Emotional Intelligence and Public Health Education: A Prescriptive Needs Assessment

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Approval Page

This applied dissertation was submitted by Debbi R. Johnson under the direction of the persons listed below. It was submitted to the Abraham S. Fischler School of Education and approved in partial fulfillment of the requirements for the degree of Doctor of Education at Nova Southeastern University.

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Abstract


Emotional Intelligence is an ability that is crucial to the field of public health due to the fact that it encompasses the practitioner’s ability to communicate professionally, show empathy, obtain patient compliance and promote sustainable lifestyle changes in communities. This study seeks to evaluate a public health program in order to determine what emotional intelligence training currently exists, and what the attitudes of stakeholders are regarding emotional intelligence and its importance to the field of public health. This is done through interviews with the faculty, administrators and students, as well as a questionnaire that asks students to assess their own abilities in the area of emotional intelligence. The information gathered makes it possible to formulate recommendations to further incorporate emotional intelligence-building activities into the program.

Results of the study show a direct correlation between public health and emotional intelligence competencies, which makes it an ideal program in which to integrate further training. Additionally, results indicate a gap between student’s self perception regarding their emotional intelligence abilities, and the perception their faculty and administration of student’s abilities. Finally, a significant lack of student engagement due to dissatisfaction with acceptance requirements appears to contribute to the perception of low emotional intelligence on the part of the students.

Recommendations for future development of emotional intelligence in the program include the incorporation of training into the existing Orientation week, the addition of case studies into the courses most naturally related to emotional intelligence-building, the provision of training seminars for faculty, the inclusion of an advanced seminar for students on a voluntary basis, and the evaluation of the program using both a self-report emotional intelligence questionnaire and the Mayer, Salovey and Caruso Emotional Intelligence Test (MSCEIT) at the beginning and end of each term in order to track program effectiveness in the long term.
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Chapter 1: Introduction

According to Minardi and Riley (1997), effective health care is about dealing with the implicit and explicit needs of individuals. Health care providers must fully understand, even if only by perception, patients’ verbal and nonverbal messages. The World Health Organization (as cited in Minardi & Riley, 1997) defined health as going far beyond the absence of illness; it has been described as a well-being that encompasses physical, mental, and social aspects of life. In order for patients to believe they are being helped by their health care professional, they must believe all of these areas have been satisfied. It is also impossible for the provider to adequately identify problems accurately if he or she is unable to efficiently and effectively communicate with clients (Faulkner, 2000).

The health care provider–patient interaction requires the clinician to get as much information as possible from patients in a short amount of time; thus, clinicians must be experts in interviewing, explaining, giving instructions, and advising (D. Williams, 1997). In order to adequately obtain the information necessary under these conditions, physicians must be good listeners. One study done on patients undergoing various types of surgery showed that patients who were able to discuss a variety of concerns and fears with their doctors generally experienced much less postoperative pain (Minardi & Riley, 1997). An important part of patient recovery and satisfaction lies in patients’ ability to communicate adequately with their health care provider and believe they are being heard. This relationship also applies to the work of public health practitioners, as they deal with various personal and cultural issues in communities (Council on Education for Public Health [CEPH], 2005). Due to the demands placed on health care workers, therefore, it is crucial that these competencies be developed and evaluated in the various graduate
schools in which they are being taught (Grewal & Davidson, 2008).

Statement of the Problem

A medical university was founded 30 years ago in the Eastern Caribbean. The charter class consisted of 200 students who for various reasons had not been accepted to medical school in the United States. Over the next two decades, enrollment dipped to 18 in the period after the U.S. military intervention in 1983 and then increased to the all-time high numbers seen today, approaching 400 students per class. As of 2009, the university had graduated over 5,400 physicians who are licensed to practice medicine in at least 35 different countries as well as in all 50 states in the United States.

In 1999, the university created the Department of Public Health and Preventive Medicine (DPHPM), which since has received accreditation from the CEPH and has become a leader in the region in providing health practitioners and researchers who have gone on to practice around the world. In 2009, over 500 students graduated from the DPHPM program, with some continuing to pursue their medical or veterinary degrees at the university for dual medical and public health degrees.

The mission statement of the DPHPM highlights the need to provide a public health education to students from all disciplinary backgrounds for the purpose of improving the well-being of communities and individuals around the world. Throughout the course of the Master of Public Health (MPH) program, the department seeks to address the needs of a continuously changing workforce and community by constantly evaluating its effectiveness in developing scholarly activities, educational objectives, and service for students and faculty.

Currently, the DPHPM provides a professional degree, which is the MPH. Students can choose the track that best suits them in General Public Health,
Epidemiology, Health Behavior and Policy, Environmental and Occupational Health, and Veterinary Public Health. The purpose of this degree is to explore the influence that social, psychological, and cultural factors have on the health of individuals and communities. The program further serves to build competencies in the areas of basic ethical and legal principles related to epidemiological data, as well as to create a process for the improvement of health status in communities. As defined by the CEPH (2005), the goal of professionals working in the field of public health is to enhance health in human populations through organized community effort, to identify the totality of health problems and needs of defined populations, to consider mechanisms by which the needs may be met, and to assure services essential to protect and promote the health of populations. (p. 1)

By understanding the origins of health-compromising behaviors and their prevalence in certain populations, health practitioners may be better able to proactively address them. In order to be proactive, practitioners must be skilled in the competencies related to communication and other interpersonal skills. These skills, which often fall under the category of professionalism, are all a direct result of an individual’s competency in the area of emotional intelligence (EI). One major challenge that faces students in graduate programs related to health education and the communities they are trying to serve is an overall lack of understanding about the nature of communication. This lack of understanding, alongside an unrealistic expectation about what comprises good communication in the health care setting, is identified as poor EI.

The problem in health care education is that few programs are accurately able to identify what factors can encourage or limit students in the development of the emotional skills that are required to help them meet the expectations of their field. Once these factors are identified, it will be possible to develop more effective programs of study that work to address the gaps between expectation and the reality of a student’s ability. Given
that organizations are modifying their employment and selection standards to reflect this need for recruits with strong interpersonal skills, it is imperative that graduate programs begin to highlight these skills for students early in their programs.

**Background and Significance**

The goal of professional education historically has been to prepare students most effectively for careers in particular professions. Many organizations are beginning to tailor their recruitment measures to include various elements of communication skills. These skills fall under the umbrella of EI, which is defined as a collection of noncognitive abilities creating a distinct intelligence that is measureable and influences one’s capacity to succeed and cope with challenges in an individual’s environment (Brannick et al., 2009; Caruso, Mayer, & Salovey, 2002; Cherniss, Extein, Goleman, & Weissberg, 2006; Mayer, Caruso, & Salovey, 1999). The problem is that in spite of these communication skills being identified as important to organizations seeking recruits, few graduate programs are working on tailoring their curriculum to address these EI competencies. This lack of development is creating a significant gap between what is expected and what is being produced, because graduate students are simply not learning what is required to apply the competencies needed in order to relate to people adequately (Hoberman & Mailick, 1994).

Graduate programs are lacking that proactively create courses that focus on the development of the emotional skills necessary to building these competencies. This emotional skill development should not occur at the exclusion of core material, but rather should serve as a building block for, and directly intertwined with, the existing curriculum. According to Holmer and Adams (1995), these emotional competencies are inseparable, and “an emphasis on one to the exclusion of the other leads to diminished
Stakeholders. Various individuals had a direct interest in the outcome of the study and were active participants in the process. The program administrators were the primary stakeholders, as they would use the information collected from the study to make decisions regarding the program as a whole. Next, the faculty of the DPHPM were stakeholders in that many are also public health practitioners and can be considered a valuable resource when analyzing the EI competencies required in their field. Further, they ultimately would be responsible for the incorporation of the pilot program into the curriculum. The students were the target participants, were active recipients of the proposed intervention, and therefore were very important stakeholders in the process. The university community can be considered a contextual stakeholder, in that the DPHPM is part of a larger academic community that has a direct interest in its development. Finally, the program staff, who provide support to all components of the DPHPM, were key stakeholders in that they would be immediately affected by both the evaluation process and its outcomes.

Program. The DPHPM is a fast-growing regional and international center for public health education, service, research, and scholarly activities, which currently offers an MPH degree or dual degrees of the MPH with a Doctor of Medicine (MD) or Doctor of Veterinary Medicine. Six goals support a broad spectrum of measurable public health objectives in education, scholarly activities, and service for faculty, students, and the community. These goals address expectations for development of the student academically, as researchers in the field of public health, as well as personally (see Appendix A). These goals are achieved by numerous evaluation mechanisms to ensure that the department is continuously developing and evolving to meet the needs of the
public health workforce and the community.

The DPHPM is the academic home for many public health practitioners who serve as core, adjunct, or visiting faculty members. Between 2006 and 2008, the department saw a rise in faculty from 9 to 30, and they represent a great cultural and ethnic diversity. This faculty collaborates with other public health institutions worldwide and has links with institutions such as the Centers for Disease Control; the National Institute of Health; and various other public health and research institutions in the Caribbean, Latin America, and Europe.

**Professional evaluation standards.** Careful consideration was given to the evaluation standards defined by the Joint Committee on Standards for Educational Evaluation (2011). The feasibility of the project was based on the approval and cooperation of the director and faculty of the DPHPM. The department identified the need to continually revise the curriculum and instructional methods to ensure that the student competencies satisfy educational goals and objectives. The director of the department acknowledged EI as a key component in the success of public health professionals and was supportive of the study.

Recognizing that the practice of public health requires a broad range of skills, aptitudes, and talents that fall under the classification of EI makes the utility of this study clear. All clinicians must possess a degree of EI in order to be effective, and to this end, research indicates that “teaching strategies focused on emotional skill development could be part of traditional organizational behavior/theory courses” (Jaeger, 2003, p. 617). The identification of areas of potential challenges for the DPHPM and the development of such courses would benefit students, faculty, and the department.

The worth and merit of the program were not the main focus of the study, but
rather how the program addresses very specific EI competencies. The required competencies for each degree program and area of specialization were considered alongside the four branches of EI identified by Mayer, Salovey, and Caruso (2008a). Gaps were identified, and a pilot program was created to incorporate these skills into the curriculum.

**Purpose of the Evaluation**

The purpose of this evaluation was to evaluate current EI development in the DPHPM as well as attitudes regarding its importance in public health, in order to recommend ways to further incorporate EI into the program. The study was designed to investigate EI competency building in a program that prepares students for work in the field of health education and to propose ways to further incorporate these skills into the program through the creation of a pilot program to meet these needs. A needs analysis of the EI-building components of the curriculum was conducted, and a pilot program was created to enhance and strengthen these skills in students. The focus of this study was on a DPHPM in order to determine whether the program contributes to students performing better on EI tests and, by consequence, better prepares them for successful careers in the field of public health. This needs analysis then provided the department with recommendations to further incorporate EI-building competencies into the curriculum.

**Definition of Terms**

*Department of Public Health and Preventive Medicine (DPHPM).* This refers to the public health program that was the subject of the research project. This program houses students who are seeking an MPH as well as students seeking dual degrees of MPH and either MD or Doctor of Veterinary Medicine.

*Dual-degree student.* This refers to a student who has entered the DPHPM with
the intention of completing both MPH and MD degrees. Students in this category are enrolled in the MPH program by choice.

**Emotional intelligence (EI).** Defined as a collection of non-cognitive abilities, EI is a distinct intelligence that is measurable and influences one’s capacity to succeed and cope with challenges in an individual’s environment (Brannick et al., 2009; Cherniss et al., 2006; Mayer et al., 1999). This study focused on the four-branch model of EI, which deals with an individual’s ability to perceive, use, understand, and manage emotions in self and others (Mayer & Salovey, 1993).

**Emotional intelligence (EI) competency.** EI competencies are the ability to perceive emotions and emotional responses in self and others, the ability to use that information to guide thinking and decision making, the ability to understand and explain emotions in a sophisticated manner, the ability to predict the stages of emotion, and the ability to manage emotional data in self and others (Mayer et al., 2008a).

**Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT).** The MSCEIT is an instrument designed to assess EI (EI Skills Group, n.d.). The test uses a scale to measure how well people perform tasks related to emotions and solve emotional problems, rather than asking them to report their perceptions of their own abilities (Mayer, Caruso, Salovey, & Sitarenios, 2003).

**Medicine-tracked student.** This refers to a student who has entered the DPHPM for the purpose of attaining the requisite grade point average to be accepted into the medical school. Students in this category are enrolled in the MPH program because the university structure uses the program as a feeder into the school of medicine. These students have not chosen MPH as a first-choice degree.
Chapter 2: Literature Review

The primary focus of the literature review was to discover what is already known about EI and the role it plays within social relationships; how it relates to success in the workplace; and, more specifically, its importance in the fields of health care and health care education. Furthermore, the purpose of this chapter was to review existing programs that have attempted to develop EI through interventions and to discuss best practices in implementing such a program. This information then could be used as a foundation for the program evaluation that took place in the DPHPM, in order to make recommendations for further development of EI within the program.

The goals and objectives of educators have evolved in recent years. Higher education traditionally has focused on a subject-oriented perspective; however, the knowledge base is rapidly changing, so in addition to mastering content, the learner must master the ability to continue to learn as a self-directed and lifelong learner. These constant advancements certainly have affected the field of public health, where educators have the responsibility of helping students to approach material from a more consumer-oriented perspective, giving them the skills to become lifelong learners and teachers. Consequently, every effort should be made by educators to “move the learners gradually but firmly in the direction of autonomy and self-directedness” (Ozuah, 2005, p. 86).

In a study of medical students in both academic and nonacademic difficulty at George Washington University, Hendren (1988) identified four major groups of student issues that affected attrition: (a) intrapersonal issues, (b) interpersonal issues, (c) academic problems, and (d) a combination of extreme anxiety and limited academic ability. Hendren’s study was important as it identified reasons other than simply academic ability as key factors in student success. For the purpose of this study, only the
Students with intrapersonal problems can be defined as those who struggle due to personal internal conflicts or anxiety (Hendren, 1988). Stresses can be related to medical school itself, such as feelings of being overwhelmed by class material, financial debt, or lack of time for leisure activities and relaxation (Yiu, 2005). Results of a study conducted at the University of Alberta showed a higher level of stress and depression among students in the health sciences than among other graduate students (Yiu, 2005). Reasons for this additional stress included greater competition among students in these fields and these programs’ responsibility for graduating knowledgeable and skilled professionals who will be performing in often-stressful conditions. It must be noted, however, that although the curriculum is geared toward fostering the greatest amount of learning possible, some aspects of training may negatively affect the student’s health (Dyrbye, Thomas, & Shanafelt, 2005). Whereas a certain degree of anxiety is useful for performance, to an excess it can become debilitating and lead to many other problems (Hendren, 1988). The competitive nature of the health sciences, combined with certain academic weaknesses, serves to create poorly adaptive perfectionism in students within these programs that leads to unrealistic and excessive concerns about performance (Yiu, 2005). This stress faced in school is predictive of depression and loss of self-confidence and self-worth (Yiu, 2005).

The second area identified by Hendren (1988) was interpersonal interactions among students or between students and their teachers. These interactions can inadvertently but deeply influence students. Students with interpersonal issues are identified as those who have difficulties interacting with professors, colleagues, clinicians, and ultimately patients. These students tend to suffer both academically and
nonacademically over the course of their medical education in all subjects, although they
tend to have greater difficulties during their clinical years (Hendren, 1988). Students with
interpersonal issues typically find it more difficult to accept their lack of performance and
often rationalize and lay blame on others. Although they may be capable of coping with
the traditional approach to medical education, which focuses on individual rather than
group learning (Bleakley, 2006), they are unable to succeed with the new approach
requiring interactive learning and participation. Students with severe interpersonal
difficulties are unlikely to finish medical school, although some may develop coping
strategies effective enough to be able to graduate, despite receiving lower marks during
clinical rotations. Unfortunately, given the movement toward a more interactive
curriculum, this type of student is even less likely to succeed than with the more
traditional curriculum.

The competency of communication in particular is an important component of the
expectations for learning and assessment that the Accreditation Council for Graduate
Medical Education (as cited in Grewal & Davidson, 2008) provided and also falls under
the umbrella of EI. Grewal and Davidson (2008) proposed that the scientific model of EI
serves to better help students understand the Accreditation Council for Graduate Medical
Education competency of professionalism, which involves strong interpersonal and
communication skills. This EI theory can help better understand the complexities of
interpersonal competencies as well as how to better integrate these skills into graduate
medical training.

Intelligence is a concept that can be defined in various ways, such as dependent
on memories or processes, verbal intelligence, or spatial intelligence. The traditional
classification of intelligences divides them into (a) verbal and propositional and (b)
perceptual and organizational areas, although for decades investigators have been searching for the hard-to-define third intelligence that adequately accounts for individual differences in intelligence (Mayer et al., 2008a). Early definitions of social intelligence alluded to these differences in a person’s ability to successfully manage human relationships, but it was not until the early 1980s that the idea of multiple intelligences began to surface (Gardner, 1983). During this same time, research on emotions was growing, most notably investigations into Darwin’s ideas regarding the universality of expression of emotion (Ekman, 1973). As emotions convey such valuable information regarding individuals and their relationships with others, the effective understanding and managing of emotions is now considered a type of intelligence. Mayer and Salovey (1993) highlighted the difference between personality traits and EI, in that the former may rely on various social skills or preferences, whereas confidently knowing what a person is feeling is a much more substantial ability. The theory of EI is based on several key ideas. From the field of intelligence it takes the idea that intelligence must include the ability to think abstractly. From research on emotions it takes that emotions are signals that give meaning regarding relationships. Another key idea is that many emotions can be considered universal in that they are recognized through basic emotional expressions across various cultures.

The term EI best describes a great variety of noncognitive qualifications and competencies that help individuals cope with environmental demands and stressors. Brannick et al. (2009) defined 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” (p. 1063). Numerous definitions of what exactly constitutes EI have
come from within and outside the field of psychology. The concept of EI has received a significant amount of media attention, particularly with the publication of Goleman’s (1995) book, *Emotional Intelligence: Why it Can Matter More Than IQ for Character, Health and Lifelong Achievement*. This work received a great deal of exposure in the press, including a cover on *Time* magazine, which launched the concept of EI into popular culture (Mayer et al., 2008a). Goleman’s work, however, was based on Salovey and Mayer’s (1990) four-branch model of EI, which was proposed as a way to better explain the psychological differences in individuals’ abilities related to emotion. Salovey and Mayer contended that EI is a set of abilities that allows individuals to engage in complex processing regarding their own and others’ emotions, as well as to use that information to guide thoughts and behavior. To this end, individuals with high EI are able to use, understand, and manage emotions effectively, which works to their own and others’ benefit.

The first branch of EI, perceiving emotions, falls on the lower end of the continuum and is the fundamental skill of EI (Mayer et al., 1999; Salovey & Grewal, 2005). This branch represents the ability to identify one’s own emotions as well as those of others. It also includes the ability to perceive emotions in objects, art, stories, music, and various other stimuli. The second branch of EI, using emotions, involves the ability to employ emotions to facilitate decision making under various circumstances. This involves the generation and use of emotions best suited to particular activities. According to Salovey and Grewal (2005), “The emotionally intelligent person can capitalize fully upon his or her changing moods in order to best fit the task at hand” (p. 281). The third branch, understanding emotions, includes the ability to comprehend and accurately explain the language of emotion and appreciate the complex relationships between
emotions themselves. This also involves the ability to understand the natural progression of emotions and the ways in which they combine and transition over time. The fourth branch of EI is managing emotions, the ability to “regulate emotions in ourselves and others” (Salovey & Grewal, 2005, p. 282). An individual who is emotionally intelligent can manage his or her own emotions in the best way possible to achieve specific goals.

Out of these four branches, emotion regulation is the most sophisticated yet most important for appropriate social interaction because it directly impacts expression and behavior (Lopes, Salovey, Cote, & Beers, 2005).

Although researchers who initially claimed that EI can be more important in determining success than IQ have since minimized their own claims (Mayer et al., 2008a), there is no question that it plays a significant role. Numerous authors have asserted that EI contributes to an individual’s ability to adapt socially, work more effectively in teams, perform better, and cope more effectively with stress and other forms of environmental pressure (Lopes, Grewal, Kadis, Gall, & Salovey, 2006; Mikolajczak, Roy, Verstrynge, & Luminet, 2009). Furthermore, college students with high scores on the managing-emotions subscale of the MSCEIT described having less conflict in their relationships with both colleagues and superiors (Lopes et al., 2005).

**EI and Social Interactions**

EI is present in social situations in a variety of ways. An individual who is proficient emotionally is able to be both socially aware and have a certain degree of social facility that allows for smooth, effective interactions. As previously mentioned, the emotional competencies most strongly related to positive social interactions involve those related to managing emotions (Lopes et al., 2004; Lopes et al., 2005).

Emotion regulation directly affects social interactions in that it sets the tone for
social interactions. Research has shown that many behavioral issues share the common characteristics of negative emotional presence and poor emotion regulation (Eisenberg, Fabes, Guthrie, & Reiser, 2000). Therefore, it is reasonable to expect that individuals with the ability to manage and regulate their emotions are more likely to express emotions appropriate to different social situations and control the negative ones. This leads to more socially appropriate expressions of emotion and behavior.

In a study conducted on 76 junior and senior undergraduate students, Lopes et al. (2005) found that individuals scoring high in the area of emotion regulation on the MSCEIT perceived themselves as more aware during interpersonal interactions and were also rated so by their peers. After the study was controlled for the Big Five personality traits (openness, conscientiousness, extraversion, agreeableness, and neuroticism) as well as fluid intelligence, a significant correlation remained between emotional regulation abilities and positive peer nominations (Lopes et al., 2005). Therefore, emotion regulation is an important part of social interaction in that it influences the tone of interactions, expectations therein, fluency of communication, and behavior involved in interpersonal relationships (Lopes et al., 2004).

**EI and Job Performance**

A survey of American employers revealed that of seven traits most sought after in employees, only one was academic: competence in reading, writing, and math (Goleman, 1998). Other favored competences include listening skills and verbal communication, adaptability, confidence and motivation, negotiation skills, and group cooperation and leadership potential. Recent findings have suggested individuals with higher levels of EI have stronger performance outcomes than their colleagues (Law, Wong, & Song, 2004). Although compensatory qualities can increase an individual’s effectiveness, higher scores
on the MSCEIT have “predicted greater merit increases, higher company rank, better peer and supervisory ratings of interpersonal facilitation, stress tolerance and leadership potential” (Cherniss, et al., 2006, p. 241). Furthermore, the relationship between EI and job performance held when researchers controlled for the Big Five personality factors as well as cognitive ability and other variables (Cote & Miners, 2006).

Studies have shown a direct correlation between EI and stress levels at work as well. One study of hospital nurses identified a noteworthy relationship between EI and burnout syndrome because individuals who are capable of recognizing and managing their emotions tend to perceive less stress in the workplace (Reilly, 2006). This perception in turn, leads to a generally more positive mood and prevents depressive states and other mental health complications (Ciarrochi, Deane, & Anderson, 2002). Furthermore, because most jobs encourage displays of positive emotions and a suppression of negative ones, individuals with high EI require less effort to express desired emotions and achieve desired results (Mikolajczak, Menil, & Luminet, 2007).

**EI and Health Care**

In the past, traditional medicine has encouraged health care providers to preserve an emotional distance from their patients in order to maintain a certain degree of objectivity (McQueen, 2004). In recent years, however, there has been a significant move toward breaking down barriers of communication between patients and health care practitioners, turning away from feelings of detachment in favor of a more empathic approach (A. Williams, 2000). As the relationship between patients and health care providers becomes more of a partnership, fostering good communication skills in order to improve patient satisfaction and build mutual understanding becomes a major focus in the field of medicine.
When considering the quality of the health care practitioner–patient relationship, EI is a fundamental component of effective practice and is generating increased interest in the field of health care (Todres, Tsimtsiou, Stephenson, & Jones, 2010). From hospital administrators to physicians and nurses, collaboration is needed not only to improve cost effectiveness of practice but also to ensure patient compliance and satisfaction. Patient autonomy, allowing medical consultations to be patient led, is another integral part of positive interactions between health care practitioners and patients. In order for this dynamic to occur, the health care provider must be competent in EI and able to recognize shifts in a patient’s moods and demeanor (Cherry, Fletcher, O’Sullivan, & Shaw, 2012). The patient-centered approach is a holistic one that acknowledges a patient’s needs for complete information and active participation in diagnosis, treatment, and long-term adherence. Given that the majority of criticisms about health care practitioners relate to poor communication skills, proficiency in the area of EI undoubtedly could improve patient satisfaction and concordance (Austin, Evans, Magnus, & O’Hanlon, 2007; Birks & Watt, 2007). Capable assessment of a patient’s emotions would have an immediate effect on the accuracy of history taking and diagnosis. Furthermore, if a clinician understands the patient’s background and emotional reactions, the medical advice and treatment given can be tailored to match the individual’s expectations.

**EI Education**

When considering whether or not EI can be taught, several issues must be taken into account. First, it is necessary to establish a likely rationale for the process required to learn EI. Second, the effectiveness of evidence regarding attempts to teach EI must be considered. Third, given that educational environments are complex and dynamic, the various factors related to successful implementation of EI programs must be explored
(Zeidner, Roberts, & Matthews, 2002).

With regards to the process of emotional learning, it is necessary only to consider neuro-anatomical function. According to Humphrey et al. (2007), EI represents “the ability of the higher brain centres to monitor and direct more primitive emotional signals from phylogenetically older brain structures, such as the amygdala, in such a way that they are used constructively by the individual, rather than destructively” (p. 246). The amygdala is the more primitive of structures that controls more basic and self-centered impulses and is subject to control from higher cortical structures such as the frontal lobes. Individuals exhibiting higher levels of EI likely are able to identify emotional states in themselves and others using these higher cortical structures. These individuals then can take this information and use it in ways that best suit the environment they are in, controlling it according to each respective situation. Therefore, education of EI provides the higher brain centers with new ways to understand and respond to the environment. In a sense, it teaches the individual to move from behaviors seeking self-gratification to ones where gratification is received by understanding emotional needs in the self and others.

In terms of the value of existing development training in EI, various programs exist that work toward the improvement of EI and have been evaluated empirically for effectiveness. Most have generated positive results, although there have been notable limitations. One of the most significant limitations has been a great diversity with regards to the skills being taught. Zeidner et al. (2002) claimed that most school-based programs fall under the general categorization of social and emotional learning and do not teach concrete EI skills. These programs primarily address issues such as good citizenship, problem-solving skills, adapting to stressful situations, conflict resolution, and other
social competencies. Competencies acquired in these programs “make no reference to emotional development, but, may, in fact, improve some aspects of emotional functioning” (Zeidner et al., 2002, p. 221). One intervention program that was designed expressly to promote EI in young people and also assess EI outcome measures is the Promoting Alternative Thinking Strategies curriculum (Greenberg, Kusche, Cook, & Quamma, 1995). The Promoting Alternative Thinking Strategies program covers five areas related to EI: (a) self-control, (b) emotional understanding, (c) positive self-esteem, (d) relationships, and (e) interpersonal problem-solving skills. Results showed that implementation of the program resulted in improvements in the areas of emotional vocabulary and fluency, as well as understanding emotions and their effects on interpersonal communication (Greenberg et al., 1995).

The final area of concern relates to the environment in which the learning is taking place specifically. Given the sensitive nature of emotions, EI must be taught in an environment where students feel supported in order for it to be successful and sustainable (McQueen, 2004). Furthermore, the program must be appropriately targeted for the right sociocultural context as well as the specific school culture. The programs must endeavor to promote an appreciation for diversity and must be sensitive and receptive to the needs of participants of different genders, ethnicities and socioeconomic backgrounds. (Zeidner et al., 2002.). Along with the creation of an appropriate context for the teaching of EI, it is important that the material be age appropriate and integrated into the school’s educational curriculum in order to increase buy-in. This is particularly necessary when dealing with students at the graduate level and specifically in the rigorous field of health care.

When working with graduate students to address EI, learning outcomes must be
precise when including them in a program (McQueen, 2004). One major reason is that many individuals in health care fields feel that they entered into the field out of a sense of compassion for the suffering of others. They also have the misconception that this feeling of compassion is all that is required to connect with their patients and that it will be a constant throughout their careers. Consequently, they may not see the value of EI training, and programs directed toward addressing these competencies must be well structured, with explicit objectives and clear purpose (McQueen, 2004; Zeidner et al., 2002).

According to Epstein and Hundert (2002), “Recent neurobiological research indicates that the emotions are central to all judgment and decision-making, further emphasizing the importance of assessing emotional intelligence and self-awareness in clinical practice” (p. 228). Yet, while competence in the area of EI is generally agreed to be developmental (Epstein & Hundert, 2002; Todres et al., 2010), little research is available on the actual impact of EI training on individuals in the field of health care.

Sattersfield and Hughes (2007) conducted a systematic review of 26 studies on educational interventions that evaluated their impact on the EI of medical students. Of these studies, only five used a randomized clinical trial design and objective outcome measures. All of these five studies, however, demonstrated that emotional skills training could have a positive effect on empathy and other emotional competencies, up to 3 years postintervention. Similarities among the programs included a minimum of 8 contact hours, small-group discussion on cases, videos and role-play, and preparation through mock interviews. The meta-analysis showed that skills related to emotional competence can be defined, measured, and taught in a “cohesive, developmentally appropriate longitudinal programme that follows the principles of adult learning and includes patient
contact and mentorship” (Sattersfield & Hughes, 2007, p. 939). In addition, the
development of these skills is beneficial to both patient and health care provider, because
when clinicians learn to meet the emotional needs of patients, they acquire comparable
skills to care for themselves.

Another review of educational interventions to address the EI of medical students
was conducted by Cherry et al. (2012) and evaluated the impact of interventions based on
Kirkpatrick’s 1967 model of hierarchical outcomes in 14 different studies. The
Kirkpatrick model (as cited in Cherry et al., 2012) uses four levels to measure the impact
of training related to emotional skills. Level 1 gages the individual’s reaction to the
intervention. Level 2a evaluates the adjustment of behaviors and attitudes due to the
intervention, and Level 2b deals with the acquisition of skills and knowledge as a result
of the intervention. Level 3 addresses behavioral change. Level 4a shows change in
organizational practice, and Level 4b highlights benefits to patients, families, and
communities as a whole. The studies were conducted on medical students, so the impact
on organizational practice and communities (Level 4) was not considered.

Results showed that overall educational interventions appeared to have a positive,
if small, effect on the EI of medical students (Cherry et al., 2012). Although the small
number of studies considered makes it difficult to assess the effects of EI training on
behavioral change in medical students, structured EI education does appear to improve
their self-reported EI (Cherry et al., 2012). Variables that affected the outcome included
the duration of the intervention and the use of simulated patients, particularly during the
final years of medical school. Interventions were most successful when they emphasized
the significance of empathy and empathic communication.

The implementation of EI-development programs in schools does require
acceptance of few basic assumptions. First, schools will be supporting the development throughout the academic year, not simply for short periods. Second, continuous development of EI skills is assumed to help students cope with the pressures of their respective environments. Finally, EI must be addressed collaboratively by the students, faculty and administration in any given program, and everyone must be on board (Humphrey et al., 2007). Zeidner et al. (2002) identified seven characteristics that EI-development programs must contain in order to be successful: (a) a working definition of EI, as different interpretations would lead to different types of interventions; (b) clear objectives and outcome expectations; (c) clear identification of the educational context in which the program will take place; (d) full integration of the EI program into the curriculum, (e) work with EI in context that directly applies to the field; (f) development of staff involved in teaching; and (g) appropriate psychometrically sound evaluation of the EI program being implemented.

The definition of EI as an ability-based skill allows for training in specific competencies that can be directly applied to a specialized field (Zeidner et al., 2002). When EI is conceptualized as an ability that can be taught, learned, and changed, it may be used to address the specific aspects of the clinician–patient relationship that are not working well (Birks & Watt, 2007). Therefore, in addressing the first necessary characteristic for successful interventions, defining EI using the Mayer and Salovey (1997) model is most useful for specialized purposes.

To identify program goals for the target population, special consideration must be given to addressing EI competencies within the conceptual framework of each specific program. All materials and components must be carefully chosen to meet the needs of the program they are being created for. This careful selection is particularly important in
graduate programs, where students have a challenging curriculum and are less likely to buy in to extra material that they consider irrelevant. In addition to meticulous selection of materials, careful consideration must be given to the sociocultural context in which the training is to take place, in order for it to be most appropriate. According to Zeidner et al. (2002), the relevant population characteristics that need to be identified from the beginning include student age, school environment and culture, teacher and administrative staff characteristics, and characteristics of the broader community. Programs should provide developmentally appropriate training that progresses as the students continue through the coursework.

Ideally, EI skills would not be developed in workshops or seminars that are added on to an already-full curriculum. Students must see EI as an integral part of their existing program and not as something to be developed in a separate environment. In this way, students can make direct connections between their coursework and EI and can begin to see how it can be applied in their field in particular. Furthermore, in order to produce meaningful results, students must be given opportunities to practice these skills in contexts similar to the ones they will be facing outside the classroom. EI training should be interdisciplinary and holistic, an opportunity for education and leadership development through practical, applied preparation (Birks & Watt, 2007).

EI training is not typically part of the standard curriculum for educators, and thus many teachers feel uncomfortable incorporating it into their classes. Therefore, programs that have EI training incorporated into the curriculum also must have means to provide staff with adequate knowledge and skills before, during, and after program implementation. For this acquisition of EI knowledge to occur, professional development programs for faculty and staff must be running parallel to EI skills training in order to
provide necessary support. Finally, EI programs must have clearly established ways to implement, monitor, and evaluate the training. If the quality of delivery and implementation is not evaluated, it is difficult to accurately assess and replicate program outcomes (Zeidner et al., 2002). The ability to identify who the participants are, how frequent and lengthy the training is, in what context it will occur, how it will be implemented logistically, what support will be provided, and how the quality of the intervention and student responses to it will be determined is important when analyzing an intervention (Greenberg et al., 1995). Furthermore, periodic monitoring through student and staff interviews for feedback is required in order to make a complete assessment.

Complications with the definition of EI lead to problems in implementing programs to develop and assess it. Furthermore, a review of the literature suggested that there are comparatively few programs in existence that can be defined as true EI intervention programs. When considering interventions, in most cases emotional content had been somewhat sparse (Zeidner et al., 2002). In other cases, where EI development has been stated clearly in the intervention objectives, no validated EI measure has been used to assess the outcome variables. In addition, Zeidner et al. (2002) noted that many studies suffer from rather fundamental methodological flaws, such as lack of adequate controls, inadequate assessment measures, and assessment of short-term impact of the program only. Moreover, little research has investigated whether or not programs focusing on EI concepts, such as the perception, use, understanding, and management of emotions, are actually more effective than those based on other constructs, such as behavior modification. One reason for this lack of clarity is that many intervention programs have been directed toward increasing social skills, improving health behaviors,
and providing strategies for anger management but not purely for EI development. Finally, very little research has been done in the area of culture and its effect on EI, as well as interventions that are most likely to succeed for specific cultural groups. Careful consideration of all of these current limitations is crucial for EI intervention development now and certainly when considering possibilities for future research.

Undoubtedly, there are guidelines for the implementation of EI interventions, although they are more generic in nature, rather than targeted to a specific population. Although little information exists about how EI skills should be most effectively taught, the concept of EI has proven to be the impetus needed for educators to begin to consider how it affects performance and success. The school setting is the perfect context for learning emotional competencies in a safe environment and developing skills in areas related to their respective fields (Humphrey et al., 2007). As EI competencies are particularly important in the field of health care, it is exceptionally important for graduate programs in the field to encourage students to increase their skills in these areas (Brannick et al., 2009).

Austin et al. (2007) showed that cognitive intelligence is neither the only factor in the making of a successful health worker nor the only predictor of leadership success. Given significant importance placed on the quality of medical care, EI of health care practitioners has been the subject of increasing interest (Brannick et al., 2009). Clearly, all of these qualities are crucial to successful clinicians. Characteristics of EI are similar to personality traits but can be altered and improved through effort on the part of the individual. Therefore, the skills associated with EI, such as perceiving, understanding, using, and managing emotions, can be improved through training that specifically addresses these skills.
When considering the implementation of EI training into an existing program, the program must be evaluated in order to determine how the curriculum is currently addressing these skills and a model created for their further incorporation into the curriculum. This is the method that was used in the DPHPM: a program evaluation and needs assessment, with recommendations for the implementation of a pilot program into the curriculum that addresses specific EI-building skills.

**Program Evaluation**

The main purpose of an evaluation is to be able to make judgments and decisions regarding what is being evaluated (Worthen, Sanders, & Fitzpatrick, 1997). An educational evaluation specifically involves “making judgments about the merit, value, or worth of educational programs” (Gall, Gall, & Borg, 2007, p. 559). The purpose of educational research is to gather information that then can lead to decisions about implementation of programs and policy, increase understanding about existing programs, and guide decision making for future developments. Program evaluations are conducted with very specific purpose in mind: to determine how well a program is working towards meeting very specific objectives with the intention of improving, developing, or expanding it in some way (Gall et al., 2007). Gall et al. (2007) identified six major characteristics that most evaluation models share that are a requirement for a successful program evaluation:

1. The first of these characteristics is a clear identification of the stakeholders. This identification allows for a clarification at the outset of the reasons a study is being conducted, who it is expected to benefit, what questions will guide the study, what research design will be the most effective, how the results will be interpreted, and to whom the findings will be reported. In short, it is the cornerstone of the evaluation.
2. The next characteristic is the identification of the most important characteristics of the program that will be evaluated. Factors of a program that can be considered include program goals, program resources, program procedures, program management, and program outcomes. Regardless of the model used, these categories can be considered.

3. The next requirement is a clear identification of evaluation questions. The evaluator must constantly be working toward perfecting the evaluation questions and should invite all stakeholders to contribute to their creation in order to increase relevancy.

4. Then, the evaluator must develop a design and a timeline for the evaluation. Identifying the design and timeline are important in that they allow the evaluator to properly document any resources that may be necessary to complete the evaluation by a certain deadline and plan accordingly.

5. The next requirement is the collection and analysis of evaluation data.

6. Finally, the way in which the results will be reported and to whom must be identified. Careful consideration must be given to how the results of a program evaluation will be reported, because each of the stakeholders may have different needs. Furthermore, the purpose of the evaluation determines who sees the results. Evaluations for research purposes might be presented in the form of a dissertation or conference paper, whereas administrators may see more condensed versions of a report to use to guide decision making and may disseminate versions of a report to other stakeholders in the way they see fit.

Program evaluations may play different roles depending on the intended goals. A formative evaluation is conducted in order to provide the staff and administration of a program with information that might be useful toward improving the program (Worthen et al., 1997). A summative evaluation, on the other hand, is conducted primarily to
provide decision makers with the information needed to make judgments about the value or merit of the program. Formative evaluation is particularly useful in educational research in that it provides stakeholders with real plans for development, which then can assist in decision making regarding the channeling of human and fiscal resources. In order for a formative evaluation to be most useful, two factors must be considered. First, recommendations for development that come from the evaluation must be within the program administrator’s abilities to control and implement. Second, the recommendations must be provided in a timely manner in order for changes to be implemented at the most opportune moment identified by administrators (Worthen et al., 1997).

Choosing an appropriate evaluation model requires careful consideration particularly because there are so many models available. Currently close to 60 different evaluation models exist, along with various studies that have compared them based on differences or similarities in purpose, data collection methods, and relationships between stakeholders (Worthen et al., 1997). There are, however, primarily five major, different approaches to the classification of program evaluations: (a) the objectives-oriented approach, (b) the management-oriented approach, (c) the consumer-oriented approach, (d) the participant-oriented approach, and (e) the expertise-oriented approach (Gall et al., 2007).

**Objectives-based approach.** The objectives-oriented approach has specific goals and objectives, and particular attention is given to the degree to which these goals have been achieved. The original concept of the objectives-based approach and the introduction of it into the field of education are attributed to Ralph W. Tyler, for whom the model is named. Tyler’s approach to evaluation (as cited in Gall et al., 2007) included seven basic steps: (a) establish the goals and objectives, (b) classify these goals and
objectives, (c) define the objectives in behavioral terms, (d) find situations in which the achievement of these objectives can be demonstrated, (e) identify measurement techniques, (f) collect data on performance, and (g) compare the data with initial objectives. When discrepancies exist between actual performance and the objectives, modifications are made to correct the shortcomings. Then the evaluation process begins again.

Tyler (as cited in Worthen et al., 1997) promoted the identification of general goals rather than specific behavioral expectations when beginning an objectives-based evaluation. Worthen et al. (1997) highlighted that eventually specific definitions must be clarified, but at the outset discussions among decision makers need to remain general in order to avoid arbitrary and irrelevant results. The greatest strength of this approach is that it is relatively simple to understand, follow, and implement. Furthermore, as the objectives are determined by the program directors, the evaluation generally reveals results that are relevant to them and their program. This approach has required program directors to carefully define formerly ambiguous goals and clarify their intentions, to the benefit of all stakeholders. The process of discussing specific goals with all stakeholders also allows for collaboration throughout the entire evaluation process and legitimizes it in the eyes of the participants.

Critics have identified several weaknesses to the objectives-based method, namely that it lacks a clear component to truly evaluate the value or worth of a program, lacks standards for identifying apparent gaps between objectives and performance, and ignores the importance of the objectives themselves (Worthen et al., 1997). In addition, the objectives-oriented approach does not address any unintended outcomes that are not directly specified in the objectives, regardless of importance. Furthermore, the method is
very linear and inflexible, which many critics maintain can limit its effectiveness (Worthen et al., 1997).

**Management-based approach.** This method primarily serves a program’s decision makers in that it is based on the proposition that an evaluation is most effective when done on the part of administrators, policy makers, executive boards, and other stakeholders who can use the information to guide decisions. This approach first identifies the decision makers and clarifies how they will use results of the evaluation. These individuals’ needs, expectations, and objectives guide the entire evaluation.

The context, input, process, and product model formulated by Stufflebeam (as cited in Gall et al., 2007) is the most common management-oriented model currently being used. This model addresses the needs of managers and administrators facing educational decisions in the areas of context, input, process, and product evaluations. Each of the four types of evaluation requires three separate tasks be performed: (a) defining the kinds of information that is needed for decision making, (b) attaining that information, and (c) integrating that information in a way that makes it useful for making decisions (Gall et al., 2007).

A context evaluation defines the institutional context and identifies the target population (Gall et al., 2007). This type of evaluation can identify the variety of problems that can exist in specific educational settings and the needs that arise as a result. It also offers the opportunity to identify ways to address the needs, detect the underlying reasons for these problems, and judge whether or not the program’s objectives sufficiently address those needs. This is done through system analysis, surveys, document reviews, interviews, and diagnostic tests.

In an input evaluation, information is collected that allows judgments to be made
about what resources are needed to accomplish program objectives (Gall et al., 2007). This type of evaluation identifies system capabilities in terms of strategies, budgets, and schedules and determines constraints in each of these areas. This process is accomplished through analysis of human and material resources and technical design in order to establish significance and feasibility of a program.

A process evaluation involves day-to-day monitoring of evaluative data to determine if weaknesses exist in the procedural design of a program (Gall et al., 2007). This monitoring serves not only to guide decision makers toward action based on their analysis of the data, but also to keep program records over time. Program records are kept through constant observation of and participation with program staff in order to remain current on any procedural gaps as well as to anticipate new problems.

A product evaluation determines the degree to which the goals and objectives of a program have been accomplished (Gall et al., 2007). It analyses what results were obtained, whether or not a program’s needs have been met, and whether or not it should continue as it is or be modified in any way.

**Consumer-based approach.** This approach involves the accumulation of educational information on the part of independent agencies, primarily for the purpose of marketing products and materials. This generally summative approach is in place to analyze the following: need for the product, market for the product, performance in both the field and when used by the consumer, performance by comparison with other similar products, performance in the long term, side effects, veracity of product claims, product effectiveness, statistical significance, educational significance, cost effectiveness, and long-term maintenance support (Worthen et al., 1997). Because of the work done in consumer-based evaluations, consumers are more critical and aware of common tactics
used in advertising. This awareness makes them less vulnerable and more sophisticated when making decisions regarding products. However, it must be noted that consumer-based evaluations can increase the cost of products, as the consumer most likely will pay for the additional resources required for product testing.

**Participant-oriented approach.** This program-evaluation approach was created in the mid 1960s as a direct reaction to previous methods that were seen as rather insensitive and objective focused (Worthen et al., 1997). When using prior methods, too much attention was paid to the evaluation process as compared what was actually occurring in the program. Critics began to point out that it was impossible to discover what goes on in a program without considering the human element and the unique and complex ways in which different perspectives contribute to a program.

Participation in the evaluation process by stakeholders can ensure that the results are more pertinent and more adequately address their needs. Additionally, it encourages ownership of the process, which increases the chances that any recommended changes will be embraced. The fact that stakeholders are involved in the process provides them with a certain level of empowerment, which increases their sense of efficacy (Rossi, Lipsey, & Freeman, 2004). In this method, the evaluator reveals the different perspectives of the participants in a much more intuitive manner than with other methods. According to Worthen et al. (1997), although this method appears to make it impossible for the evaluator to be systematic, “there is no algorithm he [or she] can follow for doing so; his [or her] intuition about what weight to put on each criterion will determine how the judgment is shaped” (p. 156). The evaluator must be careful to incorporate judgments on the part of stakeholders as to what is important in establishing the boundaries of the participant-based evaluation. These boundaries are established through grassroots
observation of the program, assimilation of data from various sources within the program, flexibility in the process, and accurate recording of the range of different perspectives in order to capture the various realities experienced by participants.

Critics of this method have argued against its accuracy, claiming that it is intellectually inferior and too subjective to provide hard results (Worthen et al., 1997). Because the participant-oriented approach relies so heavily on individuals’ perspectives and tends to minimize the importance of instrumentation, many critics have insisted that the results are often weak and unsupported (Worthen et al., 1997). Furthermore, it can be significantly more time consuming to gain the participation of all stakeholders, making it impossible for administrators to make decisions in a short amount of time. Finally, this method can be more costly, as it requires the full-time presence of the evaluator over an extended period of time.

**Expertise-based approach.** This approach depends primarily on professional judgment to evaluate an institution or program. These professionals can include members of an accreditation review board, experts serving on various commissions, or simply professionals with a great deal of experience in the particular field in which the evaluation is taking place. These experts carefully examine the program and its content and delivery, analyze the theory behind it, and render a measured judgment about its quality and value (Worthen et al., 1997). Although most forms of evaluation do rely on expert opinion in some part of the process, this approach is distinguished from them in that the perspectives of the experts provide the primary source of information regarding the program. These expert-based evaluations can be categorized into four types: (a) the formal review, (b) the informal review, (c) the ad hoc panel, and (d) the ad hoc individual review (Worthen et al., 1997).
Formal professional reviews are typically built into the structure of an organization and are conducted periodically in order to adhere to specific published standards (Worthen et al., 1997). The reviews take place at predetermined times, rely on the expertise of several individuals, and can have a significant impact on the standing of the program being evaluated. The most common form of professional review is the accreditation process.

Informal professional reviews may have a defined structure and be conducted by a team of experts but may lack the published standards of a formal review (Worthen et al., 1997). Examples include reviews for the purposes of promotion within an institution, a graduate student’s advisory committee, or the process required for obtaining peer reviews of papers or manuscripts.

An ad hoc panel is made up of experts who meet as circumstances require; panels are generally irregular and unplanned. Standards for these types of groups are not necessarily predetermined, and motivation for them is typically the need for time-sensitive information (Worthen et al., 1997). Examples include funding review panels and panels organized to determine the recipients of awards. Ad hoc individual reviews are provided by consultants who are contracted to analyze a program or product and determine its worth. Within the field of education, this type of review takes place most often with the evaluation of textbooks, training programs, placement tests, or other materials related to the program (Gall et al., 2007). This form of evaluation does not necessarily require the expert evaluator to be on site and can be conducted externally.

Eisner, an art educator who conducted a significant amount of research on program design and evaluation, claimed that an expert evaluation must include two components: connoisseurship and criticism (as cited in Gall et al., 2007; Worthen et al.,
Connoisseurship involves the ability to appreciate certain characteristics of educational programs and the relationships between them (Gall et al., 2007; Worthen et al., 1997). This understanding of the important dimensions of a program and how it compares to others is gained through a great deal of personal experience and allows for the next phase, criticism, to occur. The criticism component of program evaluation involves the process of explaining and evaluating what the connoisseur has considered. Despite negative implications to criticism, in this context it is rather the part of an educational process, and requires “description, interpretation, and evaluation of that which has been observed” (Worthen et al., 1997, p. 129). Program evaluation, then, becomes program criticism, all performed through the expert knowledge and experience of the evaluators themselves.

The main disadvantage of the expert approach is that it does allow for the possibility of a certain amount of bias to color the outcome of the evaluation (Worthen et al., 1997). Further, the expertise of the evaluator is somewhat subjective, as no official standards exist to determine what a true expert might be. However, the advantages to this method during the self-study phase of any evaluation are undeniable. It allows for discoveries to be made by program administrators that can lead to changes before more formal evaluations (Worthen et al., 1997).

**Evaluation Framework**

For the purpose of this study, a formative, objectives-based method of evaluation was used. The formative method would help define the issue and scope of the problem and would be the best method to address it. Conducting an initial needs assessment would make it possible to provide a gap analysis to determine the areas in which the program could strengthen skill building in EI. Once the gaps were identified, it would be possible
to create a pilot program that addressed these needs and make recommendations for its implementation into the curriculum. Once the program was implemented, a summative evaluation to determine subsequent impact of the pilot program would be possible, although outside the scope of this study.

Formative analyses are qualitative in nature and were first identified by Scriven in 1967 (Scriven, 1996). A formative evaluation is primarily used to provide information for the improvement of a program (Gall et al., 2007; Scriven, 1996). Formative evaluation offers information to program administrators and staff and is conducted predominantly by internal evaluators, although it may be supported by external evaluators. This type of evaluation typically works with small sample sizes and identifies what is working in a program, what needs to be improved, and how (Worthen et al., 1997).

One model that is frequently used for educational research and development (R&D) was designed by Dick, Carey, and Carey (2004) and is known as the *systems approach* to the R&D model. This 10-step model provides a systematic method to program evaluation that begins with a needs assessment and sets up the summative evaluation at the end of the process. The first step involves the identification of goals and objectives for the instructional program, as well as the establishment of whether or not a gap exists between the actual program and what is desired (Gall et al., 2007). This needs assessment provides the foundation for the creation of realistic objectives to be used in the creation of an educational program.

Needs assessments typically have focused on three levels of analysis, from general to specific. Initially, the organizational structure and factors contributing to possible results are considered. The evaluator then studies the tasks being performed by the existing program in order to determine if they meet desired outcomes. Finally,
individuals in the organization are considered to assess whether they are performing the
tasks at hand adequately or need more training to do so (Phillips, Holton, & Holton,
1995). By beginning at a broader level, the assessment is more likely to yield a well-
designed plan that will be truly effective in solving problems and bringing about positive
change (Phillips et al., 1995).

A needs assessment serves various purposes (Phillips et al., 1995). The reasons
for conducting needs assessment include information, prioritizing, and customer buy-in.
Another purpose for needs assessments is to strategize solutions and formulate
interventions based on the information gathered. For the purpose of educational
development, a needs assessment simply provides a way to determine whether desired
program outcomes are being met and to what degree. It further makes recommendations
regarding ways to increase desired outcomes, which in the case of this study was a pilot
program to develop EI.

Needs assessments conducted for qualitative studies are especially useful for
obtaining detailed information regarding very specific needs. Research ranges from
interviews with small groups of individuals to the more elaborate ethnographic methods
used by anthropologists. One practical and effective method for obtaining valuable
information regarding a program and its culture is the use of focus groups. Participants in
these groups include stakeholders from all levels of a program and can provide an in-
depth, accurate, and timely look into the program being evaluated (Rossi et al., 2004).

The second and third steps in the systematic R&D model can occur in either order
or at the same time. The second step involves conducting an instructional analysis in
order to determine what specific skills, procedures, and tasks would be necessary to reach
the educational expectations required (Gall et al., 2007). The third step identifies the
skills and attitudes of stakeholders at the beginning of the study, the characteristics of the educational setting, and the specific circumstances under which the desired knowledge and skills will be used.

Once this has occurred, it is possible to write performance objectives, which is Step 4 in the model. This is a process that involves taking the information gleaned during the previous steps to establish realistic goals for the program and involves different objectives for different stakeholders (Gall et al., 2007). This level lays the foundation for the creation of clearly defined assessment instruments, teaching strategies, and materials. The development of instruments is part of the fifth step in the R&D model. These instruments are directly related to the knowledge and skills identified as objectives of the program and specifically measure how those goals are being met (Gall et al., 2007). Step 6 involves the creation of a strategy to facilitate the performance objectives and is immediately followed by the creation of materials to implement the strategy, which is Step 7.

Step 8 is carried out throughout the entire development process and involves a constant, formative evaluation that is used for Step 9, which is revision of any part of the process as needed. This can mean revisiting the analysis of the learners or changing the assessment instrument or instructional materials, depending on the outcome of the formative evaluation being conducted on the entire process. Dick et al. (2004) recommended three steps be carried out in the formative evaluation process: The materials are discussed with one stakeholder, then a small group, and finally an entire class of students or group of stakeholders for feedback. The final step in the model is the design and implementation of a summative evaluation. However, given that this step is not part of the design process, it was not included for the purposes of this study but is
recommended for further research.

**History and Trends**

The systems approach was first introduced to the public when it was used in the development of large weapons systems by military contractors in the 1950s, and it was not used for educational purposes until the mid-1960s. Researchers at the University of Pittsburg were the first to test correlations between instructional objectives and assessment, and this later became known as criterion-referenced testing, which is an integral part of the systems approach to evaluation (Dick, 1986). Gagne (1985) developed a procedure for identifying learning hierarchies by determining what a student needed to know to perform specific learning objectives. The skills identified could then be taught, resulting in an instructional program tailored specifically for program objectives.

Another important component to the systems approach is the formative evaluation carried out in the process, which allows for data from the stakeholders to guide revisions in instruction for the sake of effectiveness. This component was included after researchers in the early 1960s realized that many of the program interventions being used at the university level were only successful with the most adept of students. Of great concern was why the effects of instruction were not determined before resources had been allocated to publishing the materials used in the classrooms, thereby determining their effectiveness. The result of these concerns led to the creation of the formative evaluation, which allows for material to be evaluated throughout its development in order to increase chances of program success.

In the early stages of evaluation, the primary focus was on statistics, and it was generally taught within the mathematics departments of universities. Today, however, it has become a multidisciplinary field that is taught in many departments, such as
psychology and education, and in some cases has its own department. While previously the focus was on empirical science and possible interventions, the focus has shifted to also include a discussion as to the significance and effects of these scientific interventions (Scriven, 2001). Evaluation now encompasses the social sciences, history, geography, computer science, education, business and management, accounting, mathematics, physics, and biology. Graduate students in these fields are also becoming skilled in the area of evaluation in order to assist in the practical application of their field (Scriven, 2001).

The most widely used R&D model was identified by Dick et al. (2004) in *The Systematic Design of Instruction*. This methodology stresses thorough analysis of all interrelated instructional components, evaluation of all materials, and enhancement of the program throughout the process based on feedback from stakeholders. This model is based on various different learning perspectives such as behaviorism (Gagne’s [1995] conditions of learning), cognitive theory (cognitive information processing), and constructivism (creating ideal contextual frameworks for learning and performance). This model also highlights the importance of providing real-life examples for students in order to encourage problem solving from multiple perspectives.

The model is versatile and has been applied to various different programs that range from customer-service training for employees of various businesses, curriculum development for schools, and assessment of problem-based-learning programs at various undergraduate and graduate institutions worldwide (Chang, 2006; Dick, 1986; Gall et al., 2007).

**Research Questions and Objectives**

The DPHPM provides students with the training required to improve the health of
populations, communities, and individuals. Its main objective is to prepare diverse graduates who are knowledgeable and proficient in public health but also to build and strengthen leadership skills for the purpose of community outreach and collaboration. In order for this to be accomplished, the existing program must develop not only the cognitive elements of public health but also the competencies identified by the CEPH and the Accreditation Council for Graduate Medical Education, which include EI. The purpose of this study was to evaluate current EI development in the DPHPM as well as attitudes regarding its importance in public health, in order to recommend ways to further incorporate EI into the program. The systems approach of evaluation was thus used to (a) identify the goals of the current DPHPM, (b) conduct a needs assessment of its development of EI, (c) identify the specific skills required to address EI competencies, (d) identify the skills and attitudes of stakeholders regarding EI, (e) convert these needs and goals into performance objectives, and (f) develop a pilot program to fill any gaps between EI needs and current status. Once a greater understanding of the needs of the stakeholders with regards to their EI was reached, the effectiveness of the DPHPM could be measured and new innovative ways of addressing these competencies could be created. Thus, this study was guided by five research questions:

1. What are the core competencies of the DPHPM?

2. How do these competencies correlate with the expectations for learning and assessment detailed by the CEPH?

3. What are the EI competencies that the DPHPM currently addresses, and how do these competencies correlate with the major competencies of the four-branch model of EI?

4. What are the current attitudes of the program stakeholders regarding the
importance of EI to public health training?

5. What components could be included in the curriculum to continue to improve EI skills of the students?
Chapter 3: Methodology

The purpose of this study was to evaluate current EI development in the DPHPM as well as attitudes regarding its importance in public health, in order to recommend ways to further incorporate EI into the program. This involved identifying factors crucial to developing the EI of students in a department of public health at a medical school, in order to create a pilot program that could incorporate these competencies into the curriculum. A 10-step systems approach was used to identify EI-building competencies currently being used, as well as stakeholders’ attitudes and beliefs regarding EI. Subsequently, a determination was made about which skills, procedures, and tasks were required in order to build these competencies in the department, and a strategy for implementation was created. Finally, teaching materials were generated, and recommendations for implementation were made.

Program

The DPHPM is part of an offshore medical school located in a former British Commonwealth country. The university has been in existence since 1977 and has produced more than 7,500 alumni since that time. The DPHPM was established within the school of medicine in the spring of 1999, and by 2001 an MPH and Doctor of Veterinary Medicine track, offering specialization in veterinary public health, was created. The DPHPM received accreditation from the CEPH in July 2010 and has graduated over 500 students in the field of public health.

Mission and values. The mission of the program is to develop, produce, and propagate public health knowledge; to train public health practitioners; and to work with communities to advance public health within the region and internationally through an integration of education, service, research, and scholarly activities. This mission is
achieved through community education and empowerment, cooperation and teamwork, professional education opportunities, the practical application of research to health practice, and the alliance of the program to community needs.

The values of the program include one health, one medicine, or the interdependence of humans and animals in the life system; support of the fundamental rights of every human being; health equity; the responsibility of improving and protecting the health of all populations; and the commitment to integrity and ethical behavior in personal and scientific endeavors. Additionally, the core values encourage respect in all areas of teaching, research and service, teamwork and collaboration, public service to the area and beyond, and excellence in the field of public health. DPHPM goals and objectives are presented in Appendix A.

**Degree tracks.** Students enrolled in the program can pursue degrees in five specialization tracks: Environmental and Occupational Health, Epidemiology, Health Policy and Administration, Veterinary Public Health, and an MPH with an MD for students who will be continuing on to the medical program upon completion of their MPH degree. There is also a medicine-tracked MPH degree, which allows students to enter the medical program on the condition that they meet a specific grade point average. This is different from the MPH-to-MD track in that many of the students on the medicine track are not in the MPH program by choice but rather to improve their grade point average to enter medical school. The requirements for completion are 42 credits broken down as follows: 15 core-course hours, 6 program-required course hours, 12 track-required course hours, 3 elective hours, 6 hours of field-based practicum for three credits, and 3 hours of capstone seminar. Although many students enroll in the program with the intention of transitioning to the medical or veterinary programs, this is no longer
exclusively the case.

The public health program is led by the department chair, with the contribution of more than 30 core faculty members and four administrators. The department chair manages the day-to-day operations of the department and the program, ensuring sufficient faculty course coverage and that all students are assigned academic advisors. The chair also manages the departmental budget and any other logistical duties, with the help of the deputy department chair.

Each of the specialization tracks is led by a track director who manages all faculty activities within the track. These individuals also coordinate the implementation of the curriculum for each specialization and assign appropriate support to the courses within each track. The Veterinary Public Health track is under joint coordination of the School of Veterinary Medicine’s Pathobiology Academic Program and the DPHPM. The track director and two faculty members have dual appointments with DPHPM and the School of Veterinary Medicine. In addition, one epidemiology-track faculty member also has dual appointment with both programs. The Graduate Public Health Program is administered in the DPHPM within the school of medicine. The program operations and course offerings are uniquely coordinated with interdisciplinary collaboration in teaching, research, and service activities on the university campus. Some course instruction is supported by other university departments, external experts on public health, and visiting faculty members. The areas of knowledge that are basic to public health include are (a) biostatistics, (b) epidemiology, (c) environmental health sciences, (d) health services administration, and (e) social-behavioral sciences.

**Practicum.** All public health students are required to complete a practicum with an organization, agency, department, or community that provides planning or services
relevant to public health. This provides students with the opportunity to integrate their academic knowledge into field-based experience that is directly related to their specialization track. This practicum begins after 42 credit hours have been completed and has the following objectives:

1. Provide the student with practical experience in a public health setting.

2. Help students further develop skills or competencies learned in the academic program by applying them in a public health setting.

3. Provide a means for acquiring practical skills that are useful to public health professional that are not available through academic instruction.

4. Understand the political, economic, social, and organizational context within which public health activities are conducted.

5. Gain exposure to an organizational or community context for public health activities.

Each practicum is arranged individually, and all goals and objectives are drafted in advance and approved by the practicum coordinator, site supervisor, and the student. The sites are selected based on various requirements, including their focus on public health service and their willingness to mentor and provide guidance to the student in the program.

**Competencies.** The DPHPM has clearly identified competencies that all MPH students are anticipated to attain through their course of study. These competencies have been derived from those identified by the Association of Schools of Public Health. In addition to the core competencies, a number of multidisciplinary cross-cutting competencies have been identified (see Appendix B). These competencies focus on the identification of issues within communities and workplaces, the analysis of the issues to
determine causes and strategize solutions, and the effective communication of solutions to stakeholders.

Whereas all specialization tracks contain competencies in the field of EI, the core competencies for the Health Behavior and Policy track are particularly notable in their development of EI skills. These competencies concentrate on a student’s abilities to demonstrate leadership, communicate crucial information, integrate coursework to propose practical solutions, demonstrate sensitivity in the face of differences, and successfully implement programs that encourage lifestyle changes (see Appendix B).

There are several ways in which student achievement and satisfactory academic progress are assessed with regards to the core competencies. First, students are evaluated in their courses by written examinations, individual and group papers and projects, oral presentations, and classroom participation. Each course uses multiple mechanisms to evaluate student performance. Second, students complete a self-report competency assessment that requires them to report their assessment of their knowledge on the following scale: 3 = proficient, 2 = knowledgeable, 1 = aware, and 0 = not applicable. In addition to these tools, MPH students’ proficiency is evaluated as part of their competence performance evaluation after their practicum, with a form that assesses each individual’s performance and the supervisor’s perspective. The definition of what was considered proficient with regards to practicum performance was recently adjusted to include the ability to evaluate and apply the skills acquired throughout the program, as well as the ability to synthesize and teach them. This provides the department with valuable information for the evaluation of strengths and weaknesses in the program at the end of each term. The student thesis or capstone paper provides a final synthesis of the skills and competencies that students of the DPHPM have acquired over the course of the
The students also complete an exit interview at the end of each term, using a semistructured questionnaire that identifies students’ perceptions of the curriculum and raises any issues they may perceive with the program or the university as a whole. These interviews have resulted in changes being made to the courses as well as greater integration between specialization tracks. This has served the purpose of providing a more integrated experience overall, as well as building a more natural progression that provides a stronger foundation for the final requirement, the capstone. Additionally, the DPHPM is currently piloting a pass–fail exit exam for summer and fall terms. The exam will include 130 questions, broken down as follows: 100 core questions (20 from each course), 20 track questions, and 5 ethics questions.

**DPHPM course descriptions for courses addressing EI.** All of the courses described are three-credit courses, with the exception of the six-credit practicum. Health Policy and Management focuses on a comprehensive background in the organizational, financial, legal, and political issues surrounding the health care environment. This course examines the major substantive issues confronting health policy makers in the areas of health systems, health sector reform, family and community health, and environmental and occupational health.

Social and Behavioral Aspects of Public Health investigates the influence of social, psychological, and cultural factors on the health status of individuals and communities. The class works toward understanding the origins of health-compromising behaviors, how they are represented in any given population, and how they can be changed to encourage prevention.

Principles of Environmental Health considers important environmental health
issues facing society today. Topics covered include environmental physiology, radiation protection, air-pollution control, water and waste, water management, food protection, hazardous material management, ecology and control of animal vectors of disease, and basic community-sanitation issues.

Concepts, Practice and Leadership of Public Health focuses on the variables of health and the philosophical and organizational foundation behind the professional practice of public health. It provides a combined overview of the field by surveying epidemiology, biostatistics, preventive medicine, environmental health, and social and behavioral aspects of health and health policy. The course also gives students an understanding of the tools needed to be effective leaders in assessment and policy development.

Public Health Research Methods and Ethics covers basic research tools needed to work successfully in public health and investigates some of the common styles of research encountered in public health settings. Topics covered include qualitative and quantitative data collection, research instrument design, interpretation and dissemination of data, community assessment, and presentation of research findings. The course integrates case studies in public health ethics throughout the discussion of research so moral and ethical dilemmas that often occur can be given careful consideration. A combination of lecture, discussion, reading of the literature, and computer applications is used to familiarize students with public research methods in public health.

The practicum or internship in public health is a critical part of the MPH program that combines theory with field-based experience. This experience allows students to apply their theoretical training and knowledge within a public health setting, under the direction of an adviser or on-site supervisor. Internships are arranged individually, with
goals explicitly identified advance and approved by the student, faculty advisor, and on-site supervisor. Students complete a minimum of 180 hours of fieldwork to complete this course.

Occupational Health provides students with the knowledge and skills to recognize and evaluate common occupational hazards (e.g., chemical, physical, biological, and psychosocial), followed by a review of common approaches to prevent these hazards from causing work-related diseases and injuries. The relationship between workers and their jobs with respect to human health outcomes is explored from historical, scientific, and policy perspectives. A systematic approach to the study of the causes and extent of work-related injuries and health issues is emphasized. Principles of occupational safety and models of accident causation are also covered.

Environmental Health Management is designed to prepare students to solve real-world environmental and occupational health issues in the developing world. Emphasis is placed on understanding the linkages between the physical and social aspects of environmental health issues. Topics are variable and draw upon the cumulative expertise of the faculty of the Environmental Health track.

Decision Making for Public Health is all about “doing the right things right.” It gives an overview of different techniques for decision making in health policy and management. Decision making is an essential part of working as a public health professional; it forms the critical link between theory and practice and thus assures implementation of the right interventions with the maximum of impact on the well-being of the population or groups of patients.

Leadership and Management focuses on recent events and new trends. Public health instruction requires consideration of new approaches in leadership and
management skills drawn from business, industry, education, and government. This course addresses the skills necessary for students entering the field of public health management. The course provides students with the tools needed to detect and work out organizational problems, to impact the thoughts and actions of individuals and groups, and to lead public service organizations. Each class focuses on a particular set of leadership skills. The goal of the course is to distinguish between effective and ineffective strategies, through discussion and analysis of case studies and the completion of team projects.

**Foundations in Health Policy Analysis** is the introductory course to health policy concepts and analysis, with special emphasis on the political framework and the problem-centered model. This is based on the thinking that good policy analysis is built on economics, resource-management strategies, and political processes. Policy analysis can be described as the science and the art of giving advice that affects public policy decisions. This course familiarizes students with the policy process, the role of political factors, and the implications of research and resources within health policy making. The larger economic, political, and governmental framework for health policy decisions is introduced, and the impact of these policies on groups and organizations is discussed. Specific, global, health-policy issues are chosen for discussion on the basis of their significance with regards to current public policy debates. Particular emphasis is placed on the student’s ability to understand, assess, and critique the policy process and apply concepts within real-world settings and initiatives.

**Health Economics** introduces students to the main theories behind the field of public health and the associations between global health and social and economic development. Students are expected to provide a cost-effective angle for management
decision making. The course provides a theoretical foundation for the study of finance, accounting, marketing, and planning that will facilitate their careers as future health care managers and assist them in bringing about reform to health care.

**Participants**

Programs are structures in which many people form the various components and are completely interdependent. Thus, various different participants were involved in this study. First, the chair and deputy chair of the department were crucial participants. Concrete decisions regarding the program are made by these individuals with the help of the other faculty and staff of the department. The final decision regarding whether the pilot program could be implemented, continued, expanded, or reorganized would be made by the chair and the deputy chair.

The faculty who teach the core courses in the department were the next participants in the study. These individuals were directly responsible for the implementation of the current program as well as the pilot program recommended. They were an integral part of the study as valuable sources of information regarding what existed in the curriculum to address EI, how it was being presented, and what they would like to see included in the future. Finally, the students provided valuable information through their participation in the focus groups and the questionnaires created based on information collected from the focus groups.

Departmental perspectives and needs first were discussed with the chair and deputy chair in interviews. These discussions resulted in a clearer understanding of the direction that would be taken in the individual meetings with faculty members and student focus groups. Subsequently, interviews were conducted with the lead faculty from each of the core courses in order to determine whether gaps existed between
administrative expectations and what was taking place in the program. At this time, faculty also had the opportunity to discuss their own perceptions of EI and its role in their courses and the field of public health in general. The results of these interviews were anonymously reported and helped provide a framework for discussions with the students.

Student focus groups were made up primarily of volunteers from the Public Health Student Association. These students were chosen as they would provide perspectives from a cross-section of the DPHPM student population. Members spanned all terms, specialization tracks, ages, and gender. Information gathered from these interviews provided the foundation for the creation of a questionnaire to be administered to all students in the program regarding the various components of EI. This anonymous questionnaire was administered to all enrolled MPH students during their Fall 2012 term and provided valuable information regarding the current attitudes of the students toward the concept of EI.

Demographic data regarding the faculty of the DPHPM were as follows: The faculty was made up of 17 men and 13 women. Six of the male faculty members were European American, one was African American, and 18 were of various ethnicities from various countries outside of North America. Five of the female faculty members were European American, one was African American, one was Hispanic (from Columbia), and six were of other nationalities.

The most recent student demographic data collected by the department in 2008 were distributed as follows: 137 of the students enrolled in the program were North American, 29 were from various African nations, one was from Australia, 19 were from the Caribbean, one was from West Asia, one was from Central Asia, and one was from South Asia. The diverse countries represented by the student population included
Botswana, Cameroon, Ethiopia, Ghana, Kenya, Nigeria, United Republic of Tanzania, Uganda, Zimbabwe, Antigua and Barbuda, Grenada, Guyana, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Trinidad and Tobago, United States of America, Canada, Taiwan, Indonesia, Philippines, Germany, Portugal, and the United Kingdom.

The faculty interviewed were all from Turkey or the Caribbean. The chair and deputy chair interviewed were both male; one was White and one of Indian descent. Of the faculty interviewed, three were female and three were male; five were Black and one was White.

**Evaluation Model**

The 10-step systems approach to R&D was used in this study. According to Gall et al. (2007), small-scale projects are most successful using this approach when the method is modified to include development of fewer than the original 10 steps. In the current study, the first seven steps were developed, with particular attention paid to the identification of a teaching strategy to address EI in the program, given the determinations of the needs assessment.

The first step, the identification of goals for the program, was carried out through careful analysis of program materials such as CEPH accreditation reports, documents on policies and procedures, and course descriptions. These program and course goals were analyzed against a checklist of EI competencies created by Caruso, Kornacki, and Brackett (2011) and used and reprinted with permission (see Appendix C). Additionally, interviews with program administrators and faculty teaching the required courses provided valuable information regarding current EI training within the department. Interviews with students also were used to identify student perceptions of EI as well as their perspectives on how these competencies are addressed in their program. A list of
questions, with wording slightly tailored for each group, guided the interviews (see Appendix D). The competencies considered were those that directly related to the skills outlined in the four-branch model of EI identified by Mayer and Salovey (1997). These included the following:

1. The first competency was the ability to perceive emotions in self and others, as well as in other stimuli. This branch included the ability to accurately identify the emotions occurring in any given situation.

2. The second branch was the ability to generate, use, and feel emotion as necessary for communication, thinking, and problem solving.

3. The third branch was the ability to understand complex information regarding emotions such as the motivation behind them, their natural progression, transitions between emotions, and what they mean.

4. The fourth branch included the ability to be open to emotions and to adapt behavior in order to best achieve goals and objectives. This branch included the ability to use emotions to promote change and growth.

Program administrators were consulted to determine what they felt the importance of EI is in both the field of public health in general and their program specifically. Discussion focused on expectations they have for their students with regards to EI, including how EI relates to issues of professionalism, interpersonal communication, and intrapersonal awareness. This discussion provided the framework for faculty and student interviews to determine whether administration’s expectations were embraced by everyone in the department. Further, the discussion helped identify gaps between what administration’s goals were and what was currently happening within the department. Administrators had the opportunity to discuss their concerns with the program and the
students, so the researcher could come to conclusions regarding the validity of those concerns and ways to address them.

Faculty and student interviews were subsequently conducted. Instructors of the required courses were interviewed individually, and students participated in focus groups to encourage discussion. Based on information discovered from these interviews, an anonymous and concise questionnaire was administered to all students in the program in order to determine their level of awareness and perceptions of EI (see Appendix E).

Based on the results of the interviews and the questionnaire administered in the required courses that already address EI, the second and third steps to the systems analysis were conducted. These steps included identifying the skills, procedures, and tasks required to achieve the goals for EI development in the program and carefully analyzing the attitudes of stakeholders related to these goals. At this time, existing perceptions were considered alongside information available concerning best practices for EI development. A specific plan for addressing areas of possible inclusion of explicit EI-development material into the curriculum was created, and realistic goals for the program were identified. This was the fourth step of the systems approach and led to the creation of materials and teaching strategies tailored specifically to meet the EI-development needs of this particular program.

The fifth step of the systems approach involved the identification of ways to assess the efficacy of the competency-building program. An EI-skill competency test was recommended for future evaluation of the success of the proposed pilot program.

The sixth step included a strategy for implementing EI skills into the public health curriculum and involved recommending activities from the 1st week of the program. As research has shown (Zeidner et al., 2002), EI training is most successful when
incorporated into an existing program rather than simply provided as additional training on the side. To this end, a strategy that begins with an introduction to EI during the program’s orientation activities at the beginning of the term and then includes EI explicitly in some way in each of the required courses would be most valuable. Finally, the seventh step of the study involved the creation of materials and recommendations that directly addressed EI needs identified in the needs assessment for implementation into the program.

**Instruments**

Aside from interviews and focus groups, information regarding student’s perceptions and competency in EI was gathered through the results of a questionnaire self-report survey. The questionnaire was created by the evaluator in conjunction with program administrators. The questionnaire contained questions regarding an individual’s perception of his or her skill in all four areas of the four-branch model of EI. The questionnaire was validated by a panel of experts in the field of EI and survey creation, and SPSS was used to determine internal reliability. The questionnaire then was administered to the students of the DPHPM. It was anonymous and asked students to report directly about their own perceived skills with regards to EI, in order to provide valuable information regarding general knowledge of students in the program.

The survey addressed student competency in the four areas that comprise EI, as identified by Mayer et al. (2008a). Students were asked to assess their competency on five levels as follows: no skill or experience, currently addressing weakness in this area, competent, above-average competency, and highly skilled. The questionnaire also included information regarding the age, sex, country of origin, and program of the student.
The brief questionnaire made it possible to better understand the role that EI building plays in the DPHPM specifically. The Mayer et al. (2008a) model focuses on the interaction of emotion and intelligence and views emotions as mental processes. As previously mentioned, the ability to perceive, facilitate, understand, and regulate one’s own emotions ultimately leads to more effective problem-solving skills (Mayer & Salovey, 1997). The branches are organized from more fundamental psychological processes to higher ones, in this case, from perceiving to regulating. In this study, the questions were related directly to the abilities of the four-branch model, while working within the framework of the course and program objectives.

**Procedures**

**Design.** The design was nonexperimental and objectives based in nature. The purpose of the study was to evaluate current EI development in the DPHPM as well as attitudes regarding its importance in public health, in order to recommend ways to further incorporate EI into the program. This involved identifying and analyzing factors believed by stakeholders to be crucial to developing EI of students in the MPH program, in order to incorporate these competencies into the curriculum by means of a pilot program.

The first step was a clear identification of the overall public health competencies and objectives as detailed in the CEPH and an analysis of how these were present in the program being evaluated. Next, a detailed analysis of program objectives that directly relate to EI was conducted, including discussions with program administrators, faculty of relevant courses, and students. The interviews and student focus groups, which were recorded and transcribed, also provided valuable information regarding attitudes and beliefs regarding EI currently held by stakeholders in the program.

The next step was the administration of a brief EI questionnaire to all students in
the DPHPM. This provided information regarding their knowledge of EI and their abilities. The questionnaire addressed each of the four components of EI.

The information collected from the interviews and questionnaires provided the foundation for the creation of objectives, course material, and strategy for implementation and evaluation for the pilot program to be developed. The pilot program would include introduction to EI during the time of academic orientation at the beginning of each term as well as materials for EI development in each of the relevant courses within the program.

**Data collection procedures.** The participants in the study included all major stakeholders in the program. Program administrators, the faculty of all courses with an EI-related curriculum, and the students were involved through interviews and focus groups, and the students also participated through self-report questionnaires. Administrators were contacted via e-mail in order to identify their willingness to participate, at which point a meeting time was established and the goals of the interview and the study were explained. Administrators signed informed consent forms before the interview began.

Once faculty agreed to participate via e-mail, a meeting time was established and the goals of the interview and study were explained. Instructors signed informed consent forms just before the interviews began.

Students were approached at a meeting of the Public Health Student Association in order for the study to be explained and participation requested. Students participating in the questionnaire were asked to review a letter of participation before proceeding. Additionally, students participating in the focus groups completed informed consent forms prior to the start of the discussion. Faculty and student interviews took place during
the Fall 2012 term. The administration of the questionnaire to students in the program also occurred during the Fall 2012 term.

**Data analysis.** As happens with qualitative studies, data from interviews and focus groups were isolated through content analysis in order to identify patterns and themes. Data from the questionnaires were coded and placed into categories based on EI competency and entered into SPSS for statistical analysis. Students were divided by term in order to distinguish students who were at the beginning of the program from those at the end.
Chapter 4: Results

As stated in Gall et al. (2007), the first step in the R&D systems approach to program evaluation involves the identification of goals and objectives of the instructional program. In order to do this, the goals of public health identified by the CEPH (2005) must be examined and compared with the objectives delineated by the DPHPM.

Research Question 1

What are the core competencies of the DPHPM? Appendix B contains the core competencies of the DPHPM:

1. Demonstrate effective written and oral skills for communicating with different audiences in the context of professional public health activities.

2. Apply basic principles of ethical analysis (e.g., the Public Health Code of Ethics, human rights framework, and other moral theories) to issues of public health practice and policy.

3. Apply the core functions of assessment, policy development, and assurance in the analysis of public health problems and their solutions.

4. Embrace a definition of public health that captures the unique characteristics of the field (e.g., population focused, community oriented, prevention motivated, and rooted in social justice) and how these contribute to professional practice.

5. Differentiate between qualitative and quantitative evaluation methods in relation to their strengths and limitations.

Research Question 2

How do these competencies correlate with the expectations for learning and assessment detailed by the CEPH? The CEPH (2005) asserted that students graduating with degrees in Public Health must acquire a breadth and depth of knowledge in the areas
of biostatistics, epidemiology, environmental health sciences, health services administration, and social and behavioral sciences. Within these areas, specific competencies must be developed: the collection, storage, retrieval, analysis, and interpretation of health data; the ability to design and analyze health surveys and experiments; the ability to understand distributions and determinants of disease in populations and the dynamics of populations; the identification of biological, physical and chemical factors that affect health; the ability to plan, organize, manage, and evaluate health policy and programs; and the ability to formulate and implement solutions to public health problems. Further, students must be given the opportunity to apply all these concepts through practical experience in the field. Finally, the CEPH determined that all students must integrate their knowledge in a final, culminating experience that demonstrates that they have properly synthesized the acquired knowledge.

The Association of Schools of Public Health (2010) expanded these expectations to include competencies of a more noncognitive nature. These include working toward the preservation of human dignity and encouraging optimal growth and human development, the encouragement of healthy choices and prolonged life, and the ability to efficiently and effectively meet a community’s mental and physical needs. The Association of Schools of Public Health also maintained that a successful health practitioner must be able to acknowledge the importance of a collaborative effort and be willing to work with a team of individuals from all fields, including other health workers, politicians, economists, lawyers, and engineers, to name a few. This multidisciplinary approach encourages engagement from all members of a community, which requires a significant degree of interpersonal ability in order to be successful.

The DPHPM satisfactorily met all the requirements established by the CEPH for
the purpose of accreditation in 2010. The program offers required courses in each of the areas identified: Principles of Epidemiology, Principles of Biostatistics, Health Policy and Management, Social and Behavioral Aspects of Public Health, and Principles of Environmental Health. In addition, students are required to complete two more general concepts courses: Concepts, Practice, and Leadership of Public Health and a Research Methods and Ethics class to solidify the more global public health and research-based requirements. Students also must complete 12 credits in one of the concentration tracks; however, all students must participate in a practicum and complete a capstone paper to demonstrate their ability to integrate program material.

**Research Question 3**

What are the EI competencies that the DPHPM currently addresses, and how do these competencies correlate with the major competencies of the four-branch model of EI? In the DPHPM, a great number of previously identified program objectives relate to EI competencies, particularly those in the Social and Behavioral Health and Health Policy and Administration tracks. However, there is significant overlap between the DPHPM’s general core and cross-cutting competencies and the EI competencies identified by the four-branch model of EI. The four-branch model has the categories of (a) emotion identification and expression, (b) emotional facilitation of thought, (c) emotional understanding, and (d) emotional management. Some public health competencies relate to more than one EI skill. Table 1 correlates the DPHPM core and cross-cutting competencies with the first of the four EI competencies, emotional identification and expression.
Table 1

Department of Public Health and Preventive Medicine Competencies Relating to Emotional Identification and Expression

<table>
<thead>
<tr>
<th>Core and cross-cutting competencies</th>
<th>Emotional identification and expression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draw appropriate inferences from epidemiological data.</td>
<td>Ability to express emotions accurately as well as needs related to them</td>
</tr>
<tr>
<td>Identify the causes of social and behavioral factors used in public health research and practice.</td>
<td>Ability to identify emotions in others Ability to discriminate between accurate and inaccurate, honest and dishonest feelings</td>
</tr>
<tr>
<td>Identify all concerns, assets, resources, and deficits for social and behavioral science interventions.</td>
<td>Ability to express emotions accurately, as well as needs related to them Ability to discriminate between accurate and inaccurate, honest and dishonest feelings</td>
</tr>
<tr>
<td>Apply basic principles of ethical analysis to issues of public health practice and policy.</td>
<td>Ability to identify emotions in others Ability to express emotions accurately, as well as needs related to them</td>
</tr>
</tbody>
</table>

Table 2 correlates the DPHPM core and cross-cutting competencies with the EI competencies in the category of emotional facilitation of thought. Table 3 correlates the DPHPM core and cross-cutting competencies with the third of the EI competencies, emotional understanding. Table 4 correlates the DPHPM competencies to the fourth branch of the EI model, emotional management.

Although general DPHPM program objectives do closely relate to EI competencies, there are several core and required courses whose objectives more specifically match the competencies identified by Mayer and Salovey (1997) as crucial to EI. These courses are Concepts, Practice and Leadership of Public Health; Leadership and Management; Health Policy and Management; Decision Making in Public Health;
Social and Behavioral Aspects of Public Health; and Principles of Environmental Health.

Table 2

*Department of Public Health and Preventive Medicine Competencies Relating to Emotional Facilitation of Thought*

<table>
<thead>
<tr>
<th>Core and cross-cutting competencies</th>
<th>Emotional facilitation of thought</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehend the basic ethical and legal principles pertaining to collection, maintenance and dissemination of epidemiological data.</td>
<td>Ability to redirect and prioritize thinking on the basis of associated feelings</td>
</tr>
<tr>
<td>Ability to use emotional states to facilitate problem solving and creativity</td>
<td></td>
</tr>
<tr>
<td>Discuss the policy process for improving the health status of populations.</td>
<td>Ability to redirect and prioritize thinking on the basis of associated feelings</td>
</tr>
<tr>
<td>Ability to capitalize on mood changes to appreciate multiple points of view</td>
<td></td>
</tr>
<tr>
<td>Ability to use emotional states to facilitate problem solving and creativity</td>
<td></td>
</tr>
<tr>
<td>Apply quality and performance improvement concepts to address organizational performance issues.</td>
<td>Ability to redirect and prioritize thinking on the basis of associated feelings</td>
</tr>
<tr>
<td>Ability to capitalize on mood changes to appreciate multiple points of view</td>
<td></td>
</tr>
<tr>
<td>Ability to use emotional states to facilitate problem solving and creativity</td>
<td></td>
</tr>
<tr>
<td>Describe the role of social and community factors in both the onset and solution of public health problems.</td>
<td>Ability to redirect and prioritize thinking on the basis of associated feelings</td>
</tr>
<tr>
<td>Ability to use emotional states to facilitate problem solving and creativity</td>
<td></td>
</tr>
</tbody>
</table>

**Concepts, Practice and Leadership of Public Health.** The major objectives of Concepts, Practice and Leadership of Public Health primarily involve the demonstration of a global understanding of public health and its applications toward community health improvement. There are, however, specific course objectives that require skill in EI to master. These include the identification of population health and application to community health improvement schemes (emotional identification, facilitation of thought, understanding, and management), the identification and discussion of major public health issues with an emphasis on environmental and behavioral issues (emotional
identification and understanding), and the use of appropriate communication and leadership skills for public health practice (emotional identification, facilitation of thought, understanding, and management). See Table 5.

**Table 3**

*Department of Public Health and Preventive Medicine Competencies Relating to Emotional Understanding*

<table>
<thead>
<tr>
<th>Core and cross-cutting competencies</th>
<th>Emotional understanding</th>
</tr>
</thead>
</table>
| Describe a public health problem in terms of magnitude, person, time, and place. | Ability to perceive the causes and consequences of emotions  
Ability to understand complex feelings, emotional blends, and contradictory states |
| Draw appropriate inferences from epidemiological data. | Ability to perceive the causes and consequences of emotions  
Ability to understand transitions among emotions |
| Specify multiple targets and levels of intervention for social and behavioral science programs or policies. | Ability to perceive the causes and consequences of emotions  
Ability to understand complex feelings, emotional blends, and contradictory states |
| Identify the causes of social and behavioral factors used in public health research and practice. | Ability to perceive the causes and consequences of emotions  
Ability to understand the relationships between emotions |
| Embrace a definition of public health that captures the unique characteristics of the field. | Ability to understand complex feelings, emotional blends, and contradictory states |
Table 4

Department of Public Health and Preventive Medicine Competencies Relating to Emotional Management

<table>
<thead>
<tr>
<th>Core and cross-cutting competencies</th>
<th>Emotional management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apply evidence-based approaches in the development and evaluation of</td>
<td>Ability to be open to pleasant and unpleasant feelings</td>
</tr>
<tr>
<td>social and behavioral science interventions</td>
<td>Ability to engage, prolong or detach from an emotional state</td>
</tr>
<tr>
<td></td>
<td>Ability to manage emotions in others</td>
</tr>
<tr>
<td>Identify individual, organizational and community concerns, assets,</td>
<td>Ability to monitor and reflect on emotions</td>
</tr>
<tr>
<td>resources and deficits for social and behavioral science interventions</td>
<td>Ability to manage emotions in others</td>
</tr>
<tr>
<td></td>
<td>Ability to engage, prolong or detach from an emotional state</td>
</tr>
<tr>
<td>Specify approaches for assessing, preventing and controlling</td>
<td>Ability to monitor and reflect on emotions</td>
</tr>
<tr>
<td>environmental hazards that pose risks to human health and safety</td>
<td>Ability to manage emotions in others</td>
</tr>
<tr>
<td></td>
<td>Ability to be open to pleasant and unpleasant feelings</td>
</tr>
<tr>
<td></td>
<td>Ability to monitor and reflect on emotions</td>
</tr>
<tr>
<td>Demonstrate effective written and oral skills in communicating with</td>
<td>Ability to monitor and reflect on emotions</td>
</tr>
<tr>
<td>different audiences in the context of public health activities</td>
<td>Ability to manage emotions in others</td>
</tr>
<tr>
<td></td>
<td>Ability to manage emotions in others</td>
</tr>
</tbody>
</table>

In addition to these objectives, various expected course competencies directly relate to EI. Embracing a definition of public health that captures its unique, population-focused, community-oriented, prevention-motivated, and social-justice-oriented characteristics relates to emotional facilitation of thought and emotional understanding. The application of the core functions of assessment, policy development, and assurance in the analysis of public health problems and their solutions relates to all four branches of the EI model. The identification of the main components and issues of the organization, financing, and delivery of health services and public health systems in the United States and other nations relates to emotional identification and emotional understanding. The
ability to effectively communicate orally and in writing with different audiences in the context of professional public health activities relates to all four branches of the EI model, as does the ability to demonstrate leadership skills and build partnerships.

Table 5

Specific Course Objectives and Corresponding Branch of Emotional Intelligence (EI): Concepts, Practice and Leadership of Public Health and Leadership and Management

<table>
<thead>
<tr>
<th>Course and objectives</th>
<th>Branch of EI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Concepts, Practice and Leadership of Public Health</strong></td>
<td></td>
</tr>
<tr>
<td>Identify population health and application to community health improvement schemes.</td>
<td>1–4</td>
</tr>
<tr>
<td>Identify and discuss major public health issues with an emphasis on environmental and behavioral issues.</td>
<td>1, 3</td>
</tr>
<tr>
<td>Use appropriate communication and leadership skills for public health practice.</td>
<td>1–4</td>
</tr>
<tr>
<td><strong>Leadership and Management</strong></td>
<td></td>
</tr>
<tr>
<td>Learn the practical and applied skills necessary for effective management.</td>
<td>1–4</td>
</tr>
<tr>
<td>Acquire the necessary tools to manage, lead, and address the complexities faced by public health managers.</td>
<td>1–4</td>
</tr>
<tr>
<td>Understand the importance of ethics, leadership, law, diversity, and negotiation in managing public health organizations.</td>
<td>1–4</td>
</tr>
<tr>
<td>Gain an understanding of the field of EI.</td>
<td>1–4</td>
</tr>
</tbody>
</table>

*Note. Branch 1 = emotional identification and expression; Branch 2 = emotional facilitation of thought; Branch 3 = emotional understanding; Branch 4 = emotional management.*

**Leadership and Management.** The EI-related course objectives for Leadership and Management are to learn the practical and applied skills necessary for effective management, to acquire the necessary tools to manage, lead and address the complexities faced by public health managers, to understand the importance of ethics, leadership, law, diversity and negotiation in managing public health organizations, and to gain an understanding of the field of EI. As shown in Table 5, these objectives all require emotional identification, emotional facilitation of thought, emotional understanding, and
emotional management.

**Decision Making for Health Policy and Management.** The course objectives requiring EI skills in Decision Making Health Policy and Management are shown in Table 6. Additional competencies expected for the course also related to EI.

Table 6

*Specific Course Objectives and Corresponding Branch of Emotional Intelligence (EI): Decision Making for Health Policy and Management and Social and Behavioral Aspects of Public Health*

<table>
<thead>
<tr>
<th>Course and objectives</th>
<th>Branch of EI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decision Making for Health Policy and Management</td>
<td></td>
</tr>
<tr>
<td>Develop evidence-based decisions for public health problems.</td>
<td>1–4</td>
</tr>
<tr>
<td>Be aware of the limitations of evidence-based decision making.</td>
<td>2, 3</td>
</tr>
<tr>
<td>Apply a variety of tools and techniques to make decisions under varying degrees of uncertainty.</td>
<td>1–4</td>
</tr>
<tr>
<td>Make decisions guided by ethical and moral principles.</td>
<td>2–4</td>
</tr>
<tr>
<td>Social and Behavioral Aspects of Public Health</td>
<td></td>
</tr>
<tr>
<td>Apply social and behavioral science theory and methods to analyze public health problems in terms of the factors that influence their development and find alternative approaches to their solution.</td>
<td>2–4</td>
</tr>
<tr>
<td>Assess the utility of interventions aimed at different socioecological system levels.</td>
<td>1, 3</td>
</tr>
<tr>
<td>Identify the practical implications of social science approaches to contemporary problems in the field of public health.</td>
<td>3</td>
</tr>
<tr>
<td>Recognize similarities and contrasts in the approaches taken by different social science disciplines in the study of health-related problems.</td>
<td>2, 3</td>
</tr>
<tr>
<td>Identify and critically discuss the ethical implications of public health research practice.</td>
<td>1, 3</td>
</tr>
</tbody>
</table>

*Note. Branch 1 = emotional identification and expression; Branch 2 = emotional facilitation of thought; Branch 3 = emotional understanding; Branch 4 = emotional management.*

Additional course competencies include the ability to communicate, think critically, and creatively solve problems and make decisions related to public health policy and management, which requires all four branches of the EI model. Students
should be able to analyze options for the financing, regulating, and delivery of health care services and public health systems, related to emotional facilitation of thought, emotional understanding, and emotional management. Students should demonstrate an understanding of professional and ethical issues related to stakeholder participation in assessment and prioritization of community and population needs, which relates to emotional facilitation of thought and emotional understanding. Finally, students should develop the ability to apply an evidence-based approach to examining strategies for control and prevention of health conditions of public health importance, related to emotional facilitation of thought, emotional understanding, and emotional management.

Social and Behavioral Aspects of Public Health. The course objectives that relate to EI competencies in the Social and Behavioral Aspects of Public Health course are shown in Table 6. The DPHPM’s core and cross-cutting competencies previously discussed are also identified as fundamental to the study of the social and behavioral aspects of public health.

Principles of Environmental Health. The course objectives related to EI in Principles of Environmental Health are shown in Table 7. The DPHPM’s core and cross-cutting competencies previously discussed were also identified as fundamental to the study of principles of environmental health.

Health Policy and Management. The EI-related course objectives in Health Policy and Management are shown in Table 7. Additional health-policy track competencies that are related to EI include the ability to analyze the main components and issues of the organization, financing, and delivery of health services and public health systems, which relates to all four branches of the EI model.
Table 7

*Specific Course Objectives and Corresponding Branch of Emotional Intelligence (EI): Principles of Environmental Health and Health Policy and Management*

<table>
<thead>
<tr>
<th>Course and objectives</th>
<th>Branch of EI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Principles of Environmental Health</strong></td>
<td></td>
</tr>
<tr>
<td>Understand the close interrelationship between humans and the environment.</td>
<td>3</td>
</tr>
<tr>
<td>Define the major factors affecting the environment and human health.</td>
<td>2, 3</td>
</tr>
<tr>
<td>Describe the interaction between demographic, cultural, and political forces that create and resolve environmental problems.</td>
<td>2, 3</td>
</tr>
<tr>
<td>Discuss the global issues that arise from these interactions.</td>
<td>2, 3</td>
</tr>
<tr>
<td>Develop strategic solutions for health problems to prevent or reduce exposure to environmental hazards.</td>
<td>3, 4</td>
</tr>
<tr>
<td>Assess legal and regulatory issues related to environmental health.</td>
<td>2, 3</td>
</tr>
<tr>
<td>Learn to effectively summarize and present information in a scientific arena.</td>
<td>1–4</td>
</tr>
</tbody>
</table>

**Health Policy and Management**

<table>
<thead>
<tr>
<th>Course and objectives</th>
<th>Branch of EI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analyze the policy process and its influence on enhancing the health status of populations.</td>
<td>2, 3</td>
</tr>
<tr>
<td>Apply key concepts to formulate, implement, and evaluate health plans (emotional facilitation of thought and emotional understanding)</td>
<td>2, 3</td>
</tr>
<tr>
<td>Critically review the strength and limitations of economic concepts as they apply to health and health care</td>
<td>2, 3</td>
</tr>
</tbody>
</table>

*Note. Branch 1 = emotional identification and expression; Branch 2 = emotional facilitation of thought; Branch 3 = emotional understanding; Branch 4 = emotional management.*

The ability to analyze the principles of policy process for improving the health status of populations relates to emotional facilitation of thought and emotional understanding. The ability to apply the principles of program planning, development, budgeting, management, and evaluation in organizational community initiatives relates to all four EI branches. The ability to apply quality and performance improvement concepts to address organizational performance issues relates to emotional understanding and
emotional management, as does the ability to examine leadership skills for building partnerships. Finally, the ability to communicate health policy and management issues using appropriate channels and technologies is related to all four branches of the EI model.

**Research Question 4**

What are the current attitudes of the program stakeholders regarding the importance of EI to public health training? Two student focus groups were conducted for the purpose of determining what current attitudes exist regarding EI and its application to public health. In addition, the instructors of Concepts, Practice and Leadership of Public Health; Leadership and Management; Decision Making for Health Policy and Management; Social and Behavioral Aspects of Public Health; Principles of Environmental Health; and Health Policy and Management were interviewed. The instructors were interviewed to identify their current knowledge of EI as well as how it relates to public health in their specific areas of expertise.

Ten major topics were raised during the course of the focus groups and the faculty interviews. The topics that were most frequently discussed included the importance of EI being practically applied within the program in order to ensure development and commentary on the current abilities of students in the MPH program. Next was the issue of the difference in EI abilities between students enrolled in the program as free-standing students and those who are on the MPH to MD track. The next frequently raised topic was a discussion of how the MPH program currently works toward development of EI, followed by the discussion of how it could further be incorporated. Stakeholders next spent a significant amount of time discussing differences in EI among cultures, as well as cultural conflicts that often occur in the DPHPM. The next most frequently discussed
topic revolved around general EI skills. The next most frequently discussed topic was the difference in expectations between faculty and students and how the resulting conflict affects a student’s performance and behavior. Finally, the topics of the importance of EI in the field of public health as well as EI and its importance to leadership in public health were frequently raised. Most significant to the study were the discussions that involved discrepancies between faculty and administration member’s perceptions of student’s EI abilities, and the perceptions of the students themselves. Table 8 identifies the major topics raised by the stakeholders as well as the number of times the issue was discussed.

Table 8

*Frequency of Mention of Major Issues During Stakeholder Interviews*

<table>
<thead>
<tr>
<th>Topic</th>
<th>Administration (n = 2)</th>
<th>Faculty (n = 6)</th>
<th>Students (n = 12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practical experience and EI in MPH</td>
<td>2</td>
<td>17</td>
<td>11</td>
</tr>
<tr>
<td>Current MPH student abilities</td>
<td>3</td>
<td>16</td>
<td>9</td>
</tr>
<tr>
<td>EI and medicine-tracked students</td>
<td>0</td>
<td>17</td>
<td>8</td>
</tr>
<tr>
<td>How MPH program develops EI skills</td>
<td>2</td>
<td>15</td>
<td>8</td>
</tr>
<tr>
<td>Incorporation of EI into MPH program</td>
<td>1</td>
<td>14</td>
<td>7</td>
</tr>
<tr>
<td>Culture and its relationship to EI</td>
<td>2</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>EI related skills necessary for MPH</td>
<td>1</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>Unmet expectations between faculty and students and weakness in EI</td>
<td>0</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Importance of EI in MPH</td>
<td>2</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>EI and leadership in MPH</td>
<td>0</td>
<td>5</td>
<td>2</td>
</tr>
</tbody>
</table>

*Note.* EI = emotional intelligence; MPH = Master’s of Public Health.

**Practical experience and EI in MPH.** The faculty and administration of the DPHPM identified case studies as the most common method used to integrate and apply public health theories and practices. Some faculty maintained that a combination of increasing class sizes and lack of adequate time prevented more application-focused activities from taking place. The majority of faculty agreed that the most appropriate and
effective method for introducing EI building into the program would be through case studies using real-life scenarios.

Students indicated that they did not feel they had adequate opportunity to apply EI-related skills in public health. Students did report applying various public health and EI theories in their practicum but expressed frustration with changing practicum requirements making it difficult to identify what was important. Students claimed that their EI practice stopped at identification of emotions and never moved into the using, understanding, or managing phases.

**Current MPH student abilities.** Whereas most students felt that their abilities with EI could be considered competent, the administration and faculty expressed some frustration with the current EI abilities of MPH students. Areas of concern included a perceived lack of self-awareness; an inability to express dissatisfaction in a professional manner; an unwillingness to embrace the vision of public health, especially in the first term; an inability to deal with culturally diverse populations; and an unwillingness to adopt a global perspective of public health rather than focus primarily on the academics. All faculty and administration described witnessing student development in EI by the time the students graduated.

Students reported feeling as though academics were prioritized over EI abilities due to the nature of the requirements for the MPH to MD track. Students also expressed difficulties in embracing the vision of public health because, for many, the program was not one they were enrolled in by choice. They also maintained that they regularly saw situations where their colleagues exhibited less EI development and inappropriately interacted with each other or faculty. Students felt that their perceived abilities in EI were not due to a lack of self-awareness but rather a lack of prioritization of EI.
**EI and medicine-tracked students.** Faculty and administration generally agreed that lower perceived abilities in EI were often attributed to students in the MPH to MD track. Students tracked to medicine were reported to be more focused on grades and less on the vision of public health. Difficulties related to lower EI ability included more expressed frustration with program policies, inadequate communication skills, decreased sensitivity to cultural issues, unwillingness to embrace the public health vision, unwillingness to mix with students not on the same track, and a greater focus on academic performance at the expense of professionalism. Faculty and administration all expressed some level of frustration with engaging these students.

Students agreed that the biggest cause of their lack of engagement was a result of the acceptance policies of the program. All students indicated that it was difficult for them to be truly invested in public health because they must reach concrete academic markers. Areas that they reported as testing their EI abilities were the uncertainty of the expectations for progressing to medicine, the fragmentation of the public health courses if they do enter medicine, the fact that for many of them this is their only way into medicine, and a lack of interest in public health.

**How MPH program develops EI skills.** Whereas several faculty reported discussing EI-related skills in their courses, most agreed that these skills were rarely explicitly discussed. Various individuals expressed doubt that these abilities could be developed at this stage of adult life. Areas where faculty and administration felt the program developed EI skills included development of communication and presentation skills, development of an appreciation for public-health-focused approaches to healing and community development, experience dealing with a culturally diverse student population, practical experience in dealing with health inequity in a developing nation,
experience with working from individuals from all levels of society, and development of collaboration and teamwork. Most faculty and administration reported seeing increased engagement and improvement in EI ability by the final term of study.

Although students felt that they were more able to grasp the concept of EI and its relation to public health by the end of their degree, they generally reported this was primarily through their own effort. The majority of students felt that their ability in EI had not been developed by the program and had not been explicitly addressed.

**Incorporation of EI into the MPH program.** Discussions with all stakeholders revealed an interest in the increased incorporation of EI into the program. Faculty and administrators acknowledged the fact that public health was not the priority for many students and agreed that it was their responsibility to attempt to engage them. All faculty stated that they work hard to try to get students to see the big picture and understand how public health will assist them, even as physicians. As one faculty member stated,

> I always try to spend some time with them and try to help them see this as an opportunity they can benefit from. Think of what great practitioners they will be in combining all the great experiences they receive here with what they will get in medical school. We need to talk to them about this regularly to get them to understand . . . it is our problem, too.

All faculty and administrators agreed on the importance of EI in public health but maintained that the biggest impediment is a lack of time. Faculty members also indicated that although they spend a great deal of time discussing professionalism, positive interpersonal communication, empathy, and other EI-related abilities, EI is rarely explicitly mentioned. Several faculty members highlighted the importance of incorporating EI into the curriculum regularly, exposing students to the concept through discussion and case scenarios.

Students agreed that EI is not currently identified as important by the department.
All students indicated that they do discuss cultural awareness, professionalism, empathy, and other EI-related topics in their courses, but these skills are not prioritized. Students felt that discussing real-life public health scenarios on a regular basis would be the most effective way for them to apply and integrate public health and EI competencies. They did, however, state that a “touchy-feely” approach to EI should be avoided.

**Culture and its relationship to EI.** Faculty and administrators generally felt that a contributing factor to lower perceived EI ability could be attributed to students from North America, as opposed to students from other regions. Most faculty reported that there was significantly less cultural flexibility exhibited by students from the United States and Canada as compared to students from other countries. Faculty speculated that this could be because most of the students on the MPH to MD track were North American, whereas free-standing and dual-degree students were from more diverse backgrounds. Both faculty and administrators highlighted that cultural awareness is a key component to success in the field and therefore should be included in any EI-focused training.

Students raised the issue of cultural awareness as well, stating that although they learn about diversity, it is very didactic, with little practical application. Students felt that discussions needed to take place to raise awareness, as well as training in understanding and managing cultural differences.

**EI-related skills important for MPH.** All faculty highlighted EI as a crucial component to interpersonal interactions, conflict resolution, and emotional management internally and in relation to others. Several faculty members suggested that individuals who enrolled in public health by choice might have stronger skills in the area of interpersonal communication naturally than their counterparts who did not choose public
health. Faculty also indicated EI was important to the ability to build partnerships within various levels of the community, and strong EI ability would be required to comprehend, interpret, and manage communities effectively.

Students also identified EI as a key factor to positive communication within communities and with patients. One student stated,

Initially, I thought it was just about getting a history and list of medications the patient was taking, but now I see the patient often just needs someone to talk to them . . . to listen. So I think that EI is very, very important to be able to treat patients properly.

Students indicated that EI came up daily in their field and was closely related to dealing with their patients as well as colleagues and faculty.

Unmet expectations between faculty and students and weakness in EI.

Faculty noted that conflicts leading to perceptions of weaknesses in EI ability among students often were a result of mismatched expectations between faculty and students. They indicated that a constant dialogue was necessary to clarify expectations and to provide students with clear guidelines for success. One stated, “Unless students realize what they have entered into, they are going to be in trouble, because there will be a constant battling between what they think they are here to do and what we actually expect from them.”

Faculty and administrators stated these misunderstandings caused a significant amount of tension and frustration, making it difficult to engage the students in a positive way. Students felt that their largest source of frustration was the lack of perceived clarity in promotion standards into the medical school. One student indicated,

What would help is making the standards for promotion into the medical school more clear so that students felt like they knew what was needed to get in. The uneasiness we feel makes people competitive and defensive, which makes us unhappy in general.
The students claimed to have feelings of “paranoia” due to perceived subjectivity regarding grades. In the words of one student, “There are high expectations for us, but no guidance.” They described having difficulties negotiating between embracing the global public-health perspective that their professors require and maintaining the requisite grade point average to be accepted into the medical school. The general consensus among students was that this imbalance they were feeling was the main contributing factor to their weaknesses in noncognitive abilities.

**Importance of EI in MPH.** Each of the faculty members and administrators described EI as being extremely important in the field of public health. The most commonly raised area of importance was in the area of team building and teamwork. Faculty highlighted the importance not just of working together with diverse groups of people but also of being able to build teams from various levels of society to work together. They described EI as being crucial to all aspects of the health sciences and critical in terms of the students of the DPHPM becoming successful as practitioners. Other areas of EI importance detailed included community building, inequality reduction, cultural awareness and sensitivity, empathy, listening and analytical skills, communication, and teamwork.

Students also identified EI as essential to practitioners in the field of public health. In their studies, they recognized it as crucial to strong presentation skills, positive communication with professors, and working on team projects. In public health practice, students identified it as a key component to dealing with community interventions, interviewing patients, and working with nongovernment agencies and other health practitioners. They also attributed EI as being an important aspect of professionalism.

**EI and leadership in MPH.** Faculty identified various ways in which EI
contributed positively to leadership in public health: in public health management and learning to become strong managers, in the ability to manage emotions in self and others in order to achieve tasks as a leader, during interactions with community leaders and members, in creating partnerships with colleagues and communities, and in addressing health inequalities. Students agreed with the concept of EI being crucial to leadership and identified various ways that their peers with greater perceived EI stand out. They maintained that students with greater leadership skills have fewer negative interactions with their colleagues and faculty. Students claimed that these individuals also felt more comfortable in most interpersonal situations, whether dealing with peers, community members and leaders, or faculty.

**Research Question 5**

What components could be included in the curriculum to continue to improve EI skills of the students? As noted, discussions with all stakeholders revealed an interest in the increased incorporation of EI into the program. Although faculty teach professionalism, positive interpersonal communication, empathy, and other EI-related abilities, EI is rarely explicitly mentioned. EI should be more explicitly described, mentioned, and incorporated regularly into the curriculum.

Students and faculty both felt that discussing real-life public-health scenarios on a regular basis would be the most effective way for them to apply and integrate public health and EI competencies. This relates to the faculty and administration of the DPHPM identifying case studies as the most common method used to integrate and apply public health theories and practices. The majority of faculty agreed that the best method for introducing EI building into the program would be through case studies using real-life scenarios.
MPH Student Self-Reported EI Ability

Related to the idea of adding EI components to the curriculum, students’ current self-reported EI was measured. A 16-item questionnaire (Appendix E) was administered to the students of the DPHPM. The questionnaire asked students to consider their abilities in the areas of identifying, using, understanding, and managing emotions in themselves and others. The range of possible choices included no skill or expertise, addressing weakness, competent, above average, and highly skilled. Due to the low number of responses below the competent range, the categories were divided into weak, competent, above average, and high for reporting purposes. On the 16-item questionnaire, a score of above 41 out of 80 was determined to be competent. The self-report EI questionnaire was reviewed by a panel of experts in order to determine content validity. The panel determined that the questionnaire did adequately represent the objectives of the study. The Cronbach’s alpha reliability coefficient was $\alpha = .903$, which showed excellent internal consistency.

A total of 55 students participated in the self-report EI questionnaire. Only first and third terms are offered in the fall, so all of the students were from those terms. Ten of the students were in their third and final term, and 45 were in their first term in the DPHPM. Frequencies and percentages of student scores on the self-report questionnaire are shown in Table 9.

Table 9

<table>
<thead>
<tr>
<th>Score</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weak</td>
<td>4</td>
<td>7.3</td>
</tr>
<tr>
<td>Competent</td>
<td>32</td>
<td>58.2</td>
</tr>
<tr>
<td>Above average</td>
<td>18</td>
<td>32.7</td>
</tr>
</tbody>
</table>
The statistical differences in student results when cross-tabulated by term, sex, program, or place of origin were negligible. For the purpose of reporting, the responses were additionally divided into *competent* and *incompetent*, due to the smaller cohort size. The majority of students of all origins, programs, terms, and both sexes considered themselves to be competent in their EI abilities. Of the 44 students in their first term who took the questionnaire, 41 indicated they were competent in their EI abilities, whereas 3 identified themselves as incompetent. Ten of the 11 students in their third term identified themselves as competent. When considering differences of sex, 23 of the 24 male students reported being competent in their abilities, and 27 of the 30 female students identified themselves as competent.

Twenty-five students who took the questionnaire were from the MPH to MD program; of those, 24 reported being competent in their EI abilities. Sixteen of the 17 free-standing MPH students identified themselves as competent, and 4 of the 6 dual-degree students reported being competent in their abilities.

Of the 32 students from North America who responded to the questionnaire, 30 identified themselves as competent in their EI abilities, as compared to 12 out of 14 Caribbean students, and all nine of the students from other countries. The results were recalculated to combine students from the Caribbean and other countries for comparison with the students from North America, and the differences remained statistically insignificant. Thirty out of 32 North American students considered themselves to be competent in their EI abilities, and 21 of 23 students from outside North America identified themselves as competent.
Chapter 5: Discussion

Summary of Findings

The purpose of this study was to evaluate current EI development in the DPHPM as well as attitudes regarding its importance in public health, in order to recommend ways to further incorporate EI into the program. Specific purposes of this study were to use the systems approach of evaluation to identify the goals of the current DPHPM as they relate to EI, conduct a needs assessment of its current development of EI, identify the specific skills required to address these competencies further, convert these needs and goals into performance objectives, and develop a pilot program to fill any gaps between EI needs and current training.

The CEPH has identified a number of competencies as crucial to the field of public health. The DPHPM adheres to this governing body’s requirements and has received full accreditation from the organization. Many of the competency requirements delineated by the CEPH and DPHPM directly relate to EI. Public health competencies related to identification of emotions in oneself and others include the identification of the causes of social and behavioral issues; the drawing of appropriate inferences with that information; the identification of assets, resources, and deficits for interventions; and the application of ethical analysis to the development of health policy. The competencies related to use emotions for facilitation of thought include the comprehension of principles related to collection and dissemination of data, the ability to discuss policy processes in order to improve the health status of communities, the application of public health concepts to improve organization performance, and the ability to accurately describe causes for public health problems. Public health competencies that relate to understanding emotions in oneself and others include the ability to describe public health
problems and their contexts, the ability to draw appropriate inferences regarding data, the ability to appropriately target interventions to specific social and behavioral science programs, the accurate identification of social and behavioral factors that affect public health, and the ability to embrace a definition of public health that captures the unique characteristics of the field. Finally, DPHPM competencies related to emotional management involve the application of evidence-based approaches to social and behavioral science interventions, the identification of all factors involved in social and behavioral science interventions, the specification of approaches to prevent and control public health problems, and the development of the communication skills necessary to relate to different audiences for public health activities.

These competencies are present as objectives in all DPHPM courses, but the EI competencies are most evident in the course objectives for Concepts and Leadership in Public Health, Leadership and Management, Decision Making for Health Policy and Management, Social and Behavioral Aspects of Public Health, Principles of Environmental Health, and Health Policy and Management. Interviews with faculty revealed that although the subject of EI is familiar, it is rarely explicitly discussed with the students. Faculty also identified weaknesses in EI abilities among students, particularly in the area of self-awareness and management of emotions. Students acknowledged a general lack of EI awareness, primarily due to a lack of prioritization of soft skills over hard science.

The results of the interviews yielded 10 discussion topics: (a) the relationship of culture to EI, (b) the current EI abilities of MPH students enrolled in the program, (c) EI and students tracked to medicine, (d) EI skills necessary for success in public health, (e) EI and leadership skills in public health, (f) problems arising from unmet expectations
between faculty and students, (g) what the program currently does to develop EI, (h) the importance of EI in public health, (i) the incorporation of EI in to the public health program, and (j) how practical experience further develops EI in students. The general consensus was that although EI was acknowledged as important to public health students and professionals, it was rarely explicitly discussed. Whereas faculty felt that students suffered from a lack of awareness of EI and their own abilities, students felt that program requirements made it impossible for them to focus on developing those important skills. Students also mentioned that many EI-related concepts were left at the conceptual level and were never practically applied, which led students to not prioritize them. Both faculty and students agreed that any EI development must be incorporated into the program in order for it to be considered valuable.

The majority of students who took the EI ability questionnaire rated themselves as competent in their EI abilities. There were few differences related to age, primarily because the majority of students were within the same age range of 22–24. Demographic differences were not statistically significant, and neither were track differences. Similar numbers of male and female respondents considered themselves to be competent in their EI abilities, and differences were statistically insignificant.

**Interpretation of Findings**

**EI and public health competencies.** The DPHPM closely adheres to the requirements determined by the CEPH for program accreditation. These requirements not only define the academic goals and cognitive requirements of a public health professional but also provide a framework for the development of the noncognitive aspects of health care professionals. These abilities are crucial for graduate students in the health care field, as students with higher EI scores tend to suffer less stress during the course of their
academic programs, maintain better academic performance, and exhibit more prosocial behavior (Todres et al., 2010).

Several core and cross-cutting competencies in the DPHPM fulfill this function of addressing the noncognitive development of students. When considering the Mayer and Salovey (1990, 1997) four-branch model of EI, identifying problems within a community, making inferences about those problems, and applying ethical analysis in consideration of them all relate to the ability to accurately identify emotions as well as all of the needs related to them. This accurate identification and assessment of emotions, in turn, can result in greater compliance from patients as their own anxiety is diminished and their confidence in their health care provider grows (McQueen, 2004).

The ability of a public health professional to fully comprehend the emotional data being received, to discuss policy processes and their expected outcomes, and to understand how organizational and community improvements can be made within the framework of the existing data all relate to their ability to use emotions to facilitate thought. The ability to use data to efficiently plan public health interventions and promote policy changes relies heavily on the professional’s ability to evaluate emotional data and use such data to prioritize thinking and creatively problem solve. This provides the public health professional with more awareness when dealing with sensitive situations within communities and organizations and helps the professional consider all perspectives when planning interventions. This ability is also perceived as empathic, which does promote higher patient comfort and satisfaction (Austin et al., 2007) and is vital to EI behavior (Salovey & Mayer, 1990).

The CEPH competencies dealing with the accurate description of a health problem, the drawing of accurate inferences about the causes and magnitude of the
problem, and the development of appropriate interventions to target the problem are directly related to an individual’s ability to understand emotions. This third component of the four-branch model allows practitioners to make accurate predictions about how stakeholders will react emotionally when certain variables are involved and strategize their interventions accordingly (Todres et al., 2010). It further aids public health practitioners in their collaborative efforts with community and team members in that it helps them understand the complexities of emotions, facilitating teamwork and enhancing progress.

The importance of emotional management to the CEPH competencies is notable as well. The ability to manage emotions in oneself and others is crucial to the application of evidence-based approaches to public health interventions. Implementation of public health directives requires the practitioner to be open to both pleasant and unpleasant feelings, to engage or detach from any given emotional state when necessary, and to adequately monitor the emotional state of stakeholders. An individual skilled in EI is able to elicit desired responses from specific audiences and guide the impressions others have as needed (Salovey & Mayer, 1990), which is a key component to the execution of directives in social and behavioral sciences.

All of the major competencies required of public health practitioners relate in some way to EI. Regardless of whether the abilities are referred to as interpersonal intelligence (McQueen, 2004) or professionalism and communication skills (Grewal & Davidson, 2008), these abilities correlate with the fundamental processes involved in competency in public health care: quality of clinician–patient interactions and patient care, patient satisfaction, empathy, accuracy in identifying major health issues in communities, strategizing and implementing appropriate interventions to address these
issues, and promoting collaboration between individuals to encourage long-term increases in the health status of populations (Birks & Watt, 2007). For this reason, it is crucial that public health graduate programs attempt to develop these competencies that are often more highly prioritized in liberal arts programs but are also vital to fields that require understanding and management of individuals and their health (Oberst, Gallifa, Farriols, & Vilaregut, 2009).

**EI in the DPHPM.** During the course of interviews with members of the various stakeholder groups in the DPHPM, the topic of practical experience for EI training was raised most frequently. While faculty identified case studies as crucial to learning the major competencies in public health, they noted time and resource restraints as the main reason this practical application of material occurred less than they preferred. Students agreed that case studies and other practical exercises were the most effective way to integrate the material but also felt that this experience did not occur often enough throughout the course of the program.

The importance of practical application of EI concepts in order to promote development cannot be overlooked. Zeidner et al. (2002) stated that in order for an intervention to be successful, it must “make provisions for practice and for generalizing the domain of emotional skills across different class of behavioral performance” (p. 227). In order for meaningful learning to take place, students must have the opportunity to practice the required skills in a similar context to the one they will face in real life. Opportunities also should be given for these skills to be practiced both inside and outside the classroom. This way, students will be able to more readily apply the skills acquired to the unique situations that they will be confronting in their field. The collaboration involved in experiential learning also allows for a more comprehensive view of the
different perspectives involved in public health problems and their solutions. This collaboration provides a framework for students in which they are “both absorbing and being absorbed in the ‘culture’ of the community of practice within which they are placed” (Hodge et al., 2011, p. 174). It also creates an atmosphere of cooperation and acceptance as students begin to understand together what the goals of a public health education are, why they exist, and how to meet the objectives in the most effective and emotionally intelligent manner.

Students, faculty and administration also spend a significant amount of time discussing the abilities of current students in the department. Whereas most students felt that they were relatively competent in their EI abilities, faculty and administration noted weakness in the areas of self-awareness, appropriate self-expression, and cultural sensitivity.

It is not possible to have EI without the ability to identify emotions in self and others. An emotionally self-aware individual is able to perceive and decode emotional data that are received by way of facial expression and tone of voice (Salovey, Mayer, & Caruso, 2002). A fundamental aspect of this ability is the component of self-awareness, which includes a healthy amount of self-reflection in order to be aware of the emotions in oneself and in others. However, Caruso and Salovey (2004) stated, “Awareness is certainly an important component of emotional intelligence, but it must be accurate, not obsessive” (p. 36). Overly critical self-reflection can lead to feelings of inadequacy and depression that are counterproductive to the concept of EI. Additionally, awareness of emotional data helps individuals identify when emotions being expressed by others are not genuine and helps them make decisions accordingly.

A willingness to acknowledge emotions as a valuable component to the field of
health care is key to a student’s success. A study conducted on medical students in which they documented their reactions to traumatic medical incidents showed that students exhibiting more detached attitudes were later rated as having poor communication skills by standardized patients (Grewal & Davidson, 2008). According to Caruso and Salovey (2004), “Emotional suppression takes energy and attention that otherwise could be expended in the listening to and processing of information” (p. 14). Emotional awareness is, therefore, an imperative to the success of the health care professional.

Whereas faculty and administrators identified a lack of emotional awareness as a reason for the perceived low EI ability of students, the students were of the opinion that these weaknesses were a direct result of their negative emotions regarding the nature of the requirements of the MPH-to-MD track. In other words, the fact that many of the students were enrolled in the program simply to get the necessary grades to enter the medical school resulted in their feeling less engaged or willing to work on competencies that they did not consider to be on the same priority level as academics. This lack of prioritization of EI and many of the other public health competencies would certainly explain the perceived lack of emotional awareness, issues with interpersonal communication, and apparent lack of cultural sensitivity. When combined with the fact that the students claim that EI skills and cultural sensitivity generally remain on a theoretical level in the DPHPM, their own lack of prioritization is understandable.

Negative emotions are experienced more strongly than positive ones, perhaps because, evolutionarily, the consequences for taking risks can outweigh the potential benefits in many situations. Negative emotions can provide an individual with the caution necessary to survive in difficult circumstances and therefore must be accepted, though carefully managed (Caruso & Salovey, 2004). Many of the students in the DPHPM feel
their perceived lack of EI is due to their dissatisfaction with university admission procedures rather than an actual lack of ability; therefore, it is crucial for the department to acknowledge and appropriately manage these emotions in a way that promotes engagement. Students as well must be alerted to the impact of their negative perceptions, thus increasing self-awareness and helping them to embrace the vision of the public health program, in spite of less than favorable opinions regarding their placement in it.

According to Pontius and Harper (2006), the level of engagement of the students is a direct result of institutional quality. Although the acceptance of students into the DPHPM for the purpose of feeding into the medical program is a result of institutional policies outside the control of the department, if students are to be successful in the DPHPM, they must be sufficiently engaged. Research has shown surprisingly little correlation between standardized-examination scores and undergraduate grade point average and success in graduate school. There is, however, evidence pointing toward the importance to graduate school retention of appropriate orientation to graduate school, positive peer and faculty relationships, and student engagement. Programs most successful in engaging students provide very clear guidelines regarding program expectations prior to enrollment and a great deal of suitable academic advisement throughout the course of the program (Boyle & Boice, 1998). These programs also promote a great deal of interaction between faculty and students, foster an environment where collaboration is prioritized, promote active and experiential learning, provide timely feedback, regularly convey expectations, and show consideration for different approaches to learning (Pontius & Harper, 2006).

In order to minimize negative emotions and begin to acculturate students to the DPHPM, a comprehensive orientation must take place in which students are introduced
to the idea of EI at the same time as they are informed of departmental expectations. According to Boyle and Boice (1998), “It is the departmental culture, not necessarily the university culture, to which their incoming students will need to adjust” (p. 88). If the culture of the DPHPM is to be one that prioritizes EI development, it is crucial that this expectation, along with an introduction to the concept of EI and its importance to student success, be explicitly highlighted at the beginning of the program. This will allow all stakeholders to be aware of the concept of EI, acknowledge both positive and negative emotions from the outset, and begin to cultivate the emotional awareness that is so closely related to the desired competencies in public health.

When considering students’ perception of their EI ability on the 16-item questionnaire, it was clear they had a much higher assessment of their own abilities than did the faculty and administration. Although no students felt that they were highly skilled in the area of EI ability, the majority of students identified themselves as competent. This perceived competence remained when variables of origin, age, sex, and program were considered. Although the DPHPM is culturally varied in its student representation, the program is still a relatively young one, and therefore the cohort size was small. This could account for the fact that the variables provided negligible statistical differences that might be present with a larger group.

In spite of the fact that the questionnaire had very high internal reliability and content validity, research has shown that self-assessments of EI do often measure an individual’s perception rather than actual ability (Carr, 2009). Often, the types of questions on self-report surveys are not cognitively demanding and can be somewhat obvious to some respondents, making it possible to respond purposely in ways that would increase a score (Grubb & McDaniel, 2007). Additionally, self-report EI questionnaires
leave room for doubt as to whether or not an individual is cognizant enough of his or her own abilities to report them accurately. In order to avoid these questions, it is necessary to consider an EI-measuring instrument that accurately assesses an individual’s ability against the perspectives of experts and general consensus of social norms.

The MSCEIT is designed to assess how individuals perform very specific emotional tasks and work out emotional problems. Its reliability and validity have been extensively tested (Carr, 2009), and it is widely used as a measure of EI across various fields. The test was created based on developing scientific knowledge of emotions and how they work and became the first of its kind to test an individual’s ability rather than just subjective evaluation of the individual’s own skills. The MSCEIT achieves a number of accepted standards for assessing a new intelligence. These include the definition of a set of abilities that must be performed, a set of questions that have right or wrong answers, scores that compare to other intelligences while maintaining unique characteristics, and the fact that the scores tend to increase with age (Brackett & Mayer, 2003). The test is based on the four-branch model of EI and tests an individual’s ability to identify, use, understand, and manage emotions, with correct answers being determined by general and expert consensus (Mayer, Salovey, & Caruso, 2008b). The MSCEIT does this by asking respondents to complete tasks directly related to each of the four branches of EI. For example, in order to assess someone’s ability to identify emotions, a respondent is asked to study pictures of faces that are displaying a range of emotions and to identify what level of emotions the pictures are demonstrating. The correct answers to these questions have been determined by close analysis of universal social norms as well as by experts in the field of psychology with expertise in the area of emotions.

Although little research has been done on individuals in the health care field and
their performance on the MSCEIT, Grewal and Davidson (2008) described a study conducted on nurses, which showed that higher scores on the MSCEIT did positively correlate with better clinical performance. In order to evaluate the competency of students in the DPHPM, it will be necessary to measure the students’ self-perceptions against their scores on the MSCEIT, which can offer a more accurate assessment of their EI ability.

To make adequate recommendations regarding a proposed intervention to develop EI in the DPHPM first requires consideration of the results within the framework of the R&D model of program evaluation. First, the goal of any EI intervention within the department is to raise awareness about the importance of emotions in health care practitioners. It is particularly important to highlight this goal to students in the field of public health, where health management and administration and improvement of the health status of entire populations are the main objectives. The required competencies of public health naturally correlate with an individual’s ability to identify, use, understand, and manage emotions; therefore, incorporating explicit discussion about EI into the existing program will be a straightforward process. This EI intervention will parallel existing requirements for public health competency in order to reinforce present objectives and add an EI component.

Next, the skills, procedures, and tasks that would be required to conduct this intervention must be clarified. These tasks, supported by the work of Zeidner et al. (2002), include (a) a specific identification of the approach being chosen, in this case, the four-branch model of EI; (b) the identification of EI-developing goals within the program; (c) the acknowledgment of a clear cultural context for the intervention; (d) EI-building activities that are fully incorporated into the existing program; (e) EI-building
activities that target the classes that are most naturally suited to explicit discussion of these skills; (f) the training of faculty and staff in the area of EI in order to reinforce the foundation of EI in the program; and (g) a clear, psychometric process for assessing the program’s effectiveness, in this case, the MSCEIT.

The next step involves the identification of attitudes and skills of the current stakeholders, which leads to the establishment of realistic goals for the program. Because the DPHPM competencies are naturally related to EI abilities, this step simply will involve ways to work EI into currently existing activities. The main gap that exists in the DPHPM with regards to EI is the perception that students have regarding their own emotional abilities and how their self-perceptions differ from the faculty and administrations’ perceptions. All involved parties agree on the importance of EI in public health as well as the fact that the best way to incorporate skill building into the program is through practical application of the skills. Therefore, it is crucial to attempt to address ways of minimizing the perception of low student EI by raising awareness of emotions and their impact and attempting to engage students in the vision of the public health.

Recommendations for ways to incorporate EI into the DPHPM are the next step, along with an appropriate strategy to implement the proposed activities. At this time, specific activities that raise EI awareness, allow students to practice EI development, and promote student engagement in the main objectives of the DPHPM are the main foci of the intervention.

**Context of Findings**

When proposing interventions that develop EI in public health students, it is necessary to consider whether or not EI can be developed. The fact that scores on the MSCEIT are consistently higher for middle-aged adults than young adults indicates that
the skills required for EI can be developed and improved with time (Caruso & Salovey, 2004). Various studies that have been conducted in diverse populations, such as elementary school students, major business corporations, and nursing and medical students, have shown development in their EI ability (Cherry et al., 2012; Humphrey et al., 2007; Salovey et al., 2002). Most of these developmental programs work toward teaching social skills, conflict resolution, personal development, problem-solving skills, interpersonal skills, and communication (Salovey et al., 2002), which broadly include EI skills.

The inability to adequately define EI has been one of the most clearly identifiable weaknesses in past research. Skills being considered cannot simply be tangentially related to EI, but rather must adhere to a clear and accepted definition of what EI involves. The four-branch model does provide this clear framework that defines EI and limits the scope of what can be considered for development (Humphrey et al., 2007). Programs also must be clear about whether they are attempting to build EI or to provide the means to modify negative behaviors (Zeidner et al., 2002). Additionally, a program that will be successful will encourage lifelong learning and incorporate EI into the program; it will not be simply a workshop added on to the regular curriculum (Oberst et al., 2009; Zeidner et al., 2002).

According to Zeidner et al. (2002), the major benefits of EI training appear to be in the areas of raising awareness among students and encouraging educators to take emotions seriously in their respective fields. There is an increasing appreciation of the fact that intellectual, cognitive development relies heavily on the blend of cognition and emotions. For this reason, emotional development is now being seen as a key component to academic success. Given the fact that it is possible to acquire skills and knowledge to
enhance abilities in many areas, one may be optimistic regarding the possibility of increasing knowledge of emotions in order to improve abilities in EI.

**Implications of Findings**

When considering the particular issues raised by the stakeholders in the DPHPM, a program that is created to develop EI must raise awareness about its importance and impact on personal and academic success, be integrated into the courses that already discuss these topics, serve as reinforcement to the existing EI-related competencies of public health, include a component of cultural sensitivity, and encourage engagement in the vision of public health. In addition to these requirements, for the program to be successful, it must have clear objectives. The objectives of an EI intervention in the DPHPM are to raise awareness about emotions and their importance in the field of public health and to provide practical applications that will encourage integration of EI skills with public health competencies. Additionally, the intervention must be a collaborative effort among all stakeholders in the DPHPM, beginning with a comprehensive orientation to EI and providing skill development throughout the program and in different contexts. The intervention also must work to enhance the understanding of EI in faculty and administrators as well as students. This will ensure efficient implementation of the development program. Finally, the self-assessment questionnaire to determine the students’ self-perceptions of their EI abilities must be measured against their scores on the MSCEIT before and after the intervention. This will provide accurate monitoring and assessment of how students’ perceptions change as well as how their EI ability changes after participation in the program.

**Conclusions**

There has been an acknowledgement recently of the importance of EI in the field
of health care and how it improves communication in the clinical setting, increases empathy and professional behavior, and improves patient satisfaction. These skills are particularly important in the field of public health, where the main objective is to change health behaviors of communities and create policy for their long-term sustainability.

The purpose of this study was to evaluate current EI development in the DPHPM as well as attitudes regarding its importance in public health, in order to recommend ways to further incorporate EI into the program. The systems approach of evaluation was used to identify the goals of a department of public health related to EI and to create an intervention to further develop EI within the department. The research was conducted on a recently accredited public health department that is part of an off-shore medical school.

Faculty and student interviews demonstrated that major stakeholders in the DPHPM agree that EI is a crucial component to the field of public health and should be incorporated into the program. A close examination of the public health competencies and course objectives showed a correlation between Mayer and Salovey’s (1990, 1997) four-branch model of EI and the expected competencies in public health. Despite these correlations, stakeholders agreed that EI skills are not identified explicitly as related to their course objectives in the DPHPM, and practical application of these skills is not taught. Additionally, a self-report questionnaire showed that the majority of students in the DPHPM consider themselves to be competent in their abilities to identify, use, understand, and manage emotions, contrary to the expectations of their faculty and administrators. Students claim that this difference is due to an overall dissatisfaction with their acceptance status, making it difficult to prioritize EI and other public health competencies over academics. In order to bridge this gap in perception, it is important for several things to occur:
1. Students must be introduced to EI and its impact during the program orientation at the beginning of each term. This will create a culture in which EI is prioritized from the outset.

2. Courses with objectives related to EI should incorporate a practical application of EI concepts into case studies that also will serve to reinforce program and course objectives.

3. Faculty should be provided with the opportunity to develop an understanding of EI skills and collaborate to find ways to incorporate them into their courses.

4. Students should be invited to attend a seminar in EI and leadership, in order to further reinforce their understanding of emotions and their importance in management of community health.

5. The program should use the self-report questionnaire and the MSCEIT at the beginning of the program and at the end of each term in between in order to identify changes in EI and develop future interventions accordingly.

Limitations

The study was limited to the students and faculty in the DPHPM, which, as a recently accredited program, is still modest in size. Because the study was a program evaluation, the objective of gaining general information regarding attitudes and perceptions of the stakeholders was achieved. However, due to the small cohort size, variables such as demographics, sex, age, and program did not yield statistically significant information. As responses in the interviews varied depending on student’s enrollment status, a questionnaire result with higher statistical significance could be expected with a larger sample size. Additionally, given the fact that culture plays such a significant role in emotional display rules, the cultural variable could prove to be
significant with a larger cohort.

Self-report assessments also do not necessarily provide the most accurate information regarding an individual’s EI. Although the questionnaire showed high internal validity even when various questions were removed, an individual’s perception of his or her ability is often not as accurate as an objective performance-based measurement of that ability.

**Future Research**

Given the fact that the DPHPM is a culturally diverse program where the students are enrolled under very different requirements and with different expectations from one another, it would be interesting to investigate the correlation between country of origin and EI as well as program placement and EI. However, it is difficult to fully reflect on all of the variables involved in EI with a small sample size of participants. To consider differences in both self-reported and ability-based EI related to age, sex, place of origin, and program of study would require a sample size with many more participants from each category. Due to the size of the program, this would only be possible if the study was performed on a longitudinal basis, over the course of several years. This would yield the sample size required to make more concrete assertions regarding the impact of those variables.

Additionally, it would be interesting to administer the MSCEIT to each entering class, alongside the self-report EI questionnaire. This could then be repeated at the end of each term, and increases in either self-perception or actual ability could be considered. This would allow any correlations between self-perceived EI and actual ability to be noted, and future interventions could be created to bridge any gaps.
**Recommendations**

The purpose of this study was to evaluate current EI development in the DPHPM as well as attitudes regarding its importance in public health, in order to recommend ways to further incorporate EI into the program. A prescriptive needs analysis was conducted of the current state and development of EI in the DPHPM. The goals of the evaluation were to recommend a strategy for the incorporation of EI development in the existing program and to assess the effectiveness of the intervention for long-term promotion.

**Recommendation 1.** Incorporate an EI-building component into the program orientation at the beginning of each term. This will serve to introduce students to the concept of EI and raise awareness of its impact in public health. Additionally, this will create an environment of acceptance toward emotions and a culture of collaboration and acceptance from the beginning. The introductory session should be at least 1.5 hours long.

The first step to raising awareness regarding EI is to provide activities during a program orientation in which an individual can begin to understand how important EI is to everyday situations. During this session, students can begin to analyze how they identify, use, understand, and manage emotions in themselves and others. A good starting point is the use of the Emotional Blueprint (Caruso & Salovey, 2004), which asks individuals to consider a situation that brought out an emotional response and consider the following questions: What are the circumstances surrounding the event? How do the involved parties all feel? Why do they feel this way? How might those feelings change? What can be done to manage these feelings?

Additionally, students can be given cases for group discussion in which they are presented with a problem related to public health that elicits an emotional response and
then asked to identify the emotions present, how these feelings might be influencing everyone’s thought process, why the feelings might be present, and what can be done to manage these feelings. In this way, students familiarize themselves with the complexities involved in each particular emotional situation and begin to verbalize a plan for working through the process of managing them.

With regards to the ability to identify emotions, various activities can be recommended to both assess and develop awareness of this skill in an orientation setting. The first step is an assessment of students’ own skills in identifying their emotions. This can be done through the use of the mood meter, developed by Caruso et al. (2011), in which an individual plots his or her mood on a chart measuring both mood and energy level. Energy level ranges from high to low, and mood from unpleasant to pleasant. This mood meter then can be used to identify emotions in others, followed up by discussion about the facial expressions or nonverbal clues that allow people to make inferences about others’ moods.

Another activity involves the use of emotion scenario cards (Caruso et al., 2011), in which group members receive cards with an emotion written on each card. Each person in the group is given a card with a scenario on it and must attempt to act out the emotion nonverbally. The group then rates the participant on both the emotion being expressed and the authenticity of the expression. Individuals who most often guess correctly can be asked to explain how they determine real versus fake emotions, what the elements to understanding the emotions they see are, and what factors play into their ability to recognize the emotions they see (Caruso & Salovey, 2004). The activity will be most effective if it relates to possible scenarios that may be encountered during the course of students’ public health studies.
Many activities can be used to introduce the concept of emotional identification involving recognition of emotions being portrayed. Such activities, similar to activities suggested by Caruso et al. (2011), include identifying and discussing an emotion that an individual is portraying through a facial expression or vocal tone while relating a story or reading a scenario, using different vocal inflections and analyzing body posture during role play, or watching video clips with the sound turned off and discussing the different elements for each that make the emotion appear genuine or false. By using these activities, students will begin to familiarize themselves with the subtleties of how they and others express how they feel in different conditions.

Reflection on the ability to use or produce emotions can begin with a discussion of how easily students are able to change their feelings, empathize with others, lift their own mood when necessary, or lift others’ moods when necessary. It is important for students to recognize that all emotions can facilitate thought in some way, so a discussion about the different ways to use sadness, anger, fear, and surprise in order to solve problems is practical (Caruso & Salovey, 2004). Students can consider cases in which each of these emotions were useful and discuss the ways to use them productively. Students also can spend time recalling powerful emotions and then telling a story to their group in an attempt to generate these same emotions in others. This will teach them the impact that emotions have in a variety of situations, as well as provide them with strategies to use the emotions in productive ways.

In terms of activities to consider emotional understanding, students can first discuss how accurately they are able to predict how emotions will change in different circumstances. Additionally, students must consider their vocabulary when describing emotions, and the natural progression of emotions in real-life circumstances (Caruso &
Salovey, 2004). One useful activity would be to break the students up into groups and give each group a list of several of the expected tasks related to public health competencies. The students will then brainstorm all of the emotions that are experienced most frequently when fulfilling those competencies, and which of them are actually useful to the task and how they would reach the emotional states required to complete them. For example: when it comes to the competency of applying basic principles of ethical analysis to issues of public health practice and policy, students can list all of the emotions related to this task, their causes, which ones are most beneficial and what behaviors can be used to achieve the desired emotional state.

With regards to emotional vocabulary building, students can be presented with a list of emotional categories and all of the associated words that describe similar emotions. Students can discuss the subtleties of the differences between happiness and ecstasy, acceptance and trust, anticipation and vigilance, anger and annoyance and fear and apprehension, for example. They can then discuss scenarios where a progression is seen in between these emotions and talk about the causes (Caruso et al., 2011).

In relation to emotional management, students can be encouraged to ask themselves whether they tend to emphasize logical information over feelings, whether or not they tend to trust their intuition, what types of feelings they avoid, and what strategies they use to increase positive feelings in themselves. In an exercise adapted from the EI-skills training manual by Caruso et al. (2011), students can be asked to make a list of the top 10 things that they love to do and share them with their group. This allows students to reflect on the ways that they manage their negative feelings and reminds them that it is possible for them to do so. Students also can consider a public health case study and discuss the following questions: What emotions appear to be present here? What is the
goal of each of the people involved? What was each person concerned about? What caused them to feel this way? What did they do to manage their own or the other person’s feelings? What might they have done differently? These activities carried out in a session during the DPHMP orientation will provide the introduction they need about the concept of EI and how it relates to the field of public health.

**Recommendation 2.** Incorporate EI-building activities into the curriculum in the courses where it most intuitively fits. Specific attention must be paid to the course objectives and how they relate to the EI skills being developed. The most effective way to do this is through regular analysis of case studies related to both public health competencies and real-life scenarios encountered in the DPHPM.

The courses most suited to EI development include Concepts, Practice and Leadership of Public Health; Leadership and Management; Decision Making for Health Policy and Management; Social and Behavioral Aspects of Public Health; Principles of Environmental Health; and Health Policy and Management. EI is particularly relevant in these courses because course objectives are all dependent on an individual’s ability to identify, use, understand, and manage emotions in order to make decisions and implement strategies for improving the health status of populations.

Case studies that would be useful in these courses would relate directly to the course objectives, considering scenarios in which practitioners are required to identify health problems in populations, analyze causes and implications, strategize manners of addressing said problems while taking into consideration the perspectives of all stakeholders, and communicate and implement plans effectively. The EI component would take the discussion a step further by considering the Emotional Blueprint (Caruso & Salovey, 2004): What emotions are most likely present in the scenario? How might
these emotions affect the practitioner’s thought process for problem solving? Why are these emotions occurring, and what might happen next? How might these emotions be handled in order to reach desired objectives?

Additionally, students should be given more day-to-day scenarios in order for them to consider the impact of emotions in their daily interactions. An example of a scenario follows: You just completed your group primary school intervention for Leadership and Management. Everyone put forth a great deal of effort in preparing the intervention, and all group members were well prepared and ready to go. Unfortunately, the school combined three fourth-grade classes and brought them all into the intervention, so rather than having 35 students, your group presented to 70. The children were rowdy, and your ice-breaking activities only made them more so. You were able to make it through to the end of the presentation, but everyone felt scattered and frustrated by the time it was over. You received a less than favorable grade for your intervention, in spite of the fact that the PowerPoint and accompanying paper were perfectly done.

Students then would be asked to consider the scenario using the Emotional Blueprint in order to determine what emotions were present at the time of the intervention, what considerations should have been made given the state of those emotions, what could have changed the outcome, and how the emotions could have been better managed in order to meet desired goals.

These case-study scenarios will allow students to practically apply both the theories they learn in their respective courses and the EI skills that they learned during their orientation. They will have an opportunity to receive feedback from each other and from the faculty, which is a necessary component to EI development. The scenarios also will provide them with an opportunity to reflect on the competencies of public health and
consider practical applications. This will, in turn, promote understanding of the public health vision and ultimately facilitate engagement.

**Recommendation 3.** Provide faculty with an opportunity to become familiar with the concept of EI by working an EI component into faculty development workshops and faculty retreats. The faculty will be involved in the incorporation of EI skill building in their courses and should be provided with an opportunity to develop their skills independently of the students.

During the course of these sessions, faculty can be asked to apply the Emotional Blueprint to situations that they encounter daily during their interactions with students. This will allow faculty to reflect on causes of conflict or lack of engagement and brainstorm possible solutions with other faculty. During these sessions, faculty also can consider and create scenarios that can be used as practical applications of EI using their course objectives. This collaboration will help create a culture where EI is prioritized and integrated into the culture of the DPHPM, which will not only develop EI skills among students and faculty but also promote engagement among students.

**Recommendation 4.** Provide students with a voluntary seminar on EI in public health, with a focus on EI in leadership. Students should be given the opportunity to participate in a seminar that provides them with more advanced training in the area of leadership and management. Given the unique objectives of public health to motivate change in communities, a seminar that cultivates skills in the areas of teamwork, planning and problem solving, motivation, building a shared vision, and developing strong interpersonal communication would have a sizeable impact.

Students would be provided with an opportunity to consider cases where they were required to motivate change in an individual, community group, or organization.
They would be asked to consider what the desired goals of the intervention are, what involved parties might be feeling regarding the intervention, what causes them to feel this way, and what can be done to manage these emotions in a way that best reaches desired outcomes. Students will learn the importance of motivation and building a shared vision, and through discussion and guided reflection will learn to use the emotions that exist in multiple contexts to do this.

**Recommendation 5.** Evaluate the effectiveness of the intervention by assessing the students’ self-perception regarding their EI as compared to the measurement of their performance-based EI ability on the MSCEIT. An evaluation of EI based solely on self-assessment is less accurate than one that uses a performance-based instrument to measure EI ability (Brackett & Mayer, 2003). The self-report questionnaire is a notable tool in that it provides valuable information regarding an individual’s self-perception of abilities in the areas of emotional identification, usage, understanding, and management. Testing students with an instrument that has high reliability and content validity like the MSCEIT will allow for a comparison between students’ self-perception and actual ability, which will provide important data for tailoring interventions. Furthermore, using both measures to assess students after each school term will allow the department to track development and make changes accordingly.
References


Ozuah, P. O. (2005). First, there was pedagogy and then came andragogy. *Einstein Journal of Biology and Medicine, 21*, 83-87.


Appendix A

DPHPM Goals and Objectives
DPHPM Goals and Objectives

1. Strengthen the capacity of the DPHPM to support the instructional needs of the students.

2. Collaborate with the School of Veterinary Medicine in its application of veterinary medicine to the prevention of disease and promotion of health in human populations.

3. Prepare graduates who are proficient in public health competencies and practice leadership in the field.

4. Expand education and training opportunities to build or strengthen leadership and professional competencies in the workforce.

5. Increase the number of collaborative efforts with governmental and nongovernmental organizations, as well as community-based organizations, to improve the health and well-being of communities.

6. Conduct and advance public health research, particularly on problems that disproportionately affect the health of underserved populations, hence reducing health disparities.
Appendix B

DPHDM Competencies
DPHDM Competencies

DPHPM Core Competencies

1. Demonstrate effective written and oral skills for communicating with different audiences in the context of professional public health activities.

2. Apply basic principles of ethical analysis (e.g., the Public Health Code of Ethics, human rights framework, and other moral theories) to issues of public health practice and policy.

3. Apply the core functions of assessment, policy development, and assurance in the analysis of public health problems and their solutions.

4. Embrace a definition of public health that captures the unique characteristics of the field (e.g., population focused, community oriented, prevention motivated, and rooted in social justice) and how these contribute to professional practice.

5. Differentiate between qualitative and quantitative evaluation methods in relation to their strengths and limitations.

DPHPM EI-Related competencies

1. Describe a public health problem in terms of magnitude, person, place, and time.

2. Comprehend basic ethical and legal principles pertaining to the collection, maintenance, use, and dissemination of epidemiological data.

3. Communicate epidemiologic information to lay and professional audiences.

4. Draw appropriate inferences from epidemiological data.

5. Apply descriptive techniques commonly used to summarize public health data.

6. Develop written and oral presentations based on statistical analysis for both
public health professionals and educated lay audiences.

7. Discuss the policy process for improving health status of populations.

8. Apply quality and performance improvement concepts to address organizational performance issues.

9. Identify the causes of social and behavioral factors that affect health of individuals and populations.

10. Identify individual, organizational, and community concerns, assets, resources, and deficits for social and behavioral science interventions.

11. Describe the role of social and community factors in both the onset and solution of public health problems.

12. Describe the merits of social and behavioral science interventions and policies.

13. Apply evidence-based approaches in the development and evaluation of social and behavioral science interventions.

14. Describe the direct and indirect human, ecological, and toxicological effects of major environmental agents.

15. Specify approaches for assessing, preventing, and controlling environmental hazards that pose risks to human health and safety.

16. Demonstrate effective written and oral skills for communicating with different audiences in the context of professional public health services.

17. Apply basic principles of ethical analysis (e.g. the Public Health Code of Ethics, human rights framework, and other moral theories) to issues of public health practice and policy.
Health Policy and Behavior EI Competencies

1. Describe the steps and procedures for the design, implementation, and evaluation of empirically supported interventions and policies that are directed towards identified public health issues.

2. Demonstrate leadership skills for building partnerships.

3. Integrate theory and practice to the measurement, analysis and explanation of population and individual health from cultural, socioeconomic, ethnic, and regional groups in the United States and global health settings.

4. Recognize the implications of health disparities among specific populations and describe multiple levels of health-promotion interventions and health service-delivery systems designed to address these disparities.

5. Communicate and think critically and creatively to solve problems and make decisions related to health policy, management, and health-promotion programming.

6. Analyze options for the financing, regulating, and delivery of health care services and public health systems in the United States and other nations.

7. Establish and manage systems and processes to assess organizational performance for continuous improvement of quality, safety, and effectiveness.

8. Demonstrate an understanding of professional and ethical issues related to stakeholder participation in the assessment and prioritization of community and population needs, program planning, and evaluation.
Appendix C

Checklist for the Four-Branch Model of EI
Checklist for the Four-Branch Model of EI

Emotional Identification and Expression
__ Ability to identify emotion in one’s physical and psychological states
__ Ability to identify emotion in other people
__ Ability to express emotions accurately and to express needs related to them
__ Ability to discriminate between accurate/honest and inaccurate/dishonest feelings

Emotional Facilitation of Thought (Using Emotional Intelligence)
__ Ability to redirect and prioritize thinking on the basis of associated feelings
__ Ability to generate emotions to facilitate judgment and memory
__ Ability to capitalize on mood changes to appreciate multiple points of view
__ Ability to use emotional states to facilitate problem-solving creativity

Emotional Understanding
__ Ability to understand relationships among various emotions
__ Ability to perceive the causes and consequences of emotions
__ Ability to understand complex feelings, emotional blends, and contradictory states
__ Ability to understand transitions among emotions

Emotional Management
__ Ability to be open to feelings, both pleasant and unpleasant
__ Ability to monitor and reflect on emotions
__ Ability to engage, prolong, or detach from an emotional state
__ Ability to manage emotions in oneself
__ Ability to manage emotions in others

Appendix D

Interview Questions
Interview Questions

1. How might the four competencies of Emotional Intelligence (EI) be important in the field of public health?

2. How competent do you feel you are/the students are in the area of EI when you/they arrive to the program?

3. Do you feel like you/they grow in this area before you/they leave?

4. In what ways do the courses currently address the four competencies?

5. Is there any practical application of these skills in the program currently?

6. Do you ever give/have you ever been given feedback on how you/students are doing with these skills?

7. Do you feel that the nature of the program contributes to your/students’ abilities with EI?

8. Do you ever have an opportunity to deal with noncognitive issues in a one-on-one situation with professors/students?

9. Do you feel EI skill training has a place in your courses?

10. Can you think of any examples where interactions have gone completely wrong and you can attribute it to a lack of EI? Situations in the practicum? In the community? Student–faculty interactions?
Appendix E

Student Questionnaire
Student Questionnaire

How Much Do I Know About Emotional Intelligence?

Age:________  Sex: M  F  Country of origin: ________________

Program: MD/MPH  DVM/MPH  MPH to MD  Free-standing MPH

1. I accurately identify my own emotions.
   A. No skill or expertise
   B. Currently addressing weakness in this area
   C. Competent
   D. Above-average competency
   E. Highly skilled.

2. I accurately identify the emotions of others.
   A. No skill or expertise
   B. Currently addressing weaknesses in this area
   C. Competent
   D. Above-average competency
   E. Highly skilled

3. I notice nonverbal emotional cues in others.
   A. No skill or expertise
   B. Currently addressing weaknesses in this area
   C. Competent
   D. Above-average competency
   E. Highly skilled

4. I identify when people are not being honest with me.
   A. No skill or expertise
   B. Currently addressing weaknesses in this area
   C. Competent
   D. Above-average competency
   E. Highly skilled

5. If I need to increase my energy and mood, I manage to do that.
   A. No skill or expertise
   B. Currently addressing weaknesses in this area
   C. Competent
   D. Above-average competency
   E. Highly skilled
6. I am empathic and feel what others are feeling.
   A. No skill or expertise
   B. Currently addressing weaknesses in this area
   C. Competent
   D. Above-average competency
   E. Highly skilled

7. I use emotions to focus my thinking.
   A. No skill or expertise
   B. Currently addressing weaknesses in this area
   C. Competent
   D. Above-average competency
   E. Highly skilled

8. I change my emotions to suit the task at hand.
   A. No skill or expertise
   B. Currently addressing weaknesses in this area
   C. Competent
   D. Above-average competency
   E. Highly skilled

9. I am able to describe my emotions using sophisticated vocabulary.
   A. No skill or expertise
   B. Currently addressing weaknesses in this area
   C. Competent
   D. Above-average competency
   E. Highly skilled

10. I understand how emotions change and develop.
    A. No skill or expertise
    B. Currently addressing weaknesses in this area
    C. Competent
    D. Above-average competency
    E. Highly skilled

11. I know what causes emotions.
    A. No skill or expertise
    B. Currently addressing weaknesses in this area
    C. Competent
    D. Above-average competency
    E. Highly skilled
12. I am able to predict how people’s feelings will change.
   A. No skill or expertise
   B. Currently addressing weaknesses in this area
   C. Competent
   D. Above-average competency
   E. Highly skilled

13. I am able to maintain a good mood.
   A. No skill or expertise
   B. Currently addressing weaknesses in this area
   C. Competent
   D. Above-average competency
   E. Highly skilled

14. I am able to change a bad mood.
   A. No skill or expertise
   B. Currently addressing weaknesses in this area
   C. Competent
   D. Above-average competency
   E. Highly skilled

15. I use a mix of logic and intuition to guide my decisions.
   A. No skill or expertise
   B. Currently addressing weaknesses in this area
   C. Competent
   D. Above-average competency
   E. Highly skilled

16. I try to stay open even when I experience something unpleasant.
   A. No skill or expertise
   B. Currently addressing weaknesses in this area
   C. Competent
   D. Above-average competency
   E. Highly skilled