Use of Online Educational Modules to Improve Occupational Therapy Students' Knowledge and Perceptions of Their Emotional Intelligence Skills: An Evidence-Based Pilot Study

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Abstract

Many current students studying in health care professions lack skills in communication, socialization, and decision-making that can lead to an inability to recognize and manage emotions, indicating a need for emotional intelligence training in university health field curricula. This article presents an evidence-based study that used a new approach to education using online emotional intelligence modules within a graduate occupational therapy program to supplement the program's curriculum. The study was completed over six and one-half weeks and included 28 second-year graduate occupational therapy students. A pre/post-survey design was used to determine participants' knowledge and their perceptions of their own emotional intelligence skills before and after the completion of six online educational modules and five reflective online activities. Students reported improved perceptions of their own emotional intelligence skills as well as increased knowledge of the key components of emotional intelligence after participation in the online education. The greatest perceived changes were reported in self-awareness (+14.1%) and social awareness (+12.2%), followed by relationship management (+10.0%) and self-management (+8.3%). Additionally, in response to open-ended questions, students identified the perceived benefits of improved emotional intelligence as leading to future success in the classroom and clinical fieldwork affiliations. The emotional intelligence modules and reflective online activities may provide a new approach to the delivery of emotional intelligence education, appealing to today's students.

Keywords

Reflection, survey research, online education, occupational therapy, higher education

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ABSTRACT

Many current students studying in health care professions lack skills in communication, socialization, and decision-making that can lead to an inability to recognize and manage emotions, indicating a need for emotional intelligence training in university health field curricula. This article presents an evidence-based study that used a new approach to education using online emotional intelligence modules within a graduate occupational therapy program to supplement the program's curriculum. The study was completed over six and one-half weeks and included 28 second-year graduate occupational therapy students. A pre/post-survey design was used to determine participants' knowledge and their perceptions of their own emotional intelligence skills before and after the completion of six online educational modules and five reflective online activities. Students reported improved perceptions of their own emotional intelligence skills as well as increased knowledge of the key components of emotional intelligence after participation in the online education. The greatest perceived changes were reported in self-awareness (+14.1%) and social awareness (+12.2%), followed by relationship management (+10.0%) and self-management (+8.3%). Additionally, in response to open-ended questions, students identified the perceived benefits of improved emotional intelligence as leading to future success in the classroom and clinical fieldwork affiliations. The emotional intelligence modules and reflective online activities may provide a new approach to the delivery of emotional intelligence education, appealing to today's students.

INTRODUCTION

The current generation of students may lack attributes of emotional intelligence, indicating an increased need for emotional intelligence training in university curriculums (Andonian, 2013; Fischer & Fischer, 2003; Hills, Ryan, Smith, & Warren-Forward, 2011; Volberding, Baghurst, & Brown, 2015). Emotional intelligence includes the ability to recognize, control and manage emotions and contributes to students' success at work, school, and in their personal lives (Birajdar, 2016; Bradberry & Greaves, 2009; Davis & Rosee, 2015). Research shows that students who have limited emotional intelligence often have performance deficits in didactic coursework and clinical education, which have been associated with degree non-completion in a six year follow up after university enrollment (Keefer, Parker, & Wood, 2012). Literature supports the potential for emotional intelligence improvement through a variety of teaching methods including learning activities and discussion (Vishavdeep, Sunita, Karobi, Prahbhjot, & Sandhya, 2016). Therefore, the purpose of this study was to determine if a series of online educational modules on emotional intelligence provided to graduate occupational therapy students could improve students' knowledge and perceptions of their own emotional intelligence skills, as well as the perceived benefits of emotional intelligence to academic and fieldwork success.

LITERATURE REVIEW

Emotional Intelligence

Emotional intelligence is essential to student success and includes four critical elements including self-awareness, self-management, social awareness, and relationship management. First, self-awareness is the ability to notice one's own emotions as they occur, including physiological changes in one's body and knowing one's emotional tendencies towards situations or individuals (Bradberry & Greaves, 2009). Self-awareness has been linked to enhanced clinical competence and can help students to become more aware of their reactions to clients, events, and challenges, thus increasing the potential to perceive emotions and make positive behavioral changes (Thorpe & Barsky, 2001). Secondly, self-management is the ability to use one's self-awareness to direct behavior and is comprised of qualities such as the ability to prepare oneself for change while remaining flexible and adaptive, and exhibiting the ability to take time in a situation to formulate a more objective view (Bradberry & Greaves, 2009). Social awareness is another component of emotional intelligence and consists of the capacity to perceive others' emotions and recognize how they are feeling. Examples of social awareness include the ability to pick up the tone of a room, empathize with others, and actively listen. Lastly, relationship management is the ability to use social awareness to manage interactions with others and consists of attributes such as being sensitive to others' feelings, getting along with others, efficiently handling conflict, and utilizing clear communication (Bradberry & Greaves, 2009).

Emotional Intelligence and Performance

Literature shows that limited emotional intelligence has been noted among university students in bachelor's to doctorate level programs in various fields of study, including those in the healthcare professions. Foster et al. (2018) found that nursing, pharmacy,

and dentistry students all had lower emotional intelligence than that of the general population. Previous research confirms similar findings of lower levels of emotional intelligence among other healthcare professional students, including dental students (Ravichandra et al., 2015) and nursing students (Holston & Taylor, 2016; Marvos & Hale, 2015). This lack of emotional intelligence can potentially impact students' future success (Andonian, 2013; Nelis, Quoidbach, Mikolajczak, & Hansenne, 2009; Orak et al., 2016; Pool & Qualter, 2011; Vishavdeep et al., 2016). Evidence reveals that many university students lack emotional intelligence qualities such as discipline and empathy, and those same students present with anxiety that can impact the management of emotions (Konrath, O'Brien, & Hsing, 2011; Newton, 2000). Specifically, occupational therapy students with lower levels of emotional intelligence demonstrate performance deficits in academic coursework and clinical fieldwork affiliations (Andonian, 2013; Grenier, 2015). Andonian (2013) completed a study with 199 occupational therapy student participants in different fieldwork practice settings and found that the presence of emotional intelligence, having a choice in practice setting, and having previous professional experience in a related setting, were all positively correlated with fieldwork performance scores. Similarly, Thorpe and Barsky (2001) reported that self-awareness, a vital component of emotional intelligence, has been linked to enhanced clinical competence in nurses. Improved emotional intelligence can increase the potential to perceive emotions and make behavioral changes, which could help students to become more aware of their reactions to clients, events, and challenges. As students enter professional fields, there is a critical need for the improvement of emotional intelligence among university students.

Impact of Education on Emotional Intelligence
Literature supports that knowledge and perceptions of emotional intelligence skills can be improved through education on emotional intelligence (Fischer & Fischer, 2003; Pool & Qualter, 2011; Vishavdeep et al., 2016); in addition, some studies confirmed that actual behavior related to components of emotional intelligence was linked to similar education (Fischer & Fischer, 2003; Nelis et al., 2009; Pool & Qualter, 2011). In these prior studies, the method of education delivery and the frequency and duration of education varied greatly. Methods included: 2-hour classes taught weekly for eleven weeks comprised of lectures, video clips, case studies, group tasks, discussions, and role plays (Pool & Qualter, 2011); 2.5-hour group sessions once a week for four weeks (Nelis et al., 2009); 2-hour class sessions once a week for eight weeks (Orak et al., 2016); seven 1-hour sessions over four weeks comprised of classroom teaching, activities, and discussion (Vishavdeep et al., 2016); and a 16-week semester of learning dedicated to discussions and writing related to emotional intelligence (Fischer & Fischer, 2003). In each of these studies, the education was conducted face-to-face in a group format with facilitation by a faculty member. These studies showed positive outcomes with education ranging from 7 to 24 hours and occurring for a minimum of four weeks, and the education focused on one or more of the four components of emotional intelligence.

Emotional Intelligence in Occupational Therapy Curricula
Despite these positive outcomes, emotional intelligence components are typically

woven into some courses within occupational therapy curricula but are seldom addressed comprehensively. Emotional intelligence components have been studied as outcomes of courses or course activities; however, there is limited evidence regarding the purposeful design of these activities to promote improvement of emotional intelligence skills. For example, Maloney and Griffith (2013) studied outcomes of an occupational therapy program service-learning experience; while the experience was not specifically designed to promote improved emotional intelligence skills, the analysis of student reflective journals revealed increased self-awareness and therapeutic communication skills, which are components of emotional intelligence. Additionally, Hammel et al. (1999) developed a problem-based learning curriculum for occupational therapy students and examined the impact this style of learning had on students' perceptions of occupational therapy knowledge and skills. An unexpected resultant theme was students' perceptions that the problem-based learning helped them to development professional behavior skills, such teamwork and self-management.

Accredited occupational therapy programs may not currently provide stand-alone emotional intelligence courses; however, components of emotional intelligence skills are seen within several accreditation standards, so programs may need to consider alternative and creative ways to integrate valuable information on emotional intelligence into their curriculums. Programs must meet all accreditation standards, and aspects of emotional intelligence are seen in intervention planning and leadership and management standards. Specifically, a need for positive interpersonal and interprofessional skillsets is seen in standards B.5.20 and B.5.21 (ACOTE, 2018). These standards state that programs must ensure that students "effectively interact through written, oral, and nonverbal communication with the client, family, significant others, communities, colleagues, other health providers, and the public in a professionally acceptable manner" and that students are "prepared to effectively communicate and work interprofessionally with those who provide care for individuals and/or populations in order to clarify each member's responsibility in executing components of an intervention plan" (ACOTE, 2018). In addition, increasing student awareness and self-perception of their own emotional intelligence also relates to standard B.9.6 which states that students must "discuss and evaluate personal and professional abilities and competencies as they relate to job responsibilities" (ACOTE, 2018).

One possible way programs may be able to meet these standards is with the provision of emotional intelligence education in an online format, as online learning offers a convenient, flexible, and time and cost-effective answer. University students regularly use technology as an educational resource to supplement classroom learning, which is essential in preparation for the delivery of patient care (Maloney, Tai, Paynter, Lo, & Ilic, 2013; Ruehter, Lindsey, Graham, & Garavalia, 2012). Online module learning experiences have been shown to increase students' understanding of educational content, skills application, and confidence to achieve desired outcomes in the learning environment (Ruehter et al., 2012). Additionally, web-based modules can improve students' access to educational content during the time which students have additional academic priorities (Maloney et al., 2013). Recommendations to enhance online self-directed learning include the creation of resources that are time efficient, sustain a link

to clinical contexts, incorporate a method for student feedback, and use an eye-pleasing presentation format (Maloney et al., 2013).

While there is much support for the improvement of emotional intelligence, no studies to date have explored the use of online modules to teach emotional intelligence education among different fields of study, including occupational therapy. Benefits of utilizing online modules in occupational therapy education could include the improvement of students' emotional intelligence while allowing sufficient time to address all required standards in the curriculums, and possibly prevent faculty and student burnout. Therefore, the purpose of this study was to determine if a series of online educational modules on emotional intelligence provided to graduate occupational therapy students could improve students' perceptions of their own emotional intelligence skills, as well as their knowledge of the components of emotional intelligence and the perceived benefits of these skills to their academic and fieldwork success.

METHODOLOGY
A Level III pre/post-survey design was chosen to examine the effectiveness of the online emotional intelligence education and the study was approved by the Stockton University Institutional Review Board. The study occurred over a period of six weeks in the fall of 2017, with all participants completing a series of six asynchronous, narrated, online learning modules and five online reflective activities on emotional intelligence delivered through the Blackboard Learning Management System. While the intention was for participants to complete the modules and activities sequentially, all modules and activities had a one-time release and participants had the ability to complete them at any pace and in any order.

Study Participants
Convenience sampling was used to recruit 30 second-year master's level occupational therapy students, who provided informed consent to participate in the study; the final sample size was reduced to 28 due to missing survey responses for two participants. Inclusion criteria for all participants consisted of access to personal computers with internet service and the Blackboard Learning Management System, and the ability to fulfill the 4.5-hour time requirement over six and one-half weeks. The participants included 5 males and 23 females ranging in age from 23-31 years. All participants had completed at least one year of graduate school and an 80-hour Level I fieldwork affiliation in a pediatric practice setting before participating in the study; 82% (n=23) completed more than 40 unpaid volunteer hours with an occupational therapist, and 57% (n=16) stated they had prior experience working in healthcare settings.

Development of Educational Modules
The Mayer Salovey Four Branch Model of Emotional Intelligence was used as the theoretical foundation in designing the educational modules for this study (Caruso & Salovey, 2004). This model proposes four areas or branches of emotional intelligence including the need to (1) identify emotions (self-awareness), (2) use emotions to guide thinking (self-management), (3) understand emotions (social awareness), and (4) manage emotions (relationship management; Caruso & Salovey, 2004, p. xi). The first

author created additional content for the modules based upon a critically appraised topic portfolio which contained 12 research articles focused on emotional intelligence education published between 1998-2016 and consisted of: four Level II cohort designs; one Level III single case design; two Level III case-control designs; two Level IV cross-sectional designs; one mixed method design; and two qualitative grounded theory designs. After critical appraisal, these 12 studies were deemed to be the best available evidence regarding the structure and content of emotional intelligence education to promote positive outcomes related to emotional intelligence, and therefore, they served to inform the structure and content for this study. The second author reviewed the modules for quality after the initial development. The time commitment for each module and the corresponding activities was not expected to exceed 30-45 minutes. Table 1 provides further clarity regarding the content of each module, the branch(es) of emotional intelligence addressed, the reflective activities, and survey administration.

Table 1

Study Implementation Schedule

Module	Topic	Branch of Emotional Intelligence Addressed	Reflective Activity	Assessment	Expected Time Commitment
1	Basics of emotional intelligence, components, & examples	1-4	Embedded multiple choice quiz completed after Module 1 testing recall of information	Pre-survey completed prior to the start of Module 1	30-45 minutes
2	Importance of emotional intelligence in occupational therapy	1-4	Forum post demonstrating understanding of the significance of emotional intelligence to occupational therapy		30-45 minutes
3	Classroom & clinical scenarios about emotional intelligence	1-4	Forum post demonstrating applied knowledge of emotional intelligence through analysis & predictions		30-45 minutes
4	Review of video clips showing positive and negative examples of emotional intelligence	1-4	Forum post reflecting on conclusions drawn after analyzing video clips		30-45 minutes

5	Use of feedback for increasing self-awareness, social awareness and self-management	1-3	Forum post showing creation of 3 strategies to improve one's own behavior based on improved self & social awareness gained through feedback		30-45 minutes
6	Alternative ways to improve self-awareness & management during perceived high stress scenarios	1-2	Video tape role play of self-management during scenarios & self-reflection	Post-survey completed after the conclusion of Module 6	30-45 minutes

Outcome Measures

The use of a pre-test post-test design to measure changes in emotional intelligence was an identified theme in an extensive review of the literature (Andonian, 2013; Fischer & Fischer, 2003; Nelis et al., 2008; Pool & Qualter, 2012; Schutte et al., 1998). Two valid outcome measures used in prior research (Andonian, 2013; Pool & Qualter, 2012) for measuring change in emotional intelligence abilities were identified: the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT; Caruso & Salovey, 2004) and the Emotional Intelligence Appraisal (Bradberry & Greaves, 2015). However, since changes in actual emotional intelligence skills were not anticipated during the short duration of this study these measures were not appropriate to use in this study.

For this pilot study, the focus was on trait emotional intelligence, or self-perceptions of emotion-related attributes, which are best measured via self-report measures (Pérez, Petrides, & Furnham, 2005). While a number of these measures (comprised of mostly Likert-scale statements) exist, they are not without limitations; some are less comprehensive, include irrelevant information, or have not been studied extensively related to psychometric properties (Pérez et al., 2005). Since self-report measures were deemed the most appropriate for assessing one's self-perceptions of emotional intelligence, and none of the existing tools had high reliability and validity or included specific applicable items related to occupational therapy practice, author-generated surveys were created specific to this study's purpose. The first author created an electronic self-report pretest and posttest to measure participants' perceived level and knowledge of emotional intelligence before and after the modules. The created surveys included Likert scale statements that were peer-reviewed by the second author, who is an expert in survey design, as well as ten licensed, practicing occupational therapists, to ensure the wording was clear. After revisions were made based on their feedback, the surveys were deemed valid for the purpose intended. The pre-survey included five open-ended questions used to assess knowledge of emotional intelligence, 20 Likert scale statements used to determine the participants' level of emotional intelligence, and seven demographic questions. Five Likert scale statements were included for each of the four components of emotional intelligence, with both positive and negative behavioral statements associated with each component, for a total of 20 statements. The posttest

was identical to the pretest but omitted the demographic questions and included three additional open-ended questions to elicit feedback on the modules themselves. Pretest and posttest survey questions are included in Appendix A.

Data Analysis
Descriptive statistics were used to analyze responses to pre and posttest surveys. Prior to analysis, the second and third authors reviewed the 20 Likert scale questions and collaboratively determined which questions were most representative of the 4 components of emotional intelligence; this process resulted in removal of several questions from the analysis due to perceived ambiguity in question construction which may have compromised question validity. The questions used in the analysis can be found in Table 2. While the survey questions were originally peer-reviewed, due to the pilot-nature of this study, they were not piloted on actual student participants. Additionally, analysis of question responses provides further insight to question validity for future research studies on this topic. Responses from the selected questions were entered into Microsoft Excel and mean responses for each question pre and post, as well as the aggregate percent change per category of emotional intelligence were calculated.

Content analysis was used to examine the participants' open-ended survey responses; reoccurring themes were extracted, and responses of similar meaning were clustered together. Initially, the first author independently completed this analysis, followed by a second independent analysis by the second and third authors. Finally, all three authors met to discuss the resultant themes; it was determined that each analysis resulted in similar themes, with slight variances in the terminology used to describe each one. The authors then worked collaboratively to determine the most appropriate terminology to represent each theme.

RESULTS
Survey results indicated the participants reported improved perceptions of their own emotional intelligence skills in each of the four components of emotional intelligence based upon responses to the questions in Table 2. The most substantial improvements were related to self-awareness, with social awareness and relationship management sharing the second and third highest improvements, respectively. The component of self-management showed the smallest level of improvement. Table 2 provides the mean pre and post Likert scores for the survey questions most representative of each component of emotional intelligence. Figure 1 provides further clarity on the reported percent change in perceptions of each component of emotional intelligence.

Table 2

Mean Pre- and Post-Likert Responses by Survey Question (n=28)

Component of Emotional Intelligence	Survey Question	Mean Pre-Survey Likert Response	Mean Post-Survey Likert Response	% Change
Self-Awareness	Q6: I feel confident in my ability to identify my emotions as they occur.	4.11	4.68	13.87%
Self-Awareness	Q7: I can identify a personal inadequacy in the way that I react to stressful situations.	3.61	4.21	16.62%
Self- Management	Q11: I handle stressful situations well.	3.21	3.75	16.82%
Self- Management	Q12: I can embrace change quickly.	3.32	3.57	7.53%
Self- Management	Q13: I consider all choices before making a decision.	4.14	4.36	5.31%
Self- Management	Q15: I focus on the positive factors that exist when making an unwanted change.	3.82	4.11	7.59%
Social Awareness	Q17: I am open to receiving constructive feedback from other people.	4	4.5	12.5%
Social Awareness	Q18: I read people's body language to help recognize their feelings.	4.21	4.68	11.16%
Relationship Management	Q22: My body language matches what I am saying.	3.86	4.21	9.07%
Relationship Management	Q24: I do small things to show people appreciation.	4.32	4.64	7.41%
Relationship Management	Q25: I balance sharing information about myself and asking questions about other people.	3.89	4.43	13.88%

Note: Likert scale: 5=strongly agree; 4=agree; 3=neither agree nor disagree; 2=disagree; 1=strongly disagree.
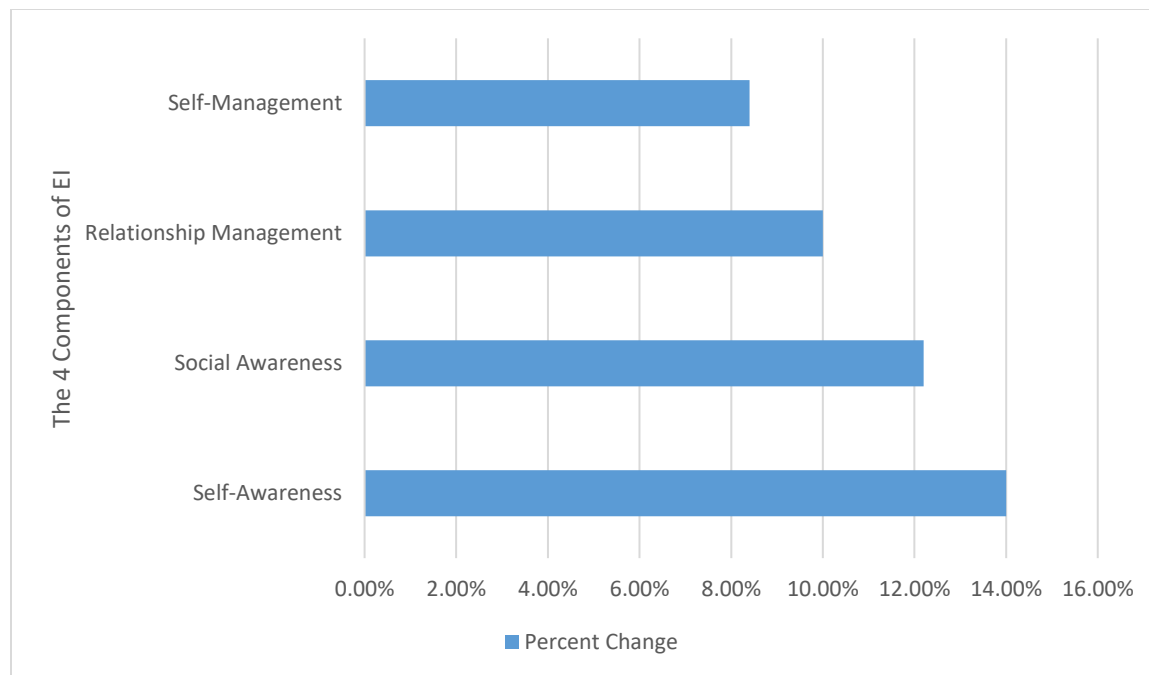
Figure 1. The percent change in perceptions of components of emotional intelligence from pretest to posttest (n=28).

Analysis of the open-ended questions on the posttest survey resulted in the extraction of several themes related to the value of the modules and recommendations for the future. Ninety-six percent (n=27) of participants recommended using online modules to teach emotional intelligence to future graduate occupational therapy students. Themes included the application of knowledge on emotional intelligence for successful classroom interactions, clinical fieldwork performance, future entry-level occupational therapy practice, and personal interactions; the need to understand one's own emotional intelligence to effectively help others; and recommendations of where in the curriculum this education might be most beneficial. Specifically, participants suggested that the education occur earlier in the academic program to help with relationships and communication before the initiation of fieldwork and group work in the classroom. Several supporting quotes from participants related to each extracted theme are included in Table 3.

Table 3

Quotes Supporting Themes from Open-Ended Survey Questions

Theme	Participant Quotes
Future application of knowledge on emotional intelligence	"I felt that it was refreshing to think more deeply about all of the concepts as it helped bring awareness of EI to the forefront of my mind. I am thankful that while I am in school, I can reflect of the 4 concepts on EI and apply them to situations that may occur."

"I learned a lot about the valuable trait of emotional intelligence and feel I can use it in my life going forward. I feel that future students would benefit from completing these modules and they would also be able to apply emotional intelligence traits to their fieldwork, schoolwork, and everyday lives."

"Being able to review real life case scenarios and be able to react to them in ways that are appropriate for the classroom and workplace settings are important lessons that I learned."

"I would recommend module completion for occupational therapy graduate students as first years because emotional intelligence skills are extremely important skills to possess which will carry over in the classroom, fieldwork, and workplace."

Need to understand one's own emotional intelligence	"I would recommend this module for completion because it is not something we learn about in class. As occupational therapists, we may be working to help others determine their self-worth after a debilitating injury. If this is the case, it is important to understand your own emotional intelligence before helping someone else to determine theirs. "
	"I found the modules to be helpful and the videos help me relate all the information to experiences that I could identify with. It is important to reflect on yourself to go forward with group projects and clinical fieldwork affiliations. "
	"In order to be a part of a group, it is necessary to have a good understand of one's self and how certain behaviors can affect other individuals. When working in group projects, it is helpful to understand group member's strengths and challenges by having good social awareness in order to break down assignments based on individual's qualities. Because school often has stressful times (ex. midterm week/ finals week) it is helpful to have a good understanding of one's self and the challenges one has as well as the strengths in order to adjust behavior effectively to avoid conflict with others."
	"Emotional intelligence is linked to success at clinical fieldwork affiliations because it is important for OT students to be receptive to their patient's needs and feelings, so they feel comfortable enough to open up."
Recommendations for future	"Although I did enjoy the emotional intelligence modules and felt like I gained a lot of knowledge, it would have been helpful to

emotional intelligence education	have these prior to the semester. On top of the other assignments and due dates it was very stressful to try and complete all of the modules during the semester. It would have been helpful to do these modules in the summer, that way more time could have been spent focusing on the modules instead of trying to fit them in during the semester whenever possible."
	"[It is] more specific to first-year students in their first semester. As OT students will need to maintain relationships with professors, peers, fieldwork educators, and future clients, it is critical to teach them about emotional intelligence as soon as possible. "
	"I think it would have been better to have included the emotional intelligence educational modules in the first semester of our MSOT program before beginning FW. Having this knowledge would be a great asset to have already possessed prior to fieldwork experience."

DISCUSSION

The purpose of this study was to examine if the completion of online module education on the components of emotional intelligence could improve graduate occupational therapy students' knowledge and perceptions of their own emotional intelligence. Pretest and posttest survey responses as well as participants' answers to open-ended questions revealed perceived improvements in components of emotional intelligence, and increased knowledge of emotional intelligence concepts, which aligns with findings from other studies. Although literature supports formal face-to-face education as a method to improve emotional intelligence among graduate and undergraduate university students studying in various fields (Fischer & Fischer, 2003; Nelis et al., 2009; Orak et al., 2016; Pool & Qualter, 2011; Vishavdeep et al., 2016), this study approached the topic of emotional intelligence education in a new way. Online educational modules and reflective activities were created for a graduate level curriculum to promote improved knowledge and perceptions of emotional intelligence by delivering the education in an online platform.

Positive gains were perceived in knowledge of all four components of emotional intelligence, with the greatest gains indicated in self-awareness (+14.1%) and social awareness (+12.2%) and smaller gains alleged in relationship management (+10.0%) and self-management (+8.3%). Results of this study align with transformational learning theory, where changes are expected in awareness and understanding prior to behavior change (Mezirow, 1991). The short six-week timeframe and the exclusively online delivery format of the emotional intelligence education may have limited participants' abilities to move beyond understanding the concepts to apply the content learned. Other programs that resulted in positive gains in relationship management and self-management occurred over greater lengths of time and included interactive activities where actual behavioral change could be modeled, practiced, and measured. For

example, a study with undergraduate psychology students showed the identification and management of emotion could be improved in a face-to-face group format two and one-half hours per week for four weeks, however the knowledge acquired during the group sessions could take up to six months to translate into applied skills. The intervention included short lectures, role plays, readings, group discussions, and two-person collaborations (Nelis et al., 2009). Bēta (2014) also discussed the importance of direct patient contact when moving from an informative state to an integrative state within the transformative learning process. Interactive or face-to-face activities using real life situations with patients in the classroom and clinical fieldwork placements may be helpful to demonstrate synthesis of emotional intelligence knowledge and allow students to practice managing their own behaviors.

While the participants reported positive gains in the components of emotional intelligence, the magnitude of change was likely impacted by the participants' prior experiences and education. On the pretest survey, 82% (n=23) of the participants reported more than 40 hours of unpaid volunteer hours with an occupational therapist; 57% (n=16) stated that they had paid experience working in a healthcare setting, and 100% (n=28) had completed an 80-hour Level I fieldwork in a pediatric setting. Higher participant pretest perceptions related to emotional intelligence may be attributed to these prior experiences, which in turn may have increased student work readiness and professional skills. This fact also aligns with prior literature indicating that previous work skills positively correlate with fieldwork success (Andonian, 2013). Likewise, while the components of emotional intelligence are not explicitly taught in the participants' curriculum, some of the skills, such as accepting feedback, are infused within education on professionalism and assessed on the Level I fieldwork performance evaluation. Similarly, practicing professional and personal boundaries is also assessed.

Limitations
Limitations of the study include the simultaneous release of all educational modules to participants, the small sample size from one academic program, the quality of some survey statements, and investigator bias. The online modules provided a time-efficient method of delivering the emotional intelligence modules, and the intention was for the participants to complete one module per week. However, all modules were released simultaneously to allow the participants greater flexibility for completion; actual times for completion of all the modules varied from just one week to nearly six weeks. These variations may have resulted in less reflection or ability to integrate the information, as the results illustrate limited changes in actual behaviors tied to emotional intelligence.

The study also did not include any follow up, so it is unknown if the education impacted the participants' later performance in coursework or fieldwork. The participant sample was small (n=28) and consisted of students who volunteered for the study from one academic program. The small sample size limits the ability to generalize results to a larger population, although the participants' demographics are representative of a typical graduate occupational therapy cohort. While wording of some survey statements is a noted limitation, these statements were not included in the data analysis. Additionally, collecting data with a self-report survey did not allow for objective assessment of actual

behaviors, though self-awareness of one's own emotional intelligence is a foundational step in matching skills and job responsibilities as related to ACOTE standard B.9.6 (2018). Finally, the participants and the first author had an academic relationship, which may have impacted participants' willingness to participate in the study as well as their survey responses. Use of the second and third authors to review the study procedures and analyze the data aimed to mitigate this limitation.

Implications for Occupational Therapy Education
Higher levels of emotional intelligence can positively impact academic and clinical fieldwork success, yet how to most effectively help students to develop these skills is unclear. Results of this study suggest that a series of six online educational modules may be an effective approach to increase self-awareness and perceptions of one's own emotional intelligence, which is an important foundational step in acting to change behaviors. However, due to this study's design, actual behavioral changes were not confirmed. While time-efficient, the short duration of the education and the exclusively online delivery method did not allow for practice or translation of the education provided. Coupling online delivery of emotional intelligence education with some interactive, face-to-face activities may be necessary to apply the information learned.

Other professions, such as medicine and nursing programs have already begun to address emotional intelligence in their curriculums and to incorporate these skills into advanced practice. The overall positive changes in this study suggest that online modules may be an effective way to integrate education into occupational therapy curriculums where there are competing time demands to meet other accreditation standards. Replication of this study is recommended with larger sample sizes from a variety of universities with the addition of a more interactive component in addition to the online modules to determine if greater gains in actual behavior change could be achieved in this format. Additionally, further research should include examining the most beneficial time to introduce emotional intelligence education in the curriculum, exploring the recommended length of education for best outcomes and a lasting impact, and examining the correlation between students' level of emotional intelligence and their academic and fieldwork success.

CONCLUSION
Emotional intelligence is an important component of student success in both the didactic and clinical portions of occupational therapy curriculum. While studies have varied in delivery method and duration of education; overall, evidence supports the use of education to improve emotional intelligence skills (Fischer & Fischer, 2003; Pool & Qualter, 2011; Vishavdeep et al., 2016). Occupational therapy programs mindful of addressing emotional intelligence skills to meet ACOTE standards, but with limited time or resources available to support this need, may benefit from creative approaches to emotional intelligence education. This innovative, evidence-based, online module approach to emotional intelligence education demonstrates a cost-effective and time-effective solution for occupational therapy programs to comprehensively address emotional intelligence skills within existing curriculum. Improvements in student perceptions of their own emotional intelligence skills, as well as in their knowledge about

emotional intelligence were seen after participation in the educational modules. The results of this evidence-based study have implications for student success in the classroom and in fieldwork, as well as implications for success as entry-level clinicians.

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Appendix A: Pretest & Posttest Survey Questions

Pretest Survey

<u>Open-ended Questions</u>

1. Please write your name and then state your definition of emotional intelligence.
2. What personal skills are components of emotional intelligence?
3. What are some potential benefits of improved emotional intelligence in your academic classes?
4. How could emotional intelligence be linked to success at clinical fieldwork affiliations?
5. What are the best methods of instruction to teach emotional intelligence?

Likert Scale 5- strongly agree, 4- agree, 3- neither agree nor disagree, 2- disagree, 1-strongly disagree

6. I feel confident in my ability to identify my emotions as they occur.
7. I can identify a personal inadequacy in the way that I react to stressful situations.
8. I behave in ways that affect other peoples' ability to perform their duties.
9. I feel a physiological change in my body when I am in a tense situation.
10. I allow others to affect my emotional state.
11. I handle stressful situations well.
12. I can embrace change quickly.
13. I consider all choices before making a decision.
14. I avoid situations that make me feel uncomfortable.
15. I focus on the positive factors that exist when making an unwanted change.
16. I regret the things that I do when I am upset.
17. I am open to receiving constructive feedback from other people.
18. I read peoples' body language to help recognize their feelings.
19. I tend to set the tone of a room when I enter it.
20. I check my text messages during conversations with other people.
21. I share information about myself to maintain relationships.
22. My body language matches what I am saying.
23. I would rather be right in a difficult situation than come to a resolution.
24. I do small things to show people appreciation.
25. I balance sharing information about myself and asking questions about other people.
26. What is your age?
    18-22
    23-25 26-28
    29-32
    33 or older
27. What gender do you identify yourself to be?
    Female

Male

I prefer not to answer

28. From which school did you receive your undergraduate degree?

Health Sciences

Arts & Humanities

General Studies

Social and Behavioral Science Other

29. How many Level I fieldwork affiliations have you completed?

1

2

3

4

5

30. How many years of graduate education did you complete?

1

2

3-4

5-6

7 or more

31. How many occupational therapy volunteer hours have you completed?

Less than 20

21-40

41-80

81-120

121 or more

32. In your lifetime, how long have you worked in any paid position in a health care setting?

Never

Less than one year

1-2 years

3-5 years

6 or more years

Posttest Survey

Open -ended Questions

1. Please write your name and then state your definition of emotional intelligence.
2. What personal skills are components of emotional intelligence?
3. What are some potential benefits of improved emotional intelligence in your academic classes?
4. How could emotional intelligence be linked to success at clinical fieldwork affiliations?
5. What are the best methods of instruction to teach emotional intelligence?

Likert Scale 5- strongly agree, 4- agree, 3- neither agree nor disagree, 2- disagree, 1-strongly disagree

6. I feel confident in my ability to identify my emotions as they occur.
7. I can identify a personal inadequacy in the way that I react to stressful situations.
8. I behave in ways that affect other peoples' ability to perform their duties.
9. I feel a physiological change in my body when I am in a tense situation.
10. I allow others to affect my emotional state.
11. I handle stressful situations well.
12. I can embrace change quickly.
13. I consider all choices before making a decision.
14. I avoid situations that make me feel uncomfortable.
15. I focus on the positive factors that exist when making an unwanted change.
16. I regret the things that I do when I am upset.
17. I am open to receiving constructive feedback from other people.
18. I read peoples' body language to help recognize their feelings.
19. I tend to set the tone of a room when I enter it.
20. I check my text messages during conversations with other people.
21. I share information about myself to maintain relationships.
22. My body language matches what I am saying.
23. I would rather be right in a difficult situation than come to a resolution.
24. I do small things to show people appreciation.
25. I balance sharing information about myself and asking questions about other people.

Open-ended Questions
26. What did you find was the most valuable information gained after completing the modules?
27. What would you recommend change about the emotional intelligence educational modules?
28. Would you recommend module completion for occupational therapy graduate students in the future? If yes, then why?