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Abstract

Within the field of occupational therapy, the issue of transitioning from an entry-level master's degree to an entry-level doctorate degree is under debate. As such, it is important to investigate the impact of the transition in order to help make educated decisions about the potential future of the profession. This study analyzed retrospective data collected from six cohorts at one Midwestern university to analyze the impact of the transition to an entry-level doctorate on diversity, admission and matriculation rates, and fieldwork reservations. No statistical difference in diversity between masters and doctorate level cohorts was found but it is of note that it approached significance ($\chi^2 (1) = 3.32, p = 0.07$). There was a slight decrease in number of total students that applied to the program (7.75%) and the number of fieldwork reservations (5.23%), however this was accounted for by a 60% increase in occupational therapy programs in the state the study took place. Results of this study provide preliminary data of how one university has succeeded in the transition to an entry-level doctorate and can be used to inform other programs as they consider this transition.

Keywords

Doctorate, transition, occupational therapy

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Masters to Doctorate: Impact of the Transition on One Occupational Therapy Program

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ABSTRACT

Within the field of occupational therapy, the issue of transitioning from an entry-level master's degree to an entry-level doctorate degree is under debate. As such, it is important to investigate the impact of the transition in order to help make educated decisions about the potential future of the profession. This study analyzed retrospective data collected from six cohorts at one Midwestern university to analyze the impact of the transition to an entry-level doctorate on diversity, admission and matriculation rates, and fieldwork reservations. No statistical difference in diversity between masters and doctorate level cohorts was found but it is of note that it approached significance ($\chi^2(1) = 3.32, p = 0.07$). There was a slight decrease in number of total students that applied to the program (7.75%) and the number of fieldwork reservations (5.23%), however this was accounted for by a 60% increase in occupational therapy programs in the state the study took place. Results of this study provide preliminary data of how one university has succeeded in the transition to an entry-level doctorate and can be used to inform other programs as they consider this transition.

The field of occupational therapy is debating a paradigm shift in entry-level education. This is not the first time the Accreditation Council for Occupational Therapy Education (ACOTE) and the American Occupational Therapy Association (AOTA) have overseen a shift in occupational therapy entry-level education. In 1970, all accredited occupational therapy programs transitioned to the baccalaureate level (Walls, 1999). Occupational therapy education transitioned again in 2007 to the entry-level master's (MSOT; AOTA, 2015).

The current debate is whether to transition entry-level education to a clinical doctoral level from the master's degree. The AOTA Board of Directors (2014) offered five reasons why moving to an entry-level occupational therapy doctorate degree (OTD) would be beneficial to students and the profession at large:

1. The existence of two entry-level degrees (currently a master's degree and clinical doctorate) is confusing to external audiences and the profession itself.
2. There is a need for occupational therapists who are “able to rigorously implement evidence-based practice, [understand] care delivery models, and [are] prepared to meet the future occupational needs of society.”
3. New occupational therapy graduates need to exhibit professional autonomy so they can take on leadership positions within the healthcare system.
4. The “increased focus on primary care, interprofessional care teams, and specialization in practice has required increased content in the entry-level academic programs.”
5. There has been a trend within other health care professions toward making the clinical doctorate their standard entry-level education to practice, and occupational therapy needs to remain competitive.

In August of 2017, ACOTE mandated that beginning July 1, 2027, only entry-level OTD programs would be eligible to receive accreditation status (ACOTE, 2017). Following this announcement, 3,300 of occupational therapists across the country formally petitioned this decision. Petitioners requested a dialogue take place in order to ensure that all stakeholders were fully informed of why the mandate was implemented and to provide them with reassurance that the mandate was a positive move for the profession and in the best interest of students, clinicians, and clients (AOTA, 2018a). Questions that the petition raised included the following:

1. Where is the research supporting the OTD Mandate?
2. Provide evidence that student debt will not increase.
3. Share the research proving that the number of occupational therapy graduates will not decline.
4. Where are the studies that have investigated the impact of an OTD requirement on diversity?
5. Where is the proof that maintaining two points of entry will be confusing to external audiences? Have studies been conducted? What were the findings?
6. Have studies been carried out that investigated how fieldwork will be impacted?
7. Do employers and clients report that entry-level OTD practitioners are superior practitioners with master's degrees? Have survey studies been conducted? Were focus groups held? What were the findings?
8. How many OT practitioners (who did not work in academia) were involved in the decision-making process regarding the OTD mandate?

In April 2019, AOTA's Representative Assembly addressed the motion to update Policy E.6 entry-level of occupational therapists and occupational therapy assistants and determined that the profession would have a dual-entry point for occupational therapists (AOTA, 2019 b). While the profession currently accepts dual-entry, this is a topic that will likely be revisited in the coming months and years. The purpose of this study was to

address three of the eight questions listed in the Petition to the Board of Directors, reframed as the following research questions (AOTA, 2018 a):

1. Does transitioning from MSOT to OTD cause a decline in the number of enrolled students and graduates?
2. Will transition from OTD to MSOT negatively impact fieldwork reservations?
3. Will transitioning to OTD from MSOT impact diversity of student/graduate population?

Literature Review

Enrollment Changes

Several other healthcare professions have made transitions to entry-level doctorate level education. One profession that made the transition to an entry-level doctorate is pharmacy. After considerable debate, the Accreditation Council for Pharmacy Education (ACPE) officially voted in 1997 in favor of the Doctor of Pharmacy, or PharmD, as the sole option for entry to the professional field (ACPE, 2011). In just eight years, the field saw an increase in PharmD graduates by 57%, from 7,000 in 2001 to 10,988 in 2009 (Brown, 2010).

Another healthcare profession to complete the transition to the entry-level doctorate is physical therapy. From the academic years 2015-2016 to 2017-2018, the average Doctor of Physical Therapy program increased in the number of students enrolled from 124 to 136 and saw a 5% increase in minority student enrolled enrollment (Commission on Accreditation in Physical Therapy Education [CAPTE], 2018). CAPTE's analysis of average trends in admissions between 2010 and 2017 found that the number of applicants increased overall and the number of enrolled students per program rose from 41 in 2010 to 49.4 in 2015 (CAPTE, 2018).

Fieldwork

In addition to the impact a transition to an OTD would have on admission numbers, there are concerns that the transition would also impact fieldwork availability. A notable barrier that the field of occupational therapy is currently navigating is a shortage of fieldwork sites (Roberts & Simon, 2012; Ozelie et al., 2015; Schafer-Clay, 2019). Fieldwork sites are struggling to accommodate the increased demand for student placements not only due to the increased number of occupational therapy schools, but it is believed that the OTD capstone requirements will further the strain clinical sites. The OTD encompasses a doctoral capstone project in which students have an additional opportunity to engage in an area of practice on a more in-depth level. Standard D.1.0 in the 2018 ACOTE standards guide states, "The student will complete an individual 14-week capstone experience that must be started after completion of all coursework and Level II fieldwork" (ACOTE, 2018, p. 44).

Diversity

Apart from rising concerns regarding the fieldwork shortage, opponents to the transition from entry-level master's to an entry-level doctorate also cite decreasing diversity as a major concern (Royeen & Lavin, 2007; Seegmiller et al., 2015; Fisher & Crabtree, 2009;

Lucas Molitor & Nissen, 2018; Coppard & Dickerson, 2007; Siler & Randolph, 2006). For the purposes of this study, “minorities” are defined as underrepresented groups - specifically Black and Hispanic/Latino individuals, based on AOTA’s definition of diversity. Historically, the field of occupational therapy has been predominantly monocultural with white individuals making up the majority of the profession since its inception in 1917. Non-white students were first admitted in 1943 (Black, 2002). Almost forty years later in 1984, a report found that 8% of occupational therapists were minorities while the profession was at the bachelor level (Black, 2002). This number was increased by 5% over the last 33 years (AOTA, 2018b).

In 2017, the total number of occupational therapy students was 21,348. Of that, 19,262 were master's students and 2,086 were doctoral students. The AOTA’s most recent *Academic Programs Annual Data Report* (2018b) stated that 80% of master's students were white compared to 85% of doctorate students. Minority enrollment in both degree types have remained relatively stable for nearly a decade at 13%. The number of Hispanic/Latino doctoral students fluctuated between 3% and 4% from 2009 - 2017, while master’s students increased from 5% to 7% (AOTA, 2018b) Since 2013, 5% of master’s students identified as Black or African American compared to 3% of doctoral students. The number of students who identify as Other are slightly higher, with 8% of master’s students and 5% of doctoral students falling into this category (AOTA, 2018b).

Physical therapy, occupational therapy’s most comparable profession has completed an identical transition and also identified decreasing diversity as a concern (Mathur, 2011; Nuciforo, 2015). CAPTE’s (2018) most recent report demonstrates a positive increase between 2009 and 2018, as the number of students who identified as white decreased from 81.4% to 76%. Increases in diversity rates can also be seen in medicine, nursing, and dentistry (Association of American Medical Colleges [AAMC], 2018; American Association of Colleges of Nursing [AACN], 2018; Lacy et al., 2012; American Dental Education Association, 2009). Nursing had some of the highest rates of diversity. In 2008, 16% of doctoral nursing students were minorities. In 2017, these numbers increased to 32.1% (AACN, 2018).

Following a transition to entry-level doctoral education in other healthcare fields, admission and diversity rates of enrollees were overall unchanged or experienced an increase. In the field of occupational therapy, however, little research has been conducted on this issue.

Methods

Participants

This study used a retrospective cohort design using a convenience sample from an urban university in the Midwest. Retrospective data from students (n = 213) who matriculated into six cohorts between 2014 and 2019 at the university was analyzed. This comprised of three cohorts (n = 107) of entry-level MSOT students and three cohorts (n = 106) of entry-level OTD students. Inclusion criteria consisted of students

who entered the aforementioned cohorts at this university. There were no exclusion criteria for this study.

Procedure

This study received exempt status from the Institutional Review Board from the affiliated university. Data that was routinely collected within the University's department of occupational therapy was used for analysis. All data received by study personnel was de-identified prior to provision by persons within the department. Admissions and diversity data were retrieved from the Centralized Application Service for Occupational Therapy Programs (OTCAS), a web-based application portal used by universities and students to streamline the application process to occupational therapy programs, by a member of the department. Data collected from OTCAS included information from students matriculating in the academic years of 2014, 2015, 2016, 2017, 2018, and 2019. Specific data provided by the department to the research team included: the student's year of matriculation, age at admission, sex, and self-identification of race.

To analyze the impact of the transition to OTD on fieldwork reservations, the number of fieldwork reservations acquired for each cohort was retrieved using a clinical education management software, EXXAT. EXXAT is used by the university to oversee and manage all fieldwork data. Data from EXXAT was provided to the study team by the Academic Fieldwork Coordinator at the University.

Data Analysis

Data and descriptive information was analyzed using the Statistical Package for the Social Sciences (SPSS), version 22. A Chi-square test was conducted to identify differences in diversity of cohorts between the master's and doctorate programs. An independent t-test was performed to compare differences in age and sex of students at matriculation between entry-level master's degree cohorts and entry-level doctorate degree cohorts. The number of students matriculating into master's level versus doctorate level programs was compared, as well as the number of fieldwork reservations for each degree type.

Results

Admission and Matriculation

The number of applicants for each year was gathered and compiled to identify any change in the number of applicants between degree types. The MSOT program saw a slightly higher number of applicants ($n = 1,588$) compared to the OTD program ($n = 1,465$), a difference of 123 applicants, or 7.75%. The number of students that matriculated into the MSOT program was 108 and the number of students that matriculated into the OTD program was 109.

Fieldwork Reservations

Fieldwork data was compared to determine if differences in the number of fieldwork reservations existed. There was a decrease in the number of total fieldwork reservations for the last three years as an MSOT program ($n = 497$) to all three years as an OTD

program (n = 471). This represented a 5.23% decrease from MSOT fieldwork reservations to OTD fieldwork reservations.

Diversity and Demographics

Demographic information was self-reported by the students through OTCAS. A Chi-square test was used to analyze the difference in racial/ethnic diversity and sex by degree type. The results indicated that 8.2% of OTD students met the criteria for diversity (n = 9) compared to 2.8% of master's students (n = 3). There was no significant difference in diversity between MSOT and OTD cohorts ($\chi^2 (1) = 3.32, p = 0.07$). Diversity is described in Table 1.

Table 1

Chi-Square Analysis of Diversity by Degree Type (n = 213)

Degree Type	Diversity			
	Diverse	Diverse n (%)	Not Diverse	Not Diverse n (%)
MSOT	3	2.8	104	97.2
OTD	9	8.2	97	91.5

$\chi^2 (1) = 3.32, p = 0.07$

An independent T-Test was performed to examine if there was a significant difference in age at the time of admission between the MSOT and OTD programs. There was no significant difference in age at the time of matriculation for the MSOT (M = 22.6, SD = 2.76) and the OTD (M = 22.4, SD = 2.66) degrees; $t(211) = 0.49, p = 0.07$. Age at admission is described in Table 2.

Table 2

T-test of Age at Admission by Degree Type (n = 213)

Degree Type	N	Age at Admission	
		Age M (SD)	t value
MSOT	107	22.6 (2.76)	0.49
OTD	106	22.4 (2.66)	0.49

$p = 0.07$

Discussion

As a profession, occupational therapy has undergone many changes throughout the decades. The educational requirements to become a licensed occupational therapist have evolved as a result of the ever-changing healthcare environment. This study sought to provide a preliminary analysis on how this transition impacted the diversity, matriculation, and fieldwork availability at one Midwestern school.

Lack of diversity in higher education and healthcare is not unique to occupational therapy. Minorities are underrepresented across higher education in general (Cook & Córdova, 2007; Fisher & Crabtree, 2009; Ashkenas et al., 2017). Minorities are also underrepresented in healthcare, making up less than 20% of all health professions despite accounting for more than 30% of the population (Valentine et al., 2016). As the United States is becoming increasingly diverse, there is a high demand for the workforce to reflect the population being served (Bouye et al., 2016). This study found a 5.4% increase in diversity rates since the transition to the OTD program. These findings are similar to physical therapy education literature that found that the transition to the doctorate has not negatively impacted enrollment of minority students in the physical therapy profession (CAPTE, 2018). The rate of diversity examined in this transitional OTD program (8.2%) is similar to that of the national average (7%) for black and Hispanic/Latino student enrollment.

Another question regarding the impact on the number of occupational therapy graduates was presented to AOTA by stakeholders and stated: “Share the research proving that the number of occupational therapy graduates will not decline” (AOTA, 2018a). At this Midwestern University, graduation data is not currently available for the OTD program. Therefore, the research team chose to compare the number of students who matriculated into each program type with the assumption that the number of matriculated students closely equates to the number of viable graduates due to an average graduation rate of 98% within this program, which is on par with the national average (AOTA, 2018b). The number of students that matriculated into the MSOT program was 108 and there was an increase to 109 students for the OTD program over the three years. While this is a minimal increase in potential graduates, it does demonstrate preliminary data to support that there is no decrease in the number of potential occupational therapy graduates at this school. This is similar to the Aggregate Program Findings by the Commission on Accreditation in Physical Therapy Education in which the number of graduates increased from 6,763 students to 32,048 students (CAPTE, 2018).

The research team also analyzed the number of applicants for each degree. A 7.75% decrease in the number of applicants, as well as 5.23% decrease in fieldwork reservations, was found since the transition to entry-level OTD however this minimal decrease may be largely attributed to a growing number of occupational therapy programs in this state. This Midwestern state had five accredited occupational therapy programs during the years of 2014, 2015, 2016, the time period analyzed for representation of the MSOT program. Since this time, three additional occupational

therapy programs began enrolling students into their programs. This represents a 60% increase in the number of occupational therapy programs in the state in the past three years. The increasing number of programs could explain the decreasing number of applicants to this program and the impact on fieldwork availability. It is also of note that there are nine accredited occupational therapy assistant programs in the state that are competing for applicants and fieldwork sites. This large number of occupational therapy and occupational therapy assistant programs within one state will undoubtedly impact admission numbers and the availability of fieldwork placements separate from the transition to the OTD.

A small decrease (5.23%) in the total number of fieldwork reservations was found between the MSOT and OTD program at this university. It was felt this was largely attributed to the 60% increase in occupational therapy programs within the state. Despite the significant increase in occupational therapy programs, this program only had a small decrease in the total number of fieldwork reservations. This is likely due to the program's strategic plan and curriculum philosophy to serve diverse people, groups and populations in emerging and nontraditional practice settings. As such, this program largely has structured their Capstone experiences to be in non-traditional sites, strategically avoiding more traditional clinical sites to limit a potential negative impact on fieldwork availability.

Limitations

The results of this study were derived from one Midwestern university, and therefore may not necessarily be reflective of all programs nationwide. This study also looked at a recently transitioned program. Universities with longer established doctorate programs may present different findings.

Implications for Occupational Therapy Education

- A lack of diversity in occupational therapy education has existed since the beginning of the profession. In recent years, diversity rates in OTD students are nearly equal to MSOT students. However, these numbers are still lower than in other healthcare professions. Admissions departments for occupational therapy programs should be mindful of the barriers minority students face in higher education and assess ways to improve recruitment and retention of diverse students at both the master's and doctoral levels.
- This preliminary study finds admission rates and fieldwork availability minimally impacted since the transition to an OTD. These items are also likely impacted by the sheer increase in the number of occupational therapy programs (MSOT or OTD) and administrators should consider these threats during strategic planning.
- Continued analysis of the impact of a transition to an OTD is critical so that the profession can make educated decisions about the future of occupational therapy education.

Suggestions for Future Research

Further research should be conducted using data from multiple universities to explore the impact on diversity, admission and graduation rates of students after the transition

to a doctorate of occupational therapy program. This work is increasingly important as programs continue to transition, consider the benefits and challenges of transitioning and as the profession continues to debate the topic.

Future studies may want to consider other aspects of graduate programs to better understand how diversity is impacted, such as location of program, cost of education, university recruitment methods and available student supports. Future studies may also want to consider analyzing the transition to an OTD using a broader definition of diversity to assess the impact this transition will have on other groups of students.

Conclusion

This study provides preliminary data of how one university has succeeded in the transition from the MSOT to the OTD. The results of this study find that the transition to an OTD had no significant impact on admission rates, fieldwork reservations, or diversity. Having this information can serve as a resource to other universities that are considering the transition.

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