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INSTRUCTIONAL DESIGN AND ASSESSMENT

Development and Assessment of Social and Emotional Competence Through Simulated Patient Consultations

Suzanne Galal, PharmD,[a] Sian Carr-Lopez, PharmD,[a] Craig R. Seal, PhD,[b] Amy N. Scott, PhD[b] Chris Lopez[b]

[a]Thomas J. Long School of Pharmacy and Health Sciences, University of the Pacific, Stockton, CA
[b]College of the Pacific, University of the Pacific, Stockton, CA

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Objective. To determine whether a quantitative tool could be used to measure social emotional competence and whether the development of social emotional competence through a pharmacy practicum course is possible.

Design. First-year pharmacy students completed the Social Emotional Development Inventory (SED-I) online and then participated in a series of mock patient consultations on smoking cessation and nonprescription medication.

Assessment. The 212 students enrolled in the course completed the SED-I. Evaluation of students' performance in the clinical cases using a patient counseling assessment form showed that students' social emotional competencies significantly improved. Observer ratings for "influence" and "connection" on the assessment form predicted student performance in the clinical cases.

Conclusions. Role-play exercises in which students engage in patient consultations can be used to develop social emotional competence in pharmacy students, and the SED-I and a patient counseling assessment form can be used to assess learning and improvement in this area.

Keywords: pharmacy education, professional practice, emotional intelligence, patient simulation

INTRODUCTION

Aristotle said that, "Those who possess the rare skill to be angry with the right person, to the right degree, at the right time, for the right purpose, and the right way are at an advantage in any domain of life." This historical statement provides the philosophical basis for the modern concept of emotional intelligence. As pharmacists establish new roles in the provision of patient-centered care and participate in interprofessional healthcare teams, the concept of emotional intelligence has become imperative for effective job performance. For example, in a white paper prepared for the American Association of College of Pharmacy 2009 Curricular Change Summit, authors stated that in the past, pharmacy education focused on developing skills needed for preparing and dispensing medications in a safe and effective way.[1] The white paper identifies 10 content or learning strategies that must be incorporated into the pharmacy curriculum, over half of which relate to social and emotional development.[1,2] Although the importance of learning emotional intelligence and incorporating it into healthcare have been discussed in the literature, there has been little research on measuring emotional intelligence and, more importantly, assessing emotional intelligence development in the pharmacy curriculum.

Emotional intelligence is generally defined as the overlap between emotion and intelligence, or more simply, the intelligent use of emotions. Emotional intelligence is the means to monitor, discriminate, and use emotional information to facilitate thought.[3,4] A popular model of emotional intelligence was advocated by Goleman's founding research and refined by Boyatzis' findings.[3,5,6] Boyatzis and Goleman view emotional intelligence as a set of related competencies, distinct from general intelligence, that can be developed, and assist in successfully resolving environmental challenges.[3,7] In layman's terms, emotional intelligence is often related to "soft" skills (eg, skills that focus on relationships between people). Although there are limitations to measuring the construct of emotional intelligence, the accumulated body of evidence indicates that emotions matter, and that those who are more apt to perceive and regulate emotions in themselves and others are likely to be at an advantage.[8-10]

Corresponding Author: Dr. Suzanne Galal, University of the Pacific, 3601 Pacific Avenue, Stockton, CA 95211. Tel: 209-946-3918. Fax: 209-946-2402. E-mail: sgalal@pacific.edu

Despite the potential promise of emotional intelligence, and the more specific social emotional competence construct, there is still a missing link of adapting emotional intelligence and social emotional competence within an educational framework, as social emotional competence has largely focused on management studies and is not necessarily transferable to higher education.[11,12] Therefore, a newer model designed specifically to address the developmental challenges of college students as they prepare for their subsequent careers, called *social emotional development*, has been used for the current study along with the companion Social Emotional Development Inventory (SED-I). Experiential learning theory posits that learning is a process that results in the transformation of experience, into a change in thoughts, feelings, or behaviors.[13]

The social emotional development model integrates social emotional competencies into 4 distinct, but interrelated factors: (1) *self-awareness*, the knowledge and understanding of one's own emotions and talents, (2) *consideration of others*, the regard for the person and situation before thinking and acting, (3) *connection to others*, the ease and effort in developing rapport and closeness with others and (4) *influence orientation*, the propensity to seek leadership opportunities and move others toward change.[11] As an integrative model, social emotional development provides a theoretical framework for understanding student behavior and planning potential interventions by focusing on student competencies and increasing students' capacity to recognize multiple emotional cues, implement diverse behavioral responses, and expand the range of possible social outcomes.[11]

The ability for health care professionals to use various emotional intelligence abilities, traits, and behaviors is important for patient care, including patient satisfaction with care, practitioner coping strategies for stress, and overall quality of health care performance.[14,15] In fact, the Accreditation Council for Graduate Medical Education, as well as the Accreditation Council for Pharmacy Education, consider competency in interpersonal skills and communication skills areas that need further development, and that should be supported scientific approach and research.[14,16] Careers in pharmacy practice or academia require proficiency in these 2 skills.[15] A literature review identified research that examined the application of emotional intelligence to the construct of academic, medical, and other learning settings.

Lust and colleagues implemented emotional intelligence instruction in a pharmacy communications course by requiring students to read chapters of a book on emotional intelligence.[17] Students demonstrated what they had learned through patient counseling using standardized patients portraying an array of emotions. Student learning was assessed by having students write reflective essays on how emotional intelligence can assist in being a successful health care provider, and how their communication skills changed throughout the semester. Qualitative analysis of the essays showed that pharmacy students saw the benefit and practicality of emotional intelligence education. Furthermore, 50% of the students reported an improvement in their self-esteem, confidence, and active-listening skills.[17]

Latif described the implementation of emotional intelligence in a pharmacy management skills course.[18] Based on social learning theory, the course was designed using various modalities such as role play and patient simulation, knowledge application to case scenarios, and analysis of problem-centered interventions, as well as debates and other group activities. Assessment of outcomes came from pre- and post-intervention self-assessments, an emotional intelligence survey instrument, and a course assessment survey instrument. Although the data from the survey tools was not reported, the author concluded that the management skills course resulted in a significant improvement in students' emotional intelligence based on the pre- and post-emotional intelligence assessment, but required a considerable amount of determination and persistence by the students and faculty members.[18]

Currently, there is no validated tool that can measure changes in intangible characteristics such as empathy, self-awareness, and recognition. Implementation of SEC education and training in pharmacy curriculum is needed as well as a validated tool that can measure and assess development.

The objectives of this study were to: (1) assess a baseline of students' self-perceived social emotional competence using the SED-I; (2) assess development of social emotional competence through mock patient consultations using a patient counseling assessment form and SED-I; (3) evaluate which social emotional development factors, as rated by teaching assistants, helped predict performance; and (4) evaluate which SED factors from the SED-I predicted performance.

DESIGN

Institutional Review Board approval to conduct the study was obtained from the University of the Pacific. Practicum 1 is part of a 4-course series that is spread throughout a 3-year accelerated doctor of pharmacy program. Practicum 1, in which this study takes place, is a required course offered in the first semester. The primary goal of the course is to transition students from a pedagogical approach to learning by integrating content learned in parallel courses with hands-on application in

a simulated student-patient environment. Students were expected to prepare for each of the modules prior to coming to laboratory where skill assessment takes place. Students were then asked to reflect on their weekly performance to encourage the shift from learning dependency to independency, becoming aware of their own strengths, weaknesses, and areas for improvement. This hands-on course prepares students for their first introductory pharmacy practice experience in a community pharmacy setting. The practicum experiences involved learning effective patient-counseling strategies for the most-commonly prescribed and select nonprescription medications, as well as for smoking cessation, proper use of pulmonary devices, screening for and measurement of blood pressure, blood glucose, bone mineral density, and cholesterol, and immunization administration. The learning objectives for this course are as follows:

- Identify and solve problems in pharmacy practice and related settings, demonstrating the desire to learn, maintain, and improve professional abilities.
- Differentiate the appropriateness of and provide recommendations for self-care, pharmacist-directed care, and referral.
- Demonstrate proper interview skills to obtain appropriate health information to assess a patient and provide a treatment plan.

The course consisted of a weekly 1-hour lecture and a 2-hour discussion/laboratory session. To obtain a greater teacher to student ratio, students were randomly assigned to 1 of 4 laboratory sessions and further divided into groups of 5 or 6 students, with a teaching assistant assigned to each group. Teaching assistants were second-year pharmacy students enrolled in an elective course on teaching. Teaching assistants were given a patient profile (Appendix 1) and served as the virtual patients in the role-play exercises with the first-year students. Based on patient factors, students collected pertinent information from the virtual patient, wrote an assessment and plan, then counseled the patient on the recommended nonprescription product. Each week, the teaching assistants evaluated the students in their group individually using a patient counseling assessment form and a grading rubric, and then provided feedback to them about their performance.

EVALUATION AND ASSESSMENT

The SED-I tool was administered to all students at the beginning of the course to obtain their baseline social emotional competence. This 48-item self-report measure assesses student development in 4 areas (self-awareness, consideration of others, connection to others, and influence orientation) by asking students to rate how often each statement is true of them using a 7-point Likert scale (1= very rarely and 7 = very often) (Appendix 2). The reliability of the overall scale and factor scales was run using Cronbach's coefficient alpha with a total score of 0.91 and the individual factor alphas of 0.79 (awareness), 0.83 (connection), 0.81 (consideration), and 0.84 (influence), indicating good internal consistency.

The patient counseling assessment form, which was used to assess content, communication skills, and social and emotional competence, ensured that assessment of each skill set was as consistent and objective as possible. It also served as an outline for students to use in conducting a thorough and comprehensive consultation. Each week, teaching assistants attended a 1 hour pre-session where expectations were set for the students and familiarization of the rubric took place. In addition, teaching assistants attended a 2-hour session where they were trained in the development and assessment of social and emotional competence and taught how to use and score the assessment form. The social and emotional competence component on the assessment form reports total score based on a 0-3 scale (0 = incompetent/requires reassessment, 1 = needs work, 2 = met expectations, 3 = exceeded expectations) for each of the observed factors of "consideration of others," "connection to others," and "influence orientation" (1 = development, 2 = threshold, 3 = competent). At the end of the session, the students were asked to self-evaluate their overall performance as a way of measuring their self-awareness.

Descriptive statistics were used to summarize student demographic characteristics. Spearman's rho correlation was used for each variable to assess the direct linear relationship between student performance on the counseling assessment and results from the SED-I self-report measure. Multiple linear regressions were used to isolate which factors helped to predict student performance on counseling. A paired samples *t* test was conducted to compare whether the changes in means between performance and social emotional competence development were significant. All significance calculations were based on a 95% confidence interval at $\alpha = 0.05$. Data analyses were performed using SPSS, version 18.0 (Chicago, IL).

Two hundred twelve pharmacy students were enrolled in the first-year practicum course and completed the baseline SED-I assessment. Additional data were obtained using the assessment form at 2 different time points: when students completed the smoking-cessation counseling exercise (time 1) and when they completed the nonprescription medication counseling exercise (time 2).

Of the 212 students, 67% were female and 33% were male, and their median age was 22 years. The majority (67%) of the students were Asian/Pacific Islander, 14% were white/non-Hispanic, and the remaining 19% were unknown, multi-ethnic, Hispanic, African American, or other. Most students were ranked between met expectations (2 on a 3-point scale) and exceeded expectations (3 on a 3-point scale) (Table 1). In addition, the means increased between the 2 sessions (smoking cessation counseling skills and nonprescription drug counseling skills), while the standard deviations decreased.

The Spearman's rho correlation was first used to assess the direct linear relationship between counseling performance and the SED-I and patient counseling assessment form factors. There was a significant positive correlation between overall counseling performance in the class and scores on the SED-I self-report survey instrument for connection to others (rho=0.13, $p<0.05$) and influence orientation (rho=0.15, $p<0.05$) factors, but not for the consideration or connection factors. There was also a significant, positive relationship between overall counseling performance and the patient counseling assessment form self-assessment of aware (rho=0.33, $p<0.01$) and patient counseling assessment form assessment for the "consider" (rho=0.45, $p<0.01$), "connect" (rho=0.49, $p<0.01$), and "influence" (rho=0.47, $p<0.01$) factors.

Table 1. Pharmacy Students' Performance on Patient Consultations Scenarios

Descriptive Statistics	No. of Students	Score, Mean (SD)[a,b]
Smoking cessation consultation (early in the semester)		
Overall Performance	204	2.7 (0.3)
Awareness	198	2.2 (0.5)
Consider	203	2.6 (0.6)
Connect	203	2.6 (0.6)
Influence	203	2.5 (0.6)
Nonprescription Medication Consultation (later in the semester)		
Overall Performance	211	2.9 (0.3)
Awareness	187	2.3 (0.5)
Consider	197	2.8 (0.4)
Connect	197	2.7 (0.5)
Influence	197	2.7 (0.5)

[a] Students assessed using a standardized patient counseling assessment form.

[b] Scale of 0-3 on which 0 = incompetent/requires reassessment, 1 = needs work, 2 = met expectations, 3 = exceeded expectations.

Next, multiple linear regressions were used to isolate which factors helped to predict student performance on counseling. Building upon the Spearman correlations (above), the best fit model for predicting student performance on the counseling activity is the SED-I influence orientation self-report factor ($p<0.05$) in combination with the patient counseling assessment form connection to others evaluation factor ($p < 0.001$) as significant predictors of overall student performance.

Finally, paired samples *t* test was used to compare whether the changes in means between performance and social emotional competence development were significant. Students' overall performance on the counseling sessions and their social emotional competence improved significantly from time 1 (smoking cessation consultation) to time 2 (nonprescription drug product consultation), ($p<0.001$).

Faculty member and student perceptions of the teaching methodologies were collected at the end of the semester through course evaluations and faculty reflections. Student feedback was that the simulations provided the opportunity to work on their communication skills and respond to patients concerns, something they had not been exposed to previously. Only a handful of students did not enjoy the simulations and felt awkward conducting them, explaining they had a "hard time pretending to be actual patients, making it difficult to respond to patient's emotional concerns honestly and appropriately." Faculty members appreciated the benefits of simulation in preparing students for introductory and advanced pharmacy practice experiences. However, they noted that a more sophisticated method that incorporated actors to play the role of the patient could enhance the realism of the encounter.

DISCUSSION

Although emotional intelligence and its components have been scrupulously researched in other fields and even popularized in the lay world, training and development of social and emotional competence in students has not become a foundation in pharmacy education. Pharmacy students, by nature, tend to focus on the clinical context of their studies and may lose sight of the significance of human connection, making this area even more imperative to address in the curriculum. Because the development of emotional intelligence competencies is difficult to measure without a validated methodology, identifying and implementing effective emotional intelligence development strategies into pharmacy curricula are constrained.

Social emotional competence may be a differentiating factor in superior patient care. In light of previous

findings in the research, we sought to answer the question of whether a quantitative tool could be used to measure social emotional competence, and furthermore, whether the development of social emotional competence is possible. Results were promising in that we had a large class in which to test the SED-I tool and to gather results from the patient counseling assessment form. As indicated, the key competencies that seemed to relate to or indicate student performance on patient consultations were (1) the self-reported use of influence-orientated behaviors, and (2) the observed use of connection-orientated behaviors. In addition, social emotional development competencies apparently can be improved as students practice conducting simulated patient consultations in which they attempt to impact patient decisions.

Although professional schools are generally recognized for their ability to impart core knowledge and technical skills to students, in pharmacy practice, it may be pharmacists' social skills that have a true impact on shaping the behaviors of patients. Also, the general practice of textbook-and-lecture learning may not be sufficient for pharmacy students to develop the types of social skills that will be needed most in practice. However, focusing on more experiential types of learning activities may be a challenge for some faculty members. That being said, curricular changes were made to ensure application of knowledge from traditional lectures into a practice-simulated environment. Results from the study support the use of the pedagogy and design of the course. Not only do the data point toward increased proficiency of social emotional competence, but student feedback indicated that these simulated experiences helped them to develop communication skills and critical thinking skills, enabling students to "practice thinking on their feet, and responding to patient concerns appropriately." Faculty members also recognized that when concepts such as emotional intelligence are emphasized in the curriculum, students who may not inherently appreciate the importance of emotional intelligence in the patient care setting can be influenced to develop and implement effective use of these skills. However, the time-intensity of this type of student development and assessment activity would be a limitation for colleges and schools with larger class sizes.

Some limitations of this study include the use of a tool that previously had not been validated. Also, the tool was implemented in a classroom setting with simulated patients who were second-year pharmacy students. Using peer evaluation has its own limitations, but with limited resources, efforts were made to make the evaluations as objective as possible, such as provision of training to the teaching assistants and use of a grading rubric. Assessments by preceptors in an actual patient care environment would be ideal. Case scenarios used in the patient simulation merely instructed the teaching assistant to portray a single emotion; however, it would be more effective to use more-challenging cases in which emotions are more complex and subtle, and in which students would be required to use emotional intelligence to handle the situations appropriately. Also, the experimental design did not have a control group, which inhibited us from determining whether gains were a result of the curriculum and course implementation or other confounding variables.

Future studies should examine the relationship of social emotional competence with regard to pharmacy practice and whether those relationships are significant for positive patient outcomes. If so, educators should find ways to incorporate social emotional competence development into the curriculum. Long-term data would also be superlative to establish if students continue to develop and evolve through greater awareness of social emotional competence and opportunities for its application. Perhaps a future study can be performed using the same tools during the students' advanced pharmacy practice experiences (APPEs). Ideally, we would like to determine whether this new knowledge would translate to real patient interactions, and if so, how significant the impact on the patient's overall health would be. In addition, broadening the focus to professional practice in other health care settings, including collaborative research endeavors with physicians, nurses, dentists, physical therapist, and other health care professionals, are important future steps.

CONCLUSION

Using a quantitative tool to measure development of social emotional competence during simulated patient encounters demonstrated that students' competence can improve. There was improvement in students' self-reflection and peer assessment of social emotional competence from the time the first assessment was performed to the time the second assessment was performed. Taken together, this leads to 3 key findings: (1) that practitioners' should have connection and influence strategies to use with patients; (2) that interactive, experiential activities are important to student development; and (3) that professional practice competencies can be improved. These findings have major implications for pharmacy education and ultimately, enhanced patient care.

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Appendix 1. Teaching Assistant Patient Profile- Smoking Cessation Consultation

Case #1 (Patch)

Chief Complaint: " I wanted to talk to someone about some other options to help me quit smoking. I just spoke with my doctor and he said I'm at risk for having a stroke because of my age, my smoking, and my high cholesterol." *(patient appears very worried and concerned)*

Patient Profile:

Name:	**Age:** 47	**Past Medical History:**	**Social History:**
James Smith		Hyperlipidemia	20 cigarettes per day x 6yrs Married with 3 Children
		Medications: Simvastatin 20 mg	Software company owner
		Allergies: NKDA	

- Ready to quit today.
- This is his third time trying to quit

-The first time he tried to quit he used nicotine gum and the second time he used lozenges. He says he's too busy to remember to bring them with him everywhere. (Hint: Patch may be more convenient for his lifestyle)

Appendix 2. Social and Emotional Development Inventory (SED-I)

Items	SED Factor
People share their feelings with me	Connection
I end up being the leader	Influence
It is hard for me to be open with others	Connection
I take the lead role	Influence
I make an effort to start friendships	Connection
I influence others	Influence
I am comfortable meeting new people	Connection
I inspire others	Influence
I stay in regular contact with my friends	Connection
I am not confident in leading others	Influence
People know that I care about them	Connection
I am the decision maker of the group	Influence
It is hard for people to understand who I am	Connection
I enjoy taking charge of groups	Influence
I share my feelings and thoughts with my friends	Connection
I give advice to others on how they can improve	Influence
People tend to annoy me	Connection
I start team meetings	Influence
People come to me when they are upset	Connection
I cannot persuade others to do what I want	Influence
I have many close friends	Connection
I cannot motivate others to perform	Influence
People share their opinions with me, even if they are different from my own	Connection
I can convince a friend to join a group, team, or club	Influence
I know what makes me angry	Awareness
I think about how others will respond before speaking	Consideration
I do not understand why I feel what I feel	Awareness
I think about the consequences before acting	Consideration
I know when I am upset	Awareness
I understand the likes and dislikes of the people close to me	Consideration
I know my strengths	Awareness
I speak without thinking	Consideration
I know what I like to do	Awareness
I act without considering another person's perspective	Consideration
I know what makes me afraid	Awareness
I am aware of my surroundings before I speak	Consideration
I do not know what causes my moods to change	Awareness
I think before I act	Consideration
I know what makes me cry	Awareness
I can tell how others are feeling	Consideration
I know my weaknesses	Awareness
I find it hard to understand the different viewpoints of others	Consideration
I know what makes me laugh	Awareness
I take another person's opinions, values and beliefs into consideration	Consideration
I mistake frustration for anger	Awareness
I consider cultural differences when interacting with others	Consideration
I can tell the difference between anxiety and fear	Awareness
I value the opinions of others, even if they are different from my own	Consideration