching professionalism in medical education was not enough to build exemplary medical practice and support the well-being of patients and physicians. Thus, this framework promotes PIF through the 4-year curriculum and addresses several EI concepts, such as personal subidentities, self-reflection, conflict between personal and professional values, self-care, and resilience. Following this framework, EI can be incorporated early through community service, reflection, journaling, portfolios, seminars, cocurricular activities, and didactic courses. With IPE in the didactic
curriculum and in introductory and advanced pharmacy practice experiences, EI can be better integrated and assessed through OSCEs, feedback, reflection, surveys, and portfolios.

3.10. Recommendations for the Inclusion of EI in Pharmacy Students’ PIF

Teaching the core elements of EI in the didactic and experiential curriculum, and incorporating EI in the cocurricular steps that can be taken to strengthen PIF from matriculation to graduation. Nelson and colleagues proposed several opportunities to incorporate EI domains through active learning strategies, as indicated in Table 3. Ideally, pharmacy education develops a professional that can “think, act, and feel” like a pharmacist. Incorporating EI addresses the thinking and the feeling as internalized concepts that stay with the professional even in the absence of the acting as a pharmacist. Strategies for including EI and EQ assessment in the pharmacy curriculum involve adopting competency-based EI education that can be easily taught, repeated, and evaluated in didactic and experiential courses, as PIF occurs in a continuum. Another strategy is the inclusion of EI concepts through specific core and elective pharmacy courses. Other options include the creation of cocurricular activities, where EI can be incorporated early in the matriculation process, such as brown bag events and health fairs, and the incorporation of live seminars and workshops, short videos, laboratory simulations, and OSCEs as additional tools to improve EI competencies.

One final strategy is using activities and/or pre- and postcourse assessment tools that can be administered (CREIO, JSE-HPS, KCES, EQ-1 Scoring, EIQ, CERB, and entrustable professional activities evaluation as part of advanced pharmacy practice experience), recognizing that there is a need for the development of pharmacy-specific EI scoring.

4. Conclusion

The core elements of EI include self-perception, self-expression, interpersonal relationships, decision-making skills, and stress management. These elements are critical to the PIF of all individuals. They can be taught and cultivated in pharmacy education throughout both the didactic and experiential curricula. Further studies into the formation of EI educational programs within the pharmacy curriculum, accompanied by EQ test validation, are needed to provide the highest-quality EI program possible. Including an EI education program can increase students’ EI, resulting in improved empathy, self-awareness, and interdisciplinary relationships, and consequently, better patient-centered care and outcomes.

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Declaration of Competing Interests

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