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School of Occupational Therapy

Comparing Moral Reasoning Across Graduate Occupational and Physical Therapy Students and Practitioners

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A research project submitted in partial fulfillment for the requirements of the Doctor of Occupational Therapy degree from the University of Indianapolis, School of Occupational Therapy.

Under the direction of the research advisor:

Brenda S. Howard, DHSc, OTR

A Research Project Entitled

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By

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Abstract

Background/ Objective: Limited ethics education has led to moral distress in practice, contributing to unethical treatment of clients, high turnover rates, and increased healthcare costs. Development of moral reasoning in OT and PT students has been significantly under researched. The purpose of this study was to analyze the differences in moral reasoning between first year and second year OT and PT students and between students and OT and PT practitioners.

Method: Investigators utilized a cross-sectional study design with a convenience sample of University of Indianapolis OT and PT students and a combination of convenience and snowball sampling to recruit licensed OT and PT practitioners. Fifty-seven OT students, 35 PT students, 48 OT practitioners, and 18 PT practitioners completed the Defining Issues Test - 2 (DIT-2; Rest et al., 1999) survey.

Results: With 154 participants, the study was adequately powered for a medium effect size (.30). Comparisons of N2 scores using *t*-tests found no differences between groups in moral reasoning schema. However, Pearson's Chi-Square analysis for a comparison of all students to all practitioners for consolidation vs. transition (stable vs. developing) moral reasoning patterns was significant between students (transitional) and practitioners (consolidated), with the greatest difference between second-year students and practitioners.

Conclusion: Continual expansion of ethics content within OT and PT graduate programs may promote moral reasoning pattern development in academia with carryover into practice. Clinical experiences provide real-world opportunities necessary to progress students from transitional to consolidated thinking patterns. To improve ethics education, authors recommend active learning strategies and mentorship throughout clinical experiences.

Comparing Moral Reasoning Across Graduate Physical and Occupational Therapy

Students and Practitioners

Occupational therapy (OT) and physical therapy (PT) practitioners can experience ethical dilemmas daily (Penny et al., 2016). Ethical dilemmas are situations that involve two or more morally appropriate courses of action that cannot both be followed (Doherty & Purtilo, 2011). An example of an ethical dilemma in practice could include when a practitioner has to decide between respecting a client's request for confidentiality and reporting information to protect the client from potential danger. Because the healthcare environment is fast-paced and ever changing, it is vital that academic programs prepare new professionals to handle the potentially complex ethical dilemmas that occur in clinical practice (Geddes et al., 2009). A practicing therapist must have developed moral reasoning skills, including cognitive problem-solving and emotional coping skills, in order to resolve the moral distress that he or she will inevitably face (Penny et al., 2016). A lack of ethics education can lead to moral distress in practice, which contributes to the unethical treatment of clients, high turnover rates, and overall increased costs of healthcare (Bell & Breslin, 2008).

Development of moral reasoning in OT and PT students has been significantly under-researched. Existing research has compared moral reasoning of OT and PT students (Geddes et al., 2009), OT and PT practitioners (Kulju et al., 2013), and has explored practitioners' experiences of moral distress (Bell & Breslin 2008). Researchers in Canada reviewed curricula to identify when OT and PT students received ethical content. However, investigators found no studies that examined the relationship between specific ethics content and moral development in OT and PT programs in the United States (Hudon et al., 2013). With OT and PT academic programs in the United States occurring at a graduate level and within a different health care

system, more investigation is needed regarding ethics within academic curriculums and moral development in these programs (Gupta & Bilics, 2014).

The primary purpose of this study was to analyze the differences in moral reasoning between first year and second year OT and PT students and between students and OT and PT practitioners. Secondary research purposes included: examining differences in moral reasoning between OT students and PT students at the University of Indianapolis (UIndy), examining a difference between years one and two for OT and PT students at UIndy, and examining a difference in moral reasoning between OT and PT students and OT and PT practitioners.

The Problem of Moral Distress and Developing Moral Reasoning

While in educational programs, students develop moral reasoning traits that help to combat moral distress in practice and make ethical decisions (Penny et al., 2016). Practitioners experience moral distress in practice when they know the moral appropriate course of action, but meet external barriers, internal resistance, or uncertainty (Doherty and Purtilo, 2016). Moral distress occurrences have included systemic constraints, conflicting values, questionable behavior, and failure to speak up (Kinsella et al., 2008); conflicts when working with clients and families to optimize autonomy in decision-making while remaining professional (Kassberg & Skar, 2008); and disagreements between members of the health care team and between team members and their employer (Penny et al., 2016). Penny et al. (2016) give an example of moral distress as "being expected to continue services even after the client has met all therapy goals to meet productivity standards or being directed to discontinue services because of concerns about third-party payment" (p. 1). Currently, ethics education is required in accredited OT and PT programs in the United States (Accreditation Council for Occupational Therapy Education [ACOTE], 2018). To bridge the gap between school and practice, increasing a student's level of

moral reasoning through intentional ethics education can provide tools to decrease moral distress and behaviors leading to moral dilemmas (Penny & You, 2011). Refer to Appendix for definitions of moral distress, moral reasoning, and related terms.

Kohlberg's Theory of Moral Development and Measuring Moral Reasoning

Kohlberg identified three levels of moral reasoning that progress throughout the lifespan (Geddes et al., 2009). The first two stages of Kohlberg's theory are defined together as *preconventional morality*, which focuses on the individuals' internal dialogue regarding right and wrong with motives of obedience to authority or self-interest (Patenaude et al., 2003). The third and fourth stages are defined together as *conventional morality*, where the individual makes choices based on societal expectations or respect for the law to maintain order (Patenaude et al, 2003).

The final level of Kohlberg's theory include stages five and six, which are labeled as *postconventional morality* (Dieruf, 2004). The postconventional stage focuses mostly on universal moral principles and being able to explain the social problems. Stage five, *social contract*, involves executing moral decisions for the welfare of protecting individual rights (Patenaude et al., 2003). The sixth stage is called *universal ethical principles*, which is defined as moral principles such as justice, equality, and dignity of human beings (Patenaude et al., 2003). Ideally, all contributing members of society would progress through the stages and reach the final level of moral reasoning, the post-conventional (Larin et al., 2009). Few adults (usually after 20 years of age) reach postconventional development (Dieruf, 2004). People who have higher education have a high correlation with high moral reasoning level (Dieruf, 2004). According to Baldwin & Bunch (2000), individuals with high levels of moral reasoning rarely demonstrate low clinical performance. Because of this hypothesis, it is beneficial to research the

evolution of moral development over the course of OT and PT graduate programs to identify which aspects of curricula encourage moral and moral reasoning in practice.

Since ethical and moral reasoning have very similar definitions (see Appendix), the authors use the term "moral reasoning" to refer to the mental process whereby practitioners make ethical decisions in practice.

Factors Influencing Moral Development

Investigators have successfully identified factors such as age, grade point average, gender, educational background, culture and religion, and the presence of an ethics course in a program's curriculum as influencers on moral development (Geddes et al., 2009). Age has been an indicator of moral development until late adolescence (Dieruf, 2004). As an individual grows physically, emotionally, and socially he/she naturally starts to establish opinions, values, and beliefs (Dieruf, 2004). Age, however, has controversially been identified as an influencer of moral development at the graduate school level (Penny & You, 2011). Penny and You (2011) conducted a cross-sectional study in 2011 and used the Defining Issues Test - 2 (DIT-2; Rest et al., 1999) to measure the change in moral reasoning of two OT cohorts of students enrolled in a five-year entry-level professional program. Personal interest scores were the highest in the freshman groups and the lowest in the senior groups (Penny & You, 2011). This finding indicates a shift in students' schema from pre-conventional thinking to a more post-conventional style; however, post conventional thinking did not significantly increase over the years (Penny & You, 2011). This finding allowed the authors to establish age as an influencer of higher levels of moral reasoning (Penny & You, 2011).

Researchers have considered whether there is a connection between an individual's level of intelligence and moral reasoning (Geddes et al., 2009). Penny and You (2011) found that there

was no significant, direct correlation between grade-point average (GPA) and post-conventional scores in their cross-sectional design used the DIT to compare over 150 OT students. Geddes et al. (2009) investigated the moral development of both OT and PT students over the course of their respective programs and also refuted multiple influencers of moral development including GPA.

The Role of Educational Programs in Fostering Moral Development

Dieruf (2004) determined that moral reasoning skills have been a foundational part of educating health care professionals; however, too little time has been dedicated to engaging students in critical thinking and problem solving. OT and PT faculty have also reported a connection between students' moral reasoning skills and ethical decision making in clinical practice (Burrus et al., 2007). Investigators who found differences in the development of post-conventional reasoning noted the presence of an intentional ethics course (Penny & You, 2011). Edwards et al. (2012) came to a similar conclusion, suggesting that graduate students' exposure to intentional ethics courses as part of OT/PT curricula correlated with an increase in ethical decision making in the professional setting. The terms *moral reasoning, moral decision making, ethical reasoning, ethical decision making*, and *ethical problem solving* have a considerable amount of overlap; see Appendix for definitions.

After conducting a survey, Shive and Marks (2008) clarified that increasing the required course work directly related to ethics education was the most common method used by health professions educators to increase ethical awareness. Dieruf (2004) and Penny and You (2011) highlighted significant gaps in moral and ethical education of students pursuing careers in OT and PT. In order to fulfill this need, Penny and You (2011) recommended that students participate in an ethics course directly related to the profession. Some researchers have deemed

that actively engaging students in activities like examining case studies, procedures, and policies can also be effective in developing moral reasoning skills (Koharchik et al., 2017).

Faculty must continue to explore ways that students are granted outside experience to appreciate the context-specific dilemmas that have arisen for practicing therapists when they have been required to choose between two or more morally appropriate courses of action that cannot both be followed (Doherty & Purtilo, 2011; Evenson et al., 2015). Ensuring that practices taught in the classroom are used in a clinical setting is vital to protect employers, clients, and the professions (Koharchik et al., 2017). There is a great deal of responsibility and ethical decision-making within the clinical setting.

Researchers have utilized the Defining Issues Test (DIT-2; Rest et al., 1999) to measure moral development from year-to-year within OT and PT programs to determine if ethics education can improve moral reasoning skills (Dieruf, 2004). Geddes et al. (2009) analyzed additional influencers of moral development with the use of the DIT-2, and found that previous education, gender, cohort, and program did not have a significant influence on moral development (Geddes et al., 2009). By conducting these studies, researchers found that students in both the OT and PT cohorts demonstrated a significant increase in moral reasoning mean scores over time (Geddes et al., 2009); however, there were no significant differences in moral development between the two professions (Dieruf, 2004).

Literature Review Summary

Ethical dilemmas are a pressing concern in the contemporary rehabilitation setting because they contribute to burnout, high turnover rates, and overall increased costs of healthcare. Researchers have suggested the need to examine and expand ethics education in the OT and PT curricula in order to influence moral development and prepare students for ethical problem

solving. The current study adds to the body of knowledge on experiences that influence moral development by examining differences in moral reasoning between occupational and physical therapy students with differing levels of graduate education and practitioners. By understanding moral reasoning development, health care educators can consider how to better foster growth in ethical problem solving (Burrus et al., 2007; Penny & You, 2011).

Method

Investigators implemented a cross-sectional research design utilizing a sample of convenience from the students in the UIndy OT and PT programs; and OT and PT practitioners through a direct email to UIndy alumni selected at random from a combined list of OT and PT graduates, and snowball sampling through alumni social media pages.

Ethics

This study was approved by the University of Indianapolis Human Research Protections Program as Exempt (UIndy Study #0894).

Recruitment

Investigators recruited individuals from the first- and second-year OT cohorts at UIndy in the fall of 2018. There were 125 students within two Doctorate of Occupational Therapy (OTD) cohorts and two Masters of Occupational Therapy (MOT) cohorts at the time of recruitment. The first-year OTD cohort was comprised of 44 students (42 females, 2 males) and the second year OTD cohort had 44 students (43 females, 1 males). The first-year MOT cohort was comprised of 18 students (15 females, 3 males) and the second-year cohort had 19 students (17 females, 2 males). The OTD and MOT programs were mostly composed of white females. Males made up 6.5% of the four OT cohorts included in recruitment, and less than 10% (12 students) identified as a race/ethnicity other than White. The mean ages of the MOT cohort first and second year

students were 29.6 and 28 years, respectively. The mean ages of the OTD first and second year

cohorts were 23.3 and 24.6 years old, respectively.

Investigators also recruited individuals from first- and second-year PT cohorts at UIndy.

The first-year doctor of physical therapy (DPT) program was composed of 49 students (32

females, 17 males). The second year DPT cohort was comprised of 47 students (29 females, 18

males). The DPT program was composed mostly of white females. Males made up 36.5% of the

two cohorts included in recruitment, and 4% (4 students) identified as a race/ethnicity other than

White. The mean age of the first-year cohort was 23 years old, and the second-year cohort mean

age was 24 years old.

Individuals from the first- and second-year cohorts of the OT and PT programs were

recruited for this study via email and social media. Emails were sent to the students from the

targeted cohorts, and social media promotions were posted on the UIndy OT and PT program

Facebook pages intermittently while the survey was live. Investigators also recruited practicing

occupational and physical therapists. The OT and PT practitioners were recruited through email

blast and snowball sampling. Emails were sent to 400 alumni (200 OT practitioners, 200 PT

practitioners) who were randomly selected from a list of OT and PT alumni of UIndy' programs.

Via the email, the randomly selected alumni were encouraged to forward the email to colleagues

to facilitate more participants. Social media promotions were also posted on the UIndy OT and

PT alumni Facebook pages while the survey was live.

The inclusion criteria for OT and PT students included enrollment at UIndy in the first or

second year of their respective programs. Participants from the remaining academic programs

offered at UIndy were excluded. Participants were only included in the study if they were first

year or second year OT or PT students at UIndy. Third year PT and OT students were excluded

from this study due to their participation in clinical education rotations during the completion of the study.

To participate in this study, practitioners self-identified as licensed OT and PT practitioners. Occupational Therapy Assistants and Physical Therapy Assistants were excluded from this study because recruitment efforts did not include OTA or PTA students.

Intervention

The College of Health Sciences at UIndy encompasses both the School of Occupational Therapy and Krannert School of Physical Therapy. UIndy offers two entry-level occupational therapy education tracks. One program is on track to receive a masters in occupational therapy (MOT) while the other is on track to receive a doctorate in occupational therapy (OTD). Both programs receive an identical ethics curriculum and are held to similar national certification standards. Education related to ethics is integrated into a five-part Issues series. Each course in the series incorporates ethics in a slightly different way to expand student knowledge and experience on the topic. Issues I (OTD/MOT 570) introduces the OT Code of Ethics, Issues II (OTD/MOT 571) introduces students to ethical problem solving, Issues III (OTD/MOT 572) prepares students for documenting in practice, in Issues IV (OTD/MOT 574) the Code of Ethics are reviewed with clinical emphasis, and finally, Issues V (OTD/MOT 575) educates students about business and professionalism related to ethics.

UIndy's Krannert School of Physical Therapy (KSPT) offers a Doctor of Physical Therapy (DPT) degree. The education related to ethics for DPT is incorporated through one course that is taken during the second semester of the first year. The course content includes lectures about the code of ethics for physical therapy, ethical dilemmas within the field, and uses the Realm- Individual Process-Situation (RIPS) Model of Ethical Decision Making to facilitate

navigation of ethical dilemmas (Swisher et al., 2005). The code of ethics for physical therapy is similar to that of the code of ethics for occupational therapy in that it focuses on the rights and care of recipients of services. However, the physical therapy code of ethics focuses more on the business aspect of health care (Verma et al., 2006).

Instrument

The DIT-2, developed by Rest and colleagues (1999), is the most-used tool to measure Kohlberg's Moral Development Theory (Dieruf, 2004; Kohlberg & Hersh, 1977; Rest et al., 1999). The DIT-2 requires the decision maker to answer a series of multiple-choice questions by rating and ranking a series of responses to several stories that cover a variety of ethical dilemmas and social issues (Rest et al., 1999). This ranking is depicted by N2 scores, which represents the moral schema discerned through the survey scenarios. The DIT-2 also collects demographic information including age, sex (male or female), race/ethnicity, and level of education. According to Kohlberg, the decision maker reasons based on a moral schema of personal interest, maintaining norms, or post-conventional reasoning (Rest, 1994). Post-conventional reasoning is the most advanced; it looks beyond the immediate rewards of personal interest and is a more absolutist application of conventional rights and wrongs that considers the complexities of ethical dilemmas compared to maintain norms schema (Edwards et al., 2012). Dieruf (2004) stated that the higher the individual can process complex information, the more likely the individual is able to understand and make decisions ethically in the midst of the ethical dilemma. Having greater ability to make ethical decisions makes post-conventional reasoning the ideal level for OT and PT students and professionals. Using the DIT and the second edition, DIT-2, researchers have been able to analyze how moral reasoning changes during various educational

programs (Rest et al., 1999). The DIT-2 has demonstrated improved validity due to scoring the data in a different way than the original DIT (Rest et al., 1999).

Procedures

Investigators began recruitment in August 2018 by sending emails and social media postings to all first and second year UIndy OT and PT students, and 200 randomly selected UIndy alumni from each of the OT and PT programs, with snowball sampling of OT and PT practitioners in the community through inviting practitioners to share the survey link. Participants were asked to complete the DIT-2 online survey between September 11th to October 9th, 2018. Raw data derived from the DIT-2 was then sent to the Center for Ethical Study Development at the University of Alabama for scoring. Next, investigators analyzed the scored data using Qualtrics and SPSS version 25 (IBM Corp., 2017) to compare groups.

Sample Size, Power, and Precision

The total sample size required to achieve statistical significance with ANOVA analysis was 134 participants with medium effect size (0.30), alpha error at $p < 0.05$, and power set to 0.95 (Faul et al., 2007). For between groups comparison, a sample size of 26 was needed with the effect size at large (0.50), alpha error set at $p < 0.05$, and power set at 0.80.

Measures and Covariates

Data were analyzed to identify between-groups comparisons of means using ANOVA, Kruskal-Wallis, independent samples *t*-test, and Mann-Whitney U test. Pearson's Chi-Square was employed for between-groups comparison of nominal data. Investigators compared means of N2 scores of moral reasoning for all six groups using one-way ANOVA. Then investigators compared first year OT and PT students to second year OT and PT students, Investigators also compared OT students and practitioners as a group to PT students and practitioners as a group.

Finally, investigators compared all of the OT student participants in the study to all of the

practicing occupational therapists in the study, and all of the PT student participants in the study

to all of the practicing physical therapists in the study; along with all students vs. all

practitioners. Covariates included examination of the impact of age, gender, and educational

level on moral reasoning using an ANOVA test.

Results

This was a cross sectional design using the DIT-2 to compare differences in moral

reasoning between first year and second year OT and PT students and between students and OT

and PT practitioners. This study utilized a sample of convenience with UIndy OT and PT

students, and OT and PT practitioners recruited from alumni and snowball sampling.

Participants

The DIT-2 was open from September 4, 2018 and closed until October 9, 2018. Two hundred

thirty-one surveys were received. The dataset was sent to the Center for Ethical Study for

scoring, and returned on November 6, 2018. Seventy-two surveys were discarded due to

incompletion, resulting in 159 participant questionnaires for analysis. Five additional

respondents were eliminated due to incomplete data. This culling resulted in 154 complete

questionnaires for final analysis.

Of the 154 respondents who completed a survey meeting all inclusion criteria, 18

participants identified as male and 136 participants identified as female. Data were gathered from

25 first-year OT students, 10 first-year PT students, 32 second-year OT students, 24 second-year

PT students, 46 occupational therapy practitioners, and 17 physical therapy practitioners. For a

full description of participant demographic information, refer to Table 1.

Data Analysis

Investigators completed checks of data integrity, including frequencies and distributions. The full dataset and data groupings were normally distributed as checked with Shapiro-Wilk.

To compare students year-to-year, a one way ANOVA was conducted. A comparison of all six groups' N2 scores using a one-way ANOVA did not achieve significance (p>.05). A comparison of N2 scores using Kruskal-Wallis was computed and also did not reach significance (p>.05).

A grouped comparison of all students versus all practitioners' N2 scores were normally distributed. A two-tailed *t*-test comparing means of N2 scores between students and practitioners was not significant (p=.968). A comparison of N2 scores using a Mann-Whitney U test was conducted. Results indicated retention of null hypothesis regarding the N2 score median comparison (p=.765).

A grouped comparison of all OT students and OT practitioners versus all PT students and PT practitioners was normally distributed using Shapiro-Wilk and Kolmogorov-Smirnov tests. A two-tailed t-test comparing N2 scores between groups was not significant (p<.05).

A grouped comparison of all first years, all second years, and all practitioners was normally distributed using Shapiro-Wilk and Kolmogorov-Smirnov tests. A 2-tailed *t*-test indicated no significant differences in N2 scores between first- and second-year students (p<.05 with equal variances not assumed). A 2-tailed *t*-test comparing all first-year students to practitioners and all second years to practitioners also yielded no significance (p<.05 respectively, with equal variance not assumed).

The "consolidation" and "transition" classifications of moral reasoning differentiate problem solving thought processes from a consistently synthesized and confident pattern of thinking (consolidated) to a varied pattern of thinking (transitional; Bebeau & Thoma, 2003). A

Pearson's Chi-Square analysis comparing the Consolidation/Transition variable of all six groups did not reach significance (X^2 [5, n=154] =10.445, p= 0.064). However, a comparison of all students versus all practitioners for Consolidation/Transition was significant (X^2 [1, n=154] = 8.668, p = .003). A closer examination of all first-year students, all second-year students, and all practitioners indicated significant results (X^2 [2, n=154] = 8.686, p = .013; see Table 2). A significantly larger portion of OT and PT students (63.7%) were transitional in their approach to moral reasoning compared to all practitioners (39.7%) who demonstrated a consolidated moral reasoning pattern. A post hoc Bonferroni correction (p=.0167) indicated the significant difference was between second-year students and all practitioners (X^2 [1, n=119] = 7.183, p = .007). See Table 3 for results.

Discussion

This study aimed to analyze moral reasoning in first year and second year OT and PT students and from OT and PT students to OT and PT practitioners. Occupational therapy and physical therapy students and practitioners were surveyed and results were compared cross sectionally to distinguish differences between moral reasoning at different stages of professional development. Although no differences were found between groups regarding moral reasoning schema, there were significant differences between students and practitioners regarding use of a consolidated or transitional pattern of moral reasoning.

Patterns of moral reasoning have been defined by the ability or inability of an individual to discriminate between types of moral reasoning when presented with a complex moral dilemma (Bebeau & Thoma, 2003). Moral reasoning has been organized into different types of moral schemas consisting of personal interest, maintaining norms, and postconventional (Bebeau & Thoma, 2003). Transitional thinking patterns have suggested the inability to discriminate

between moral schema typed items, resulting in developmental disequilibrium and no evidence

of schema preference (Bebeau & Thoma, 2003). Contrarily, consolidated thinking patterns

indicate the ability to discriminate among moral schema typed items, resulting in a clear

demonstration of preference for a specific type of moral reasoning (Bebeau & Thoma, 2003).

     Researchers hypothesized that as students received more education and more experience

throughout their doctoral program, moral reasoning would significantly improve between first-

and second-year students. Highest level of moral development schema was expected in current

practitioners. However, data indicated that OT and PT students showed no significant difference

in moral reasoning schema when comparing first years to second years and when comparing

students to OT and PT practitioners, as measured by N2 scores. The pattern of moral reasoning,

however, varied between students and their practitioner counterparts. Students showed a greater

percentage of transitional moral reasoning patterns, whereas practitioners demonstrated a greater

percentage of consolidated patterns of thinking. Results revealed a change in pattern occurring

between second year students and practitioners from transitional to consolidated moral

reasoning.

    Because Penny and You (2011) hypothesized that increased age leads to higher levels of

moral reasoning, results indicating no difference in moral schema levels between students and

practitioners may reflect the lack of a significant age gap between students and practitioners

within this study. Other than age playing a role in moral reasoning, no studies have examined the

comparison of moral schemas from OT and PT students to practitioners. More research is needed

to investigate if age is the main factor in moral schema development, or if factors such as

exposure to clinical experience play a bigger role in OT and PT development.

Although investigators of previous studies did not compare moral schemas and patterns of OT and PT students to practitioners, studies exist analyzing differences among OT and PT students' moral schemas prior to and after completion of educational programs. Penny and You (2011) utilized the DIT-2 tool to determine change in students' moral reasoning between first and third years of OT school at a United States university and discovered no significant difference in post-conventional thinking between students. Additionally, Dieruf (2004) showed no difference of DIT scores in OT and PT students before and after a two-year bachelor's degree educational program at a United States university. Both Penny and You's (2011) and Dieruf's (2004) results were consistent with this present study's results that indicated no difference in moral reasoning schema between first year and second year OT and PT students.

In contrast, Geddes et al. (2009) concluded through a sample of 288 OT and PT students that moral judgment significantly improved after completion of respective two-year bachelor degree programs at a Canadian university. Inconsistency in results with the present study could be linked to the emphasis on the development of ethical content contained within the OT and PT programs analyzed. Geddes et al. (2009) analyzed moral development in OT and PT programs that had significantly expanded ethics content within the curriculum. However, Dieruf (2004) analyzed OT and PT programs that did not include Schlaefli, Rest, and Thoma's (1985) recommendation of 3 to 12 weeks of ethical instruction. Contrasting these two studies suggests that a correlation might exist between increased moral judgment scores among OT and PT students and a well-developed ethics curriculum. As the landscape of occupational and physical therapy educational programs has changed from bachelor level programs to post-graduate degree programs, development of ethical content requires expansion as well.

Although moral schema differences were not found between students and practitioners within this study, a significant difference was discovered between students and practitioners in regard to transitional and consolidated patterns of moral reasoning, respectively. These patterns were indicative of how strongly synthesized and confident patterns of moral thinking were in each group. Since this study indicated a significantly greater number of OT and PT students employed a transitional pattern of thinking, a need for real-life clinical experience may be necessary to obtain the mature consolidated thinking pattern that OT and PT practitioners were found to possess. Furthermore, the mature (consolidated) pattern of moral thinking among OT and PT practitioners suggests a larger role for clinical experience in moral reasoning development, as opposed to other factors such as age and previous education level.

Implications

First-year OT and PT students demonstrated no significant difference in moral reasoning schema when compared to second year students, who have received an extra year's worth of ethics education. This finding suggested that educational experiences alone did not prompt significant change in moral reasoning schema nor patterns in this sample. However, the literature has indicated that educational programs have continued to play a significant role in moral reasoning development. Both Dieruf (2004) and Geddes et al. (2009) emphasized the importance of expanding ethical content within curricular programs to increase moral reasoning. The importance of ethics in education is to promote ethics in practice and prevent unethical practice in the field (Bell & Breslin, 2008). To prevent unethical practice in clinical fields, OT and PT programs may need to expand intentional ethical content. This could include specified ethics courses, interprofessional ethics education, and interactive case studies with ethical review.

Findings indicated a change from transitional patterns of thinking in OT and PT students to consolidated patterns in OT and PT practitioners. These findings suggest the need for clinical experience to develop mature patterns of thinking. Participants of the current study varied in regard to time in the graduate programs and clinical exposure. Because the significant change from transitional to consolidated thinking patterns occurred between second year students and practitioners, results suggested that clinical exposure played more of a role in moral reasoning pattern development than students' time in the program. Students often work on case studies during class; however, they lack the implementation of interventions on real life clients. When students experience exposure to repercussions of interventions on actual clients, students gain the opportunity to consolidate thinking into concrete realities. OT and PT programs currently utilize clinical education as a method to provide this exposure; however, most longer-term clinical experiences are completed near the end of program when ethical education has already ceased. Incorporating clinical experiences into the educational component of OT and PT programs through competencies and client panels allows for real life moral reasoning exposure; thus, potentially helping to consolidate student moral reasoning. Additionally, providing ethics rounding and mentorship (Erler, 2017) may promote development of moral reasoning patterns in a supportive environment as students enter the clinical setting.

Implications for future research include a larger sample size with multi-site participation, in order to more adequately power the results and gain greater participant diversity. Further, perspectives of interprofessional collaboration can increase moral reasoning patterns for both OT and PT practitioners (Interprofessional Education Collaborative, 2016) and could be explored with future research. A longitudinal study across multiple classes and programs may find further connections between ethics content, moral reasoning development, and ethical practice. This

investigation could be completed in conjunction with neighboring universities across a network

of practitioners through consistency of ethics content and delivery. Qualitative research is

recommended to gather evidence on experience in practice and felt adequacy of preparation

through ethics education. Researchers recommend the involvement of new graduates in survey of

helpful coursework as well application in the field. A comprehensive review of ethics content in

US curricula may identify strengths and weaknesses across preparation of students entering the

field.

Limitations

Responses were collected from a largely homogenous sample with a preponderance of

White women. Demographic question options for sex were limited to "male" and "female", with

no additional option for "other". Although practitioner locations varied, student responses were

restricted to one university located in the midwestern United States. Small group sizes of PT

practitioner and first year PT student participants limited diversity of sample further. In addition,

responses of participants may have been affected by a technical error that had the survey closed

for 5 days during its open period. This was corrected by re-posting the recruitment link with an

announcement that the survey was open again. Lastly, the small sample size may have resulted in

type II error with false insignificant findings.

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Conclusion

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The purpose of this study was to analyze the differences in moral reasoning between first

year and second year OT and PT students and between students and OT and PT practitioners.

Through comparisons of first year and second year students and practitioners, investigators

discovered no significant difference in moral reasoning schemas. However, in comparing

patterns of moral reasoning, investigators found significant differences; specifically, students

utilized transitional patterns of moral reasoning and practitioners implemented consolidated patterns of moral reasoning. Although generalizability of this study is limited, results suggest that infusing the educational curriculum with clinical applications with a variety of pedagogical methods may be useful in facilitating development of moral reasoning. Similarly, providing support for moral reasoning through mentorship in clinical education may also facilitate consolidation of moral reasoning patterns. As understanding of how to facilitate moral reasoning improves, educational programs can better prepare OT and PT students to make moral decisions in clinical practice. Further research is indicated to better prepare and support practitioners in their moral and ethical development.

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Appendix: Glossary

- **Consolidated** - An established and consistent frame of thinking under which an individual morally reasons through a situation (Bebeau & Thoma, 2003).

- **Ethical decision making** - Identifying a problem, analyzing it, and finding resolution. that produces a caring response to an ethical issue (Doherty & Purtilo, 2016). See also ethical problem solving.

- **Ethical dilemma** - "A common type of situation that involves two (or more) morally correct courses of action that cannot both be followed" (Doherty & Purtilo, 2016, p. 66).

- **Ethical problem** – An issue in which ethical principles are at risk and one must decide regarding priorities for action. May also be referred to as an ethical question. "Places focus on one's role as a moral agent and those aspects of the situation that involve moral values, duties, and quality-of-life concerns in an effort to arrive at a caring response" (Doherty & Purtilo, 2016, p. 56).

- **Ethical problem solving** – Making decisions for action based on the agreed-upon principles and standards of one's profession. Doherty & Purtilo (2016) outline a six-step process including (1) gathering relevant information, (2) identifying type of ethical problem, (3) utilizing ethical theories to analyze the problem, (4) consider practical alternatives, (5) carry out resolution, and (6) evaluate and reflect.

- **Ethical reasoning** - "A mode of reasoning used to recognize, analyze, and clarify ethical problems that arise. Helps clinicians make decisions regarding the right thing to do in particular case" (Doherty & Purtilo, 2016, p. 77) and provides "the moral basis for professional behaviors and actions. The focus is not on what could be done for the patient, rather on what should be done" (Doherty & Purtilo, 2016, p. 77).

- **Moral decision making -** Making decisions based on one's own values, sense of duty, and character. see also ethical problem solving and ethical reasoning (Doherty & Purtilo, 2016).

- **Moral distress** - "Occurs when the moral agent knows what the morally appropriate course of action is but meets external barriers, internal resistance, or high level of uncertainty" (Doherty & Purtilo, 2016, p. 66).

- **Moral reasoning -** Making moral judgments in context-dependent situations. Moral reasoning and morality require consideration of personal values, duty, and character. Moral reasoning is needed to address ethical decision making in light of professional codes of ethics (Doherty & Purtilo, 2016).

- **Moral schema**- An approach to problem solving when faced with moral decision making. There are 3 levels of moral reasoning: preconventional morality, conventional morality, and post-conventional morality (Geddes et al., 2009)

- **Moral judgment** - A type of decision making required "when the particulars of a specific situation arise" (Doherty & Purtilo, 2016, p. 8).

- **Morality** - "Guidelines designed to preserve the very fabric of their society" (Doherty & Purtilo, 2016, p. 7) and is relational and context-dependent (Doherty & Purtilo, 2016).

- **Patterns of moral reasoning** - Frame of thinking when processing moral dilemmas. Can be consolidated or transitional (see definitions of transitional and/or consolidation; Bebeau & Thoma, 2003).

- **Transitional** - A failure to consistently process and problem solve moral decisions under one moral schema. This is a marker of developmental disequilibrium (Bebeau & Thoma, 2003).

Table 1

Participant Characteristics (n=154)

Characteristics	OT Y1 n(%)	OT Y2 n(%)	PT Y1 n(%)	PT Y2 n(%)	OT n(%)	PT n(%)	Total n(%)
Total	25(16)	32(21)	10(6)	24(16)	46 (30)	17 (11)	154(100)
Gender							
Male	1(6)	1(6)	1(6)	10(55)	1(6)	4(21)	18(12)
Female	24	31	9	14	45	13	136(88)
Age							
21-30	24	30	10	24	24	6	118
31-40	1	1	0	0	15	2	19
41-50	0	1	0	0	5	6	12
51-60	0	0	0	0	2	3	5
Race/Ethnicity*							
African American or Black	2	1	1	0	0	0	3
Asian or Pacific Islander	1	0	1	1	1	0	4
Caucasian (white; other than Hispanic)	22	29	9	23	45	17	145
Hispanic	1	0	0	0	0	0	1
Hispanic/Caucasian	1	0	0	0	0	0	1
Other**	0	2	0	0	0	0	2

*Participants were instructed to "check all that apply."

**Other: Participants wrote in "Multiracial" and "Wish not to specify."

Table 2

Moral Reasoning Patterns, Consolidation vs. Transition: All First Year Students and all Second Year Students v. All Practitioners

Group	Transition n (%)	Consolidation n (%)	Total
All First Year Students	22 (62.9%)	13 (37.1%)	35 (100%)
All Second Year Students	36 (64.3%)	20 (35.7%)	56 (100%)
All Practitioners	25 (39.7%)	38 (60.3%)	63 (100%)

Pearson's Chi-Square: X^2 (2, n=154) = 8.686, p = .013

Table 3

Moral Reasoning Patterns, Consolidation vs. Transition: Group Comparison Using Post-hoc

Bonferroni Correction

Group	Pearson Chi-Square Value (degrees of freedom)	Asystematic 2-sided significance*
First Year Students v. Second Year Students	.019 (1)	.890
First Year Students v. Practitioners	4.842 (1)	.028
Second Year Students v. Practitioners	7.183 (1)	*.007*

*Post-hoc Bonferroni correction of Second Year Students v. Practitioners: X^2 (1, n=119) = 7.183, p = .007. Italics indicate significant finding.