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## The Impact of a Multi-Method Approach for Ethics Education on Occupational Therapy Students' Self-Efficacy and Confidence

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# The Impact of a Multi-Method Approach for Ethics Education on Occupational Therapy Students' Self-Efficacy and Confidence

## Abstract

The purpose of this study was to explore the effectiveness of a multi-method approach for ethics education. The investigators measured occupational therapy (OT) students' self-efficacy for ethical decision-making and explored their perception of what contributed to their confidence in understanding the American Occupational Therapy Association's (AOTA) *2020 Occupational Therapy Code of Ethics*. This one-group mixed methods study included twenty Master of OT students. Self-efficacy was measured via a pre-test and post-test using an adapted version of the New General Self-Efficacy Scale, and open-ended questions captured data regarding student perceptions of what contributed to their confidence. Students presented with high levels of self-efficacy after completing a multi-method approach for ethics education. The results of the Wilcoxon Signed Ranks Test approached statistical significance. Qualitative data analysis revealed two categories: factors that increased confidence and factors that decreased confidence. This study provides foundational evidence that multi-method education on ethics including a standardized simulation, reflection and an ethics assignment enhances OT students' self-efficacy for ethical decision-making and contributes to their confidence in understanding the OT Code of Ethics.

## Keywords

Self-efficacy, confidence, occupational therapy students, multi-method ethics education

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**The Impact of a Multi-Method Approach for Ethics Education on Occupational Therapy Students' Self-Efficacy and Confidence**

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**ABSTRACT**

The purpose of this study was to explore the effectiveness of a multi-method approach for ethics education. The investigators measured occupational therapy (OT) students' self-efficacy for ethical decision-making and explored their perception of what contributed to their confidence in understanding the American Occupational Therapy Association's (AOTA) *2020 Occupational Therapy Code of Ethics*. This one-group mixed methods study included twenty Master of OT students. Self-efficacy was measured via a pre-test and post-test using an adapted version of the New General Self-Efficacy Scale, and open-ended questions captured data regarding student perceptions of what contributed to their confidence. Students presented with high levels of self-efficacy after completing a multi-method approach for ethics education. The results of the Wilcoxon Signed Ranks Test approached statistical significance. Qualitative data analysis revealed two categories: factors that increased confidence and factors that decreased confidence. This study provides foundational evidence that multi-method education on ethics including a standardized simulation, reflection and an ethics assignment enhances OT students' self-efficacy for ethical decision-making and contributes to their confidence in understanding the OT Code of Ethics.

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## **Introduction**

Self-efficacy plays a pivotal role in an individual's ability to effectively recognize ethical problems and provide an effective solution. Self-efficacy, which is rooted in Bandura's Social Cognitive Theory, pertains to an individual's belief in the skills they possess to achieve a specific outcome (Bandura, 1986; Bandura, 1997; Tsai et al., 2011). Bandura (1997) asserted that self-efficacy reflects confidence in a person's ability to control their motivation, behavior, and social environment. Bandura (1977, 1982) also suggested that self-efficacy can influence an individual's ability to make decisions (Schunk, 1989) and is a strong predictor of learning and performance (Schwoerer et al., 2005; Tsai et al., 2011). Practitioners frequently encounter complex ethical problems (Penny et al., 2016). Self-efficacy can influence confidence in identifying ethical problems and in making appropriate decisions (Stenmark et al., 2021). Fostering self-efficacy in ethical decision-making among occupational therapy (OT) students is crucial for preparing them to navigate the challenges they may encounter throughout their professional careers.

Ethical competence is essential for healthcare professionals to identify ethical problems, make important decisions, and provide quality care (Hemberg & Hemberg, 2020). Utilizing ethical competence results in the best solutions for clients and reduces moral distress for healthcare workers (Naamanka et al., 2022). Ethical competence includes the ability to reflect on one's knowledge and actions (Miller, 2020), using moral judgment in decision-making, having ethical awareness, and the willingness to do good (Naamanka et al., 2022). Ethical awareness encompasses a person's capacity to discern and understand situations, including recognizing ethical problems and their implications while being cognizant of one's role and responsibilities (Naamanka et al., 2022). Occupational therapy professionals are obligated to deliver ethically competent care and make judicious decisions when confronted with ethical problems (Miller, 2020).

Few published studies have examined OT students' self-efficacy and what contributed to their confidence in understanding the OT Code of Ethics. The development of self-efficacy among OT students as future healthcare professionals is of crucial importance as they transition to becoming therapists (Miller, 2020). Occupational therapy education should foster student self-efficacy in ethical decision-making and confidence in understanding the OT Code of Ethics to prevent or minimize medical errors. Additionally, OT students need to be provided with the tools to reduce moral distress and behaviors that may lead to ethical problems (Howard et al., 2024; Penny & You, 2011).

## **Literature Review**

### **Promoting Self-Efficacy and Confidence**

The application of varied educational strategies can significantly impact a student's feelings of self-efficacy, confidence, the promotion of learning, and the overall development of future OTs. Understanding educational strategies that contributed to student confidence is significant when designing ethics education to enhance self-efficacy, reduce moral distress, and enhance ethical decision-making (Schou-Juul et al.,

2024). Holland et al. (2012) reported that student confidence emerged from consistent practice, observation, hands-on experiences, and receiving immediate feedback. A strong internal locus of control, peer support, and encouragement have also been identified as factors that can enhance confidence and self-efficacy (Holland et al., 2012). Bandura (1997) similarly described that experiential learning, such as hands-on learning activities and opportunities for reflection, positively influenced self-efficacy.

### **Promoting Knowledge of Ethics**

Ethics education is a required content area reflected in the 2023 Accreditation Council for Occupational Therapy Education (ACOTE) standards (ACOTE, 2023). The OT Code of Ethics is a public document that promotes ethical conduct for practitioners and addresses the most prevalent ethical concerns of the profession (AOTA, 2020). This document is “designed to reflect the dynamic nature of the Occupational Therapy profession, the evolving healthcare environment, and emerging technologies that can present potential ethical concerns in practice, research, education, and policy” (AOTA, 2020, p.1).

Given these ethical standards, a variety of teaching strategies to facilitate the development of ethical competence and how to solve ethical problems have been documented (Andersson et al., 2022; Cannaerts et al., 2014; Howard et al., 2024; Olaiya et al., 2022). The educational strategies presented in the literature included ethics lectures, role-playing, simulation activities, workshops, ethics case studies, storytelling, ethics exams, and small group discussions (Andersson et al., 2022; Cannaerts et al., 2014; Howard et al., 2024; Olaiya et al., 2022). Howard et al. (2024) reported that role-playing, interprofessional educational experiences, and discussions with mentors were the most valuable active learning strategies for facilitating ethical problem-solving. Andersson et al. (2022) performed a systematic review and concluded that ethical competence was enhanced through experiences based on real-world situations and one's values and attitudes.

Cannaerts et al. (2014) reported that in addition to active learning techniques, reflective practices also contributed to developing ethical decision-making skills (Cannaerts et al., 2014). Reflective diary sessions, where students shared notes through storytelling, prompted students to reflect on their own experiences and challenged their beliefs (Cannaerts et al., 2014). A care-ethics lab was another described mechanism that reshaped practitioners' and students' perspectives on ethical care and encouraged practitioners and students to improve their practices for better outcomes (Cannaerts et al., 2014). Additionally, Schou-Juul et al. (2024) reported that education focused on enhancing self-efficacy among healthcare professionals enhanced decision-making confidence for individuals with lower self-efficacy and reduced moral distress.

Research has explored the importance of developing moral reasoning skills in OT students and professionals (Howard et al., 2020). The results indicated that OT and physical therapy (PT) practitioners had more developed moral reasoning than OT and PT students. This difference was attributed to the practitioners' exposure to ethical problems during their professional practice (Howard et al., 2020). It was found that

inadequate ethics education could potentially lead to moral distress and unethical treatment of clients (Bell & Breslin, 2008). Howard et al. (2020) recommended that clinical application be infused with diverse educational strategies and ongoing mentorship to improve moral reasoning and reduce moral distress.

A multi-method approach to ethics education has also been documented in the literature to enhance moral-reasoning and ethical competence (Albooghobeish et al., 2023; Cannaerts et al., 2014; Howard et al., 2020; Hudon et al., 2013; Kalaitzidis & Schmitz, 2012). Active learning strategies, including role-playing and scenario-based education, were reported to be adequate methods for teaching ethics (Howard et al., 2020; Hudon et al., 2013). Cannaerts et al. (2014) suggested that combined reflection and group discussions were also effective methods. Albooghobeish (2023) found that a multi-method approach to ethics education, including lectures, scenario-based teaching, role-playing, flipped classrooms, and interactive teaching, was effective for senior nurse anesthesia students. Kalaitzidis and Schmitz (2012) reported that lectures, group discussions about ethical concerns, weekly readings, and tutor-facilitated online discussion forums were perceived as preparing nursing students effectively for ethical situations that they may encounter in practice.

### **Simulation Promoting Self-Efficacy, Confidence, and Knowledge of Ethics**

Simulation is a type of experiential learning that promotes the transfer of knowledge to real-world experiences (Walls, 2019). It is used to prepare OT students for fieldwork and professional practice (Gibbs, 2017). Miller et al. (2020) reported that students who engaged in simulation-based learning activities demonstrated better learning outcomes. Simulation provides a controlled environment that permits students to practice skills, make decisions, and receive immediate feedback regarding their performance. Simulation has also been associated with increased self-efficacy and confidence in performing clinical tasks (Cook et al., 2011, Edwards et al., 2020, Stenmark et al., 2021) and enhancing ethical decision-making (Donnelly et al., 2017).

Simulation-based learning activities like the Room of Horrors (ROH), also known as Room of Errors or Medical Errors Room, have been described in medical literature as an effective tool for accurately assessing one's ability to recognize and address ethical problems (Garnier et al., 2023; Lee et al., 2023; Löber et al., 2020; Yalcinturk et al., 2023; Zimmermann et al., 2021). The ROH simulation provided participants with realistic scenarios in which educators incorporated deliberate patient safety hazards or horrors (Lee et al., 2023). The hazards and horrors included incorrect patient name bands, call bells out of patient reach, fall hazards, medication errors, mislabeled blood specimens, incorrect surgical site markings, and foods containing patient allergens on tray tables (Lee et al., 2023; Zimmermann et al., 2021). Participants identified as many hazards and horrors as possible while participating in the activity. These intentional errors created valuable learning opportunities that promoted reflective practice and a deeper understanding of the ethical problems' healthcare practitioners may encounter. However, the ROHs described were specific to medical practitioners such as nursing, physician, and pharmacy students (Lee et al., 2023).

Minimal published literature exists that specifically investigated the effectiveness of a multi-method approach for ethics education. Thus, the purpose of this research was to describe the effectiveness of using a multi-method approach for ethics education that included a standardized simulation, reflection, and an ethics assignment to enhance OT students' self-efficacy and confidence. The relationship between a pre-test and a post-test of self-reported levels of self-efficacy was investigated. Open-ended questions captured data regarding OT student perceptions of what contributed to their confidence. Specific research questions included: 1. What is the level of change in the New General Self-Efficacy Scale (NGSES) scores from pre-test to post-test after participating in a multi-method approach for ethics education? 2. What is the perceived utility of multi-method ethics education in enhancing OT students' confidence for understanding the OT Code of Ethics?

### Methods

Investigators used a mixed-methods study to address the research questions. To investigate the levels of self-efficacy, investigators compared the pre-test and post-test NGSES scores through a Wilcoxon Signed Ranks Test and coded OT students' responses into categories identifying what contributed to the OT students' confidence. The University's institutional review board approved this study as exempt and deemed this research as having minimal potential to cause harm to the participants.

### Recruitment and Setting

Participants were recruited from one cohort of Master of Science in Occupational Therapy students in the Southeastern United States. At the time of the study, the OT students were completing the fall term, which was the program's first semester, and included the Foundations of Occupational Therapy (Foundations) course. All twenty OT students were concurrently enrolled in the Gross Anatomy, Pathology, and Pharmacology courses. The OT students were informed that the assignments (NGSES and the open-ended questions) in the Foundations course would be utilized for research purposes and did not have the option to opt out of assignment completion or participating in the simulation. The assignments and participation in the simulation were a required grade for the course. To avoid coercion and biased responses, the assignments utilized for this study were graded based upon completion.

### Description of the Course

The Foundations course was a three-credit-hour course and three contact hours per week for sixteen weeks. Within the course, OT students learned the foundational principles of the OT profession, such as the history of OT, founding theories and models of OT practice, the professions' philosophy, the *Occupational Therapy Practice Framework: Domain and Process*, 4th edition (AOTA, 2020), the *Standards of Practice for Occupational Therapy* (AOTA, 2021), and the OT Code of Ethics (AOTA, 2020). The students received one, three-hour lecture on the OT Code of Ethics during the sixth week of the semester. During the seventh week, the OT students participated in group skits and role-played a clinical scenario that violated an assigned principle. The OT students identified the violated OT Code of Ethics principle and discussed the ethical problem.



### **Description of the Room of Ethics Simulation**

The OT students participated in a standardized simulation known as the Room of Ethics that consisted of ten auditory and physical ethical violations. This simulation was designed based upon the ROH. However, the ROH was modified to include ethical problems that directly correlated to violations of the OT Code of Ethics that an OT practitioner may encounter. Students were provided eight minutes to observe a room and write down the items they observed or auditory inputs they heard that violated principles of the OT Code of Ethics. Some physical items included a love note written to the client from the OT, a client's medical chart left open, a power cord running across the floor, and all four-bed rails down with the client lying at the edge of the bed. Auditory inputs consisted of a discussion between an OT and a colleague regarding the use of recreational marijuana during their lunch break and the OT forcing a client to participate in therapy despite the individual initially refusing.

### **Reflection Activity**

After completing the simulation experience, all students participated in a debriefing and reflection-based group discussion. Students reflected on the ethical problems they encountered during the simulation and discussed their previous experiences as patients, employees, or volunteers. A robust discussion ensued regarding negative and positive encounters and students discussed how these experiences made them feel regarding abiding by the OT Code of Ethics and providing ethical care. The professor provided the ten items the students were expected to observe or hear during the experience to ensure proper completion of the ethics assignment described below.

### **Description of the Ethics Assignment**

After completing the simulation and reflection activity, students completed an instructor-created ethics assignment. Students were required to match the ten ethical problems from the simulation experience to the appropriate OT Code of Ethics Principle(s) that were violated (see Appendix A and B).

### **Instruments**

#### ***The New General Self-Efficacy Scale***

Self-efficacy was measured using an author adapted version of the NGSES (Chen et al. 2001). The NGSES was adapted to meet the needs of this project after permission to use and adapt the tool was obtained by the primary author. A Cronbach's Alpha score of .904 indicated that the adapted NGSES had good internal consistency with this sample. The scale measured an individual's belief that they can achieve their goals despite difficulties on 8 self-reported items scored on a 5-point Likert-type scale: strongly disagree (1); disagree (2); neither agree nor disagree (3); agree (4); strongly agree (5). The scale was adapted to measure the students' perceptions of their capacity to make ethical decisions when confronted with ethical problems (see Appendix C). Students completed the NGSES as a pre-test and post-test to the three-part educational training on ethics.



### Qualitative Data

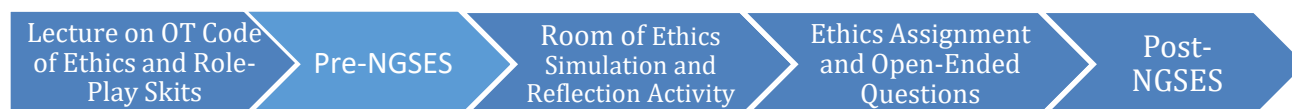
After completing the simulation experience, the students responded in writing to three open-ended questions regarding what contributed to their confidence in understanding the OT Code of Ethics. These questions were comprised of the following: 1) What contributed to your confidence level with the OT Code of Ethics? 2) What actions or experiences might have increased your confidence with the OT Code of Ethics and why? 3) What actions or experiences might have decreased your confidence with the OT Code of Ethics and why?

### Procedure

Participants completed the pre-NGSES a week before completing the standardized simulation experience. The simulation experience was completed during the eighth week of a sixteen-week semester, and the reflection activity occurred immediately following the simulation. The students completed the ethics assignment, the open-ended questions, and the post-NGSES within twenty-four hours of the simulation. Students were instructed to complete the ethics assignment prior to completing the open-ended questions and the post-NGSES to accurately capture the experiences that may have contributed to their self-efficacy and confidence (see Figure 1).

**Figure 1**

#### *Self-Efficacy Study Progression*



### Data Analysis

Descriptive statistics were analyzed using the Statistical Package for the Social Sciences (SPSS version 28; IBM Corp, 2021). A Wilcoxon Signed Ranks Test examined if there was a statistically significant difference between self-efficacy scores on the pre-test and post-test NGSES scores.

Qualitative data from the open-ended questions were manually coded and categorized based on similarities of the responses (Depoy & Gitlin, 2021). Coding of the data was completed by the primary and secondary researchers, each of whom coded independently and then compared their codes to find similarities. Using comparative analysis, the researchers identified patterns and established categories. Categories and sub-categories from the open-ended survey questions were then identified (see Figure 2). Trustworthiness was enhanced by the researchers coding and analyzing categories independently, allowing for multiple perspectives on the data.

## Results

### Participants

This study consisted of twenty OT students in their first semester of the Masters of OT program. The average age was 23.65 and majority of OT students reported being African American females. The participant demographics are presented in Table 1.

**Table 1**

*Participant Demographics (n=20)*

Category	Participants	
	Number	Percentage
Age: M =23.65, Range = 21 years-26 years		
Sex		
Male	4	20
Female	16	80
Ethnicity		
African American	14	66.7
Caucasian	5	23.8
Hispanic	1	5

Note. M= mean

### Quantitative Results

Research Question #1: What is the level of change in NGSES scores from pre-test to post-test after participating in a multi-method approach for ethics education?

A Wilcoxon Signed Ranks Test revealed no statistically significant ( $Z = -1.926$ ;  $p = 0.54$ ) change in NGSES scores from pre-test ( $M = 37.10$ ) to post-test ( $M = 38.15$ ). See Table 2 and Table 3.

**Table 2**

*Descriptive Statistics*

NGSES	N	Mean	Std. Deviation	Minimum	Maximum
Pre-Test	20	37.10	3.243	28	40
Post-Test	20	38.15	2.996	30	40

**Table 3**

*Wilcoxon Signed Ranks Test Statistics*

	Post-test – Pre-test
Z	-1.926 <sup>b</sup>
Asymp. Sig (2-tailed)	.054
p=	<.05

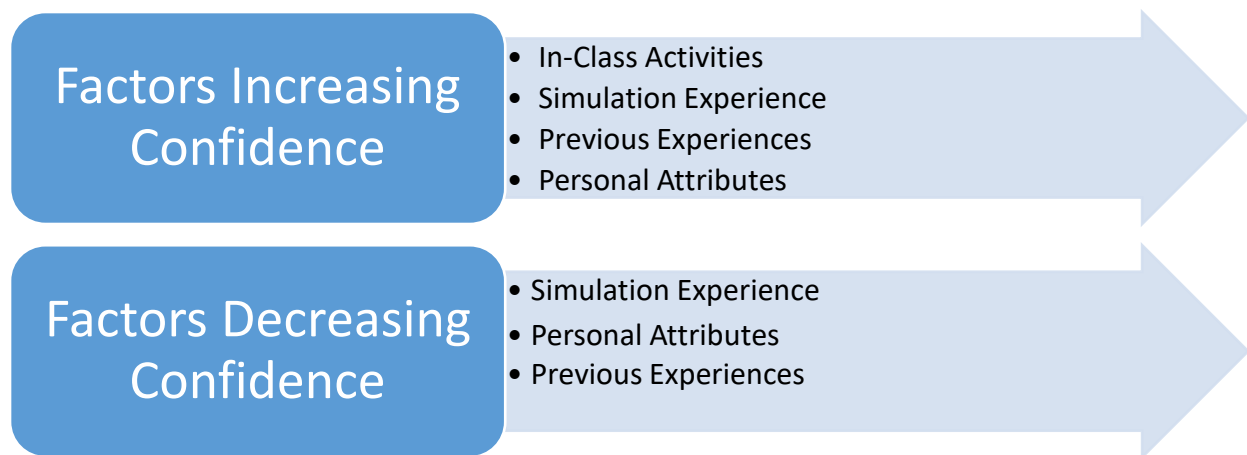
## Qualitative Results

Research Question #2: What is the perceived utility of the multi-method approach for ethics education in enhancing OT students' confidence for understanding the OT Code of Ethics?

Two categories, each with corresponding subcategories, emerged from the qualitative analysis of the data: factors increasing confidence and factors decreasing confidence. Figure 2 outlines the two categories and the subcategories aligned in order of frequency of occurrence.

**Figure 2**

*Qualitative Categories and Subcategories*



### Factors Increasing Confidence

All twenty OT students mentioned factors that directly increased their confidence in understanding the OT Code of Ethics. The key phrases utilized to develop this category from the responses were: “what contributed to my level of confidence...” and “...increased my confidence.”

The subcategories of the in-class activities, the simulation experience, previous experiences, and personal attributes supported the main category of factors that increased the students' self-efficacy for recognizing ethical problems and their confidence with understanding the OT Code of Ethics.

The main factors that contributed to the student's level of confidence to understand the OT Code of Ethics were the in-class activities. Seventeen students mentioned the role-playing skits and the lecture on the OT Code of Ethics in their responses. They commented that the role-playing skits provided the opportunity “to see other people acting out violations” and reported that this was “a contributing factor to my level of confidence with the Code of Ethics...”

Fifteen students remarked that the simulation, including the reflection activity, was an experience that boosted their confidence with understanding the OT Code of Ethics. These students emphasized that the simulation created a real-world experience of an OT Code of Ethics violation. Students reported that, “being able to see violations in action was very helpful...” and also indicated that “both the stimulation experience and reading the OT Code of Ethics helped increase my confidence with the OT Code of Ethics because they both allowed me to connect the Code of Ethics to a real-life scenario.” One student commented that, “being able to see violations in action was very helpful for my retention of the Code of Ethics principles. It helped me gain a better understanding of how they would look in a more professional setting.”

Twelve students also described previous experiences in healthcare environments and working with clients, which augmented their confidence in understanding ethical violations of the OT Code of Ethics. Comments such as, “my various employee experiences and volunteer work have given me the awareness and shaped my understanding of why it is important to abide by the code of ethics” and “what contributed to my level of confidence is my previous experience inside of hospitals” described experiences that contributed to the students’ ability in understanding the OT Code of Ethics.

Lastly, nine student comments pertained to personal attributes that enhanced their confidence for comprehension of the OT Code of Ethics such as: “What I believe mostly contributed to my confidence is knowing myself and how I live by treating others... Knowing that I want to be treated with dignity and respect shows that I will treat others the same” and “personally, wanting to serve my client as not only a therapist but also an advocate contributed to my confidence regarding the OT Code of Ethics. My eyes became more sensitive to the attention of detail because I wanted to ensure that the client was receiving the best quality of treatment.”

### **Factors Decreasing Confidence**

Nineteen student participants mentioned factors that directly decreased their confidence with the understanding of the OT Code of Ethics. The key phrase utilized to develop this category from the responses was “...decreased my confidence.”

The subcategories were the simulation experiences, personal attributes, and previous experiences. These support the main category of factors that decreased the students’ confidence for understanding the OT Code of Ethics.

The Room of Ethics simulation was mentioned by ten students as decreasing student confidence. Participants described that the in-class activities were interactive and offered real-scenarios and the simulation was presented without context and was not interactive. Students’ comments included: “in class we were learning through movement and stories, and in the lab, there was no background story, so we had to go off what the room looked like, which decreased my confidence” and “when I was in the simulation not fully paying attention to tiny details.” Some students mentioned specific items during the simulation that reduced their self-efficacy such as: “not recognizing the cord

wrapped around the mannequin [sic] neck in the simulation lab” and “the action that occurred during the simulation that decreased my confidence is the situation when [sic] therapist was forcing patient to do therapy.”

Personal attributes that decreased student confidence were also described by nine participants. Comments included: “Being that I am normally hard on myself, I would have to say that not being able to identify every single observation hindered my confidence, but it did not destroy it” and “I was worried that I might have missed items that I did not immediately spot from the beginning.” One student expressed, “Second guessing myself about what to pinpoint as right and wrong may have decreased my confidence a bit...”

Lastly, six students described previous negative experiences in interactions with occupational therapists or as a former patient themselves decreased their overall confidence with understanding the OT Code of Ethics. A participant stated: “in my experience as a patient sometimes providers didn’t consider my needs, my voice, and what I considered was needed for my treatment and care. They would often provide medical care based on biases or beliefs and this was a direct conflict with the principles of quality care” and “...seeing therapists violate them while not knowing what they are and seeing therapists rewarded with client satisfaction while violating the Code of Ethics.”

### Discussion

The results of this study provide insights into the potential effectiveness of using multi-method learning activities for ethics education. The OT student post-test scores on the NGSES improved after participation in the multi-method ethics education. While the Wilcoxon Signed Ranks Test indicated that the change from the pre-test to the post-test was not statistically strong, statistical significance was approached. This finding implies that using a multi-method approach may be effective for enhancing student self-efficacy for making ethical decisions and contributes to confidence in understanding the OT Code of Ethics. The results of this study are comparable to other research findings that described the effectiveness of using multi-method activities for ethics education (Albooghobeish et al., 2023; Cannaerts et al., 2014; Howard et al., 2020; Hudon et al., 2013; Kalaitzidis & Schmitz, 2012; Olaiya et al., 2022). The multi-method approach examined in this study was unique in that it focused on the combination of standardized simulations, reflections, and ethics assignments for enhancing student self-efficacy.

The increase in the post-test NGSES scores suggests that the multi-method education on ethics, including a standardized simulation, reflection, and an ethics assignment, enhanced the OT students’ self-efficacy in ethical decision-making. The improvement in self-efficacy correlated to Bandura’s Social Cognitive Theory that experiential learning positively influences self-efficacy and one’s ability to handle specific tasks and challenges (Bandura, 1986; Bandura, 1997; Tsai et al., 2011). Consistent with the literature, simulations, including error recognition, fostered a better understanding of ethical problems and led to increased situational awareness regarding errors (Garnier et al., 2023; Lee et al., 2023; Löber et al., 2020; Zimmermann et al., 2021). The ten ethical

problems contained within the Room of Errors provided examples of real-world scenarios OTs might experience (Penny et al., 2016). Other literature indicated that reflections and group discussions were essential in the development of ethical decision-making skills and self-efficacy development (Albooghobeish et al., 2023; Andersson et al., 2022; Bandura, 1997; Cannaerts et al., 2014). The OT students reported that completing the ethics assignment and utilizing the OT Code of Ethics document (AOTA, 2020) contributed to their ability to better understand the ethical principles violated during the simulation. The incorporation of rigorous simulations, combined with complex case discussions could further enhance ethical decision-making skills. Furthermore, utilizing an ethical decision-making framework such as Doherty's (2021) *Six-Step Process for Ethical Decision-Making* or Rogers and Schill's (2021) *Components of Ethical Decision-Making* could prove purposeful.

While the multi-method ethics education positively impacted the students' self-efficacy, the qualitative findings also revealed factors that contributed to the students' confidence in understanding the OT Code of Ethics. This result is consistent with findings from previous research indicating that targeted educational strategies could enhance confidence for managing ethical problems (Edwards et al., 2020; Schou-Juul et al., 2024). The OT students reported that the in-class activities, which consisted of lectures and role-playing skits, contributed to their confidence the most, followed by the simulation experience, personal experiences, and personal attributes. Other researchers found that role-playing activities enhanced students' ethical competence (Andersson et al., 2022; Cannaerts et al., 2014; Howard et al., 2024; Olaiya et al., 2022). Students also described that their past experiences in healthcare contributed to their understanding of the importance of abiding by the OT Code of Ethics. Furthermore, students reported that personal attributes such as a willingness to learn, grow, and trust their knowledge when faced with complex ethical situations fostered their ethical competence. This finding was consistent with research indicating that a learner's self-awareness of their own thoughts and perceptions contributed to ethical competence (Andersson et al., 2022) and an individual's ability to make decisions (Bandura, 1977; Bandura, 1982; Bandura, 1986; Schunk, 1989).

Additionally, some students indicated that the simulation activity, combined with their attributes and experiences, led to decreased feelings of confidence. Students reported that while the in-class activities were engaging and applicable to real-life situations, the simulations relied on observations and listening skills without prior context. These findings are incongruent with research that described simulations that included errors as having led to enhanced student ethical awareness (Garnier et al., 2023; Lee et al., 2023; Löber et al., 2020; Zimmermann et al., 2021). These conflicting results may be attributed to the absence of opportunities for collaboration with other students. Lee et al. (2023) described those participants who completed error simulations as part of a team had increased confidence in identifying ethical situations. Some students described feeling inadequate in accurately assessing and recognizing ethical violations of the OT Code of Ethics. A few students also described a negative experience with healthcare that led to a decrease in their confidence in understanding the OT Code of Ethics.

### **Limitations and Suggestions for Future Research**

This study included a small sample of OT students from a single university in the Southeastern United States. These factors limit the generalizability of the study's findings. The small sample size diminishes the statistical power of the study. Studies using self-reported data may also be susceptible to response bias. Students were aware they were completing an assignment, which may have introduced bias in their comments due to a potential desire to please the instructor. Before the multi-method ethics education, the lecture and role-playing skits involving ethics might have influenced the OT students' self-efficacy and confidence in understanding the OT Code of Ethics. Furthermore, the results are limited by lack of a specific measurement of confidence and only captured what specific methods influenced their confidence.

The investigators recommend conducting future research with a larger sample size to confirm the results of this study. Including the NGSES prior to and after the ethics lecture and role-playing skits and directly after the simulation experience may present a longitudinal perspective of the specific methods that further enhance students' self-efficacy to make ethical decisions and confidence for understanding the OT Code of Ethics. It is further recommended that a confidence scale, along with the NGSES, is included to capture potential changes in confidence from the multi-method ethics education. To enhance ethical decision-making skills, the authors suggest including more rigorous simulations, complex case studies and discussions, and an ethical decision-making framework.

### **Implications for Occupational Therapy Education**

The results of this study can offer valuable insights for OT programs aiming to enhance their ethics education. Ethical awareness is crucial for a seamless transition from the student role to clinical practice. Healthcare workers will often experience ethical problems and knowing how to respond to these is vitally important. While confidence in understanding the OT Code of Ethics is essential, augmenting student self-efficacy in ethical decision-making may be achieved through multi-method education that replicates common ethical problems encountered in professional settings. Exposing students to complex case studies and group discussions also enhances their self-efficacy in ethical decision-making and increases their ethical awareness. Therefore, a multi-method approach to teaching ethics and developing ethical competence should be utilized.

### **Conclusion**

This study aimed to explore the effectiveness of a multi-method approach to ethics education. The investigators measured OT students' self-efficacy in ethical decision-making and their perspectives regarding factors that contributed to their confidence in understanding the OT Code of Ethics. Students presented with higher levels of self-efficacy after completing a multi-method approach to ethics education. The results of the Wilcoxon Signed Ranks Test approached statistical significance. Qualitative data analysis revealed two categories: factors that increased confidence and factors that



decreased confidence. The results of this study validate the view that multi-method education regarding ethics, including a standardized simulation, reflection, and an ethics assignment, enhances OT students' self-efficacy in ethical decision-making and confidence in understanding the OT Code of Ethics.

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## **Appendix A**

### **Ethics Assignment**

Part 1. List the 10 "Ethical violations" that were present during the Simulation experience.

Part 2 Match each "Ethical violation" with the appropriate OT Code of Ethics "Principle(s)" and "Standard(s) of Conduct" that was **violated**.

**Please complete Part 1 and Part 2 prior to completing Part 3. Once you have completed all 3 Parts then you may take the Post-Test Survey.**

Part 3. Answer the following questions:

- A. What contributed to your level of confidence with the OT Code of Ethics?
- B. What actions or experiences might have increased your confidence with the OT Code of Ethics and why?
- C. What actions or experiences might have decreased your confidence with the OT Code of Ethics and why?

## Appendix B

### **Ten Ethical Violations that occurred in the Simulation and OT Code of Ethics Principle(s) Violated**

1. Cord running across the floor
  - a. Principle(s) violated: Beneficence, Nonmaleficence
2. Oxygen tubing wrapped around client's neck
  - a. Principle(s) violated: Beneficence, Nonmaleficence
3. All 4 bed rails down on the hospital bed
  - a. Principle(s) violated: Beneficence, Nonmaleficence
4. Client lying close to edge of bed
  - a. Principle(s) violated: Beneficence, Nonmaleficence
5. Pills found in the client's bed
  - a. Principle(s) violated: Beneficence, Nonmaleficence
6. Client's chart left open and documents have been falsified
  - a. Principle(s) violated: Veracity, Beneficence
7. Note from the occupational therapist thanking client for a gift and signed "Love"
  - a. Principle(s) violated: Nonmaleficence, Justice
8. Coworkers talking loudly in the hallway negatively about other coworkers
  - a. Principle(s) violated: Fidelity
9. Occupational therapist discussed forcing a client to participate in therapy by threatening to discharge the client
  - a. Principle(s) violated: Autonomy
10. Occupational therapist talking about using illegal substances on lunch break
  - a. Principle(s) violated: Nonmaleficence, Justice

## Appendix C

### Adapted NGSES

strongly disagree (1); disagree (2); neither agree nor disagree (3); agree (4); strongly agree (5)

ADAPTED SCALE	Response 1-5
1. I will be able to achieve the goal of understanding the Occupational Therapy Code of Ethics.	
2. When facing difficulty understanding the Occupational Therapy Code of Ethics, I am certain that I will accomplish understanding.	
3. In general, I think that I can obtain ethical outcomes that are important to me.	
4. I believe I can succeed at any endeavor, such as following the Occupational Therapy Code of Ethics.	
5. I will be able to successfully overcome many of the ethical challenges I may face during Occupational Therapy service delivery.	
6. I am confident that I can perform and demonstrate ethical behaviors during many different tasks.	
7. Compared to other people, I can do most tasks very well and ethically.	
8. Even when things are tough, I can behave ethically.	