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Abstract

This study investigated United States (U.S.) occupational therapy (OT) practitioners' perceived value and utilization of OT models in practice. In addition, this research explored correlations that might impact practitioner value and choice of models as related to entry-level OT educational program, practice setting, and frequency of model utilization. The study utilized a cross-sectional research design. A convenience sample of 219 OT practitioners completed an 18-question online survey capturing participant demographics, perceived value, and utilization of models. Practitioners indicated they used models (79.45%, $n = 174$) in practice with 77.63% ($n = 170$) reporting they somewhat or strongly agreed that models were valuable to their practice. The greater the practitioner's perceived value of models, the more often the person used models in practice ($r_s = .575, p$

Keywords

Occupational therapy models, occupational therapy model utilization, occupational therapy model education

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ABSTRACT

This study investigated United States (U.S.) occupational therapy (OT) practitioners' perceived value and utilization of OT models in practice. In addition, this research explored correlations that might impact practitioner value and choice of models as related to entry-level OT educational program, practice setting, and frequency of model utilization. The study utilized a cross-sectional research design. A convenience sample of 219 OT practitioners completed an 18-question online survey capturing participant demographics, perceived value, and utilization of models. Practitioners indicated they used models (79.45%, $n = 174$) in practice with 77.63% ($n = 170$) reporting they somewhat or strongly agreed that models were valuable to their practice. The greater the practitioner's perceived value of models, the more often the person used models in practice ($r_s = .575$, $p < .001$). Primary benefits of OT model use included guiding clinical reasoning in treatment decisions and interventions (39.73%, $n = 87$), and assisting practitioners in viewing the client in a holistic manner (37.44%, $n = 82$). The study identified time constraints (29.68%, $n = 65$) as the primary barrier to use of models in practice. Occupational therapy models are utilized and valued by the majority of practicing U.S. OTs.

INTRODUCTION

Occupational therapy (OT) models are an essential part of the profession. Cole and Tufano (2008) defined OT models as theories specifically developed by OTs to guide practice. Initially, individuals created OT models as a response to the shift from a reductionistic treatment approach utilizing the medical model to an occupation-based treatment approach led by Mary Reilly with her introduction of the Occupational Behavior model in the sixties (Christiansen & Haertl, 2014). Each new model that was introduced provided a unique theoretical construct describing a comprehensive approach to the OT process irrespective of client deficit or diagnosis.

Researchers and textbook authors show considerable discrepancies in their use of terms describing OT theory, including models. Researchers have often used the terms models and frames of reference interchangeably (O'Neal, Dickerson, & Holbert, 2007; Owen, Adams, & Franszen, 2014). While models and frames of reference both provide structure and guidance to OT practice, frames of reference differ in that they are designed to address specific impairments (Wong & Fisher, 2015). For example, the Biomechanical frame of reference is only appropriate to use with clients who have physical deficits and/or pain (Cole & Tufano, 2008). Cole and Tufano (2008), in their textbook *Applied Theories in Occupational Therapy: A Practical Approach*, chose to use the term occupation-based models while Brown (2014) in *Willard and Spackman's Occupational Therapy Twelfth Edition* further subdivided models into a group labeled ecological models. As a result of this inconsistent labeling and use of terms, differing perceptions have developed within academia, research, and clinical practice.

Occupational therapy models have been labeled using various terms including models of practice (AOTA, 2011), OT models of practice (Larsson-Lund & Nyman, 2017), occupation-based models (Cole & Tufano, 2008), occupation-focused models (Ashby & Chandler, 2010; Wong & Fisher, 2015), as well as occupation-performance models (Baum & Christiansen, 2005). This study used OT models or model as blanket terminology to cover the various listed labels.

Authors have suggested beneficial outcomes when using OT models. The use of OT models has been reported to: (a) be a key element in problem solving (Parham, 1987), (b) provide words or concepts for labeling observations (Parham, 1987), (c) showcase the unique value of the profession's knowledge and significance to society (Wood, 1996), (d) unify concepts around practice (Law & McColl, 1989), (e) provide rationale for intervention (Krefting, 1985), and (f) create the vocabulary through which practitioners may express their ideas and philosophies (Law & McColl, 1989). However, these assumed benefits appear to have minimal research to support them.

The Accreditation Council for Occupational Therapy Education (ACOTE) has underscored the importance of models in OT practice by requiring that OT students be instructed on various models. Per these ACOTE standards (B.2.0., B.2.1., B.2.2., B.3.1. and B.4.0.), students need to gain the skills to evaluate, analyze, synthesize, and apply OT models to inform intervention and evaluation (ACOTE, 2018). Though OT educators are required to provide education regarding models, research has not identified how

many models to include or if inclusion of models in entry-level OT curricula impacts practitioner utilization and perceived value of these models.

LITERATURE REVIEW

Occupational Therapy Models in Education

ACOTE requires that OT entry-level programs provide model education; however, ACOTE standards do not specify which models or how many models are required to be included in the curriculum (AOTA, 2011). This allows for diverse approaches to OT model education in entry-level programs. Recent research has identified which OT models are most often taught (Ashby & Chandler, 2010), the impact of teaching a systematic method of combining models (Ikiugu & Smallfield, 2011), as well as OT students' perceptions of their ability to apply and use models in practice (Towns & Ashby, 2014). Ashby and Chandler (2010) identified which occupation-focused models were being taught in OT professional education programs in Australia, Canada, United Kingdom, and the United States (U.S.). Specifically, 39 of the 143 participating education programs included in this study were located in the U.S. The researchers found that the most commonly included models in the U.S. education programs were the Canadian Model of Occupational Performance and Engagement (CMOP-E; 97.4%) and the Model of Human Occupation (MOHO; 97.4%).

Ikiugu and Smallfield (2011) completed a mixed methods study of 43 OT students investigating whether introduction of the Ikiugu eclectic method (Ikiugu, Smallfield, & Condit, 2009) of combining models in practice connected with completion of a case study would facilitate increased ease and use of models by OT students. Quantitative results indicated a significantly higher ability to combine theoretical models by the experimental group with these results supported by the qualitative findings from the OT student participant focus groups. These researchers proposed that teaching OT students a systematic approach to combining OT models would potentially increase the value and use of models by clinicians in practice.

There is an overall belief that OT students have difficulty using their knowledge of models and applying them to real-world experiences (Ashby & Chandler, 2010; Towns & Ashby, 2014). Towns and Ashby (2014) demonstrated that Australian students' perceptions of models were shaped by their professional practice educator's ability to effectively communicate use of models in practice. Ashby and Chandler (2010) suggested that there was an ideal balance regarding the number of models included in any entry-level OT curriculum. Ashby and Chandler (2010) indicated exposure to a large number of models resulted in a "superficial understanding of the models" by students (p. 621), but insufficient exposure left students with a deficit in their awareness of models that might be applicable to practice.

Utilization of Occupational Therapy Models in Practice

Occupational therapy practitioners utilize models to provide best practice (Wong & Fisher, 2015), solidify the profession's identity, justify clinical decisions (Lee, 2010), and view clients in a holistic manner (Cole & Tufano, 2008). Although practitioners are

encouraged to use OT models to guide professional decisions, research has shown that numerous factors influence whether models are routinely utilized (Leclair et al., 2013). Some of these impactful factors include (a) practitioners' educational background, (b) practitioners' years of professional experience, and (c) practitioners' perceived value of models (Owen et al., 2014). Researchers found that the number of models utilized in practice increased in relation to the practitioners' years of experience (Owen et al., 2014). Factors such as settings and years of experience influence therapists' knowledge of models which can impact their use in practice (Maclean, Carin-Levy, Hunter, Malcolmson, & Locke, 2012; Owen et al., 2014).

Additional research explored the utilization and application of models in specific practice settings (Casteleijn & Vos, 2007; Lee et al., 2012; Maclean et al., 2012). Lee and colleagues (2012) reported that 92.1% of the 223 occupational therapists studied used the MOHO as their primary model in mental health clinical settings. Two-thirds of the participants reported the MOHO improved their ability to create client-centered goals and construct interventions while remaining occupation-based. In acute care settings, the Person Environment Occupation (PEO) model was found to be implemented due to its flexibility and the practitioners' comfort in applying this model (Maclean et al., 2012). In the vocational rehabilitation setting, Casteleijn and Vos (2007) found that the Vona du Toit Model of Creative Abilities (VdT MoCA) has been utilized due to its capacity to provide an appropriate level of challenge.

OT practitioner participation in continuing education courses may also impact model utilization. Lee, Taylor, Kielhofner, and Fisher (2008) studied knowledge and utilization of the MOHO in practice and found 15.3% of 256 participants reported attending a workshop or continuing education course about this model to enhance their knowledge and use of this model in practice. Attending continuing education courses and workshops as well as conversing with other practitioners may influence how OT practitioners select and use OT models (Lencucha, Kothari, & Rouse, 2008; Melton, Forsyth, & Freeth, 2010). Vermaak and Nel (2016) provided model-based workshops that included a collaborative approach and assessed practitioners' self-perceptions of their knowledge concerning models. The models taught in these workshops included: (a) the MOHO, (b) Kawa, (c) the CMOP-E, and (d) the Person Environment and Occupational Performance (PEOP). The researchers found that 100% of the participants selected post workshop felt "more knowledgeable and competent to apply models in practice" (Vermaak & Nel, 2016, p. 38).

Models have generally been understood as being tightly linked to evidence-based practice, guiding the OT process, and assisting in effectively communicating and supporting the rationale for intervention (Law & McColl, 1989; Owen, Adams & Franszen, 2014; Parham, 1987). Limited quantitative research has been conducted on OT model perceived value and utilization by practitioners. This study investigated U.S. OT practitioners' perceived value and utilization of OT models in practice. This study also explored correlations that might impact practitioner value and choice of model as related to entry-level OT educational program, practice setting, and frequency of model utilization. Researchers also explored benefits and barriers to model use in practice.

METHODS

Research Design

Investigators used a cross-sectional survey design for this study to discover the perceived value and utilization of OT models by licensed and practicing U.S. OTs. The researchers also analyzed various factors influencing therapists' perceived value and utilization of models. This study employed a snowball sampling method via Facebook to recruit participants. The survey was initially posted through the researchers' personal Facebook pages, as well as OT-related Facebook groups.

Research Instrument

The researchers designed an 18-item survey specifically to gather data for this study (see Appendix A). Seven OT models (see Table 1) were included in the survey: (a) Canadian Model of Occupational Performance (CMOP), (b) Ecology of Human Performance (EHP), (c) the Kawa River Model (Kawa), (d) MOHO, (e) PEOP, (f) Occupational Adaptation (OA), (g) Occupational Therapy Intervention Process Model (OTIPM), and (h) VdT MoCA. These seven OT models were selected because they were the models the researchers found to be most frequently included in research studies published in journal articles printed in the English language over the last decade related to model use, value, and education.

Table 1

Occupational Therapy Models Included in the Survey

Model Name	Acronym or Abbreviation	Citation
*Canadian Model of Occupational Performance and Engagement	CMOP-E	Polatajko, H. J., Townsend, E. A., & Craik, J. (2007). <i>Enabling occupation II: Advancing an occupational therapy vision of health, well-being, & justice through occupation</i> . Ottawa: CAOT Publications ACE, 22-36.
Ecology of Human	EHP	Dunn, W., Brown, C., & McGuigan, A. (1994). The ecology of human performance: A framework for considering the effect of context. <i>American Journal of Occupational Therapy, 48</i> , 595-607.
Kawa (River) Model	KAWA	Iwama, M. K. (2006). <i>The Kawa model: Culturally relevant occupational therapy</i> . Philadelphia: Elsevier.

Model of Human Occupation	MOHO	Kielhofner, G., & Burke, J. (1980). A model of human occupation, part 1. Conceptual framework and content. <i>American Journal of Occupational Therapy, 34</i> , 572-581.
Occupational Adaptation	OA	Schultz, S., & Schkade, J. K. (1992). Occupational adaptation: Toward a holistic approach to contemporary practice, Part 1. <i>American Journal of Occupational Therapy, 46</i> , 829-837. Schkade, J. K., & Schultz, S. (1992). Occupational adaptation: Toward a holistic approach to contemporary practice, Part 2. <i>American Journal of Occupational Therapy, 46</i> , 917-926.
Occupational Therapy Intervention Process Model	OTIPM	Fisher, A. G. (1998). Uniting practice and theory in an occupational Framework. <i>American Journal of Occupational Therapy, 52</i> (7), 509-521.
Person Environment Occupational Performance	PEOP	Christiansen, C., & Baum, C. M. (Eds.). (1991). <i>Occupational Therapy: Overcoming human performance deficits</i> . Thorofare, NJ: SLACK Incorporated.
Vona du Toit Model of Creative Ability	VdT MoCA	Van der Reyden, D. (1989). Vona du Toit memorial lecture: Creative participation, 20 years later. <i>South African Journal of Occupational Therapy, 19</i> (1), 28-36.

**Note: The earlier version of this model, the CMOP, was used in the survey: Canadian Association of Occupational Therapists. (1983). Guidelines for the client-centred practice of occupational therapy.*

The survey included primarily multiple choice questions (n=11), a few closed-ended short answer questions related to demographic data (n=5), as well as Likert scale survey questions (n=2). The Likert scale questions included one related to therapist value of OT models and the other regarding therapist desire to attend continuing education about OT models. The survey required approximately 10 minutes to complete. Face validity was established by a convenience sample of seven experienced

U.S. OTs, licensed and registered, with between 10-24 years of practice experience in a variety of settings. SurveyMonkey, an online survey data collection instrument, was used for this study. Participants were directed to only complete the survey once, and participation was anonymous. Participation and completion of this survey was voluntary. The survey was available to all participants on the SurveyMonkey website from July 17, 2017 to September 29, 2017.

Participants

A total of 283 participants who self-identified as OTs opened the survey on SurveyMonkey. The researchers excluded OT assistants from this study. Researchers also did not include incomplete surveys ($n = 58$) and those that contained nonsensical responses unrelated to posed questions ($n = 6$), resulting in a total of 219 completed surveys for analysis.

Data Analysis Procedures

Researchers analyzed descriptive statistics using SurveyMonkey. In addition, the investigators completed Spearman correlations (r_s) using the Statistical Package for the Social Sciences 23 (SPSS) software program. The significance (p) of the specified correlations was set at a .05 alpha level. The Spearman correlations (r_s) found were evaluated using a scale ranging from .0 to 1.0 to determine the strength of the relationship between variables. A Spearman correlation (r_s) score of .4 to .6 is considered a moderate relationship, values above this level are considered to be a strong relationship, and values below .4 are considered to be weak or show no relationship (Salkind, 2011).

Data Monitoring

The principal investigator maintained sole access to the data collected through SurveyMonkey. SurveyMonkey provided TRUSTe Certified Privacy that ensured participant confidentiality. Hard copies of survey results are kept in locked storage at the Kettering College OT department.

Ethical Approval and Considerations

The Kettering Health Network Institutional Review Board (IRB) granted exempt review status for this study. Study information was provided on the first page of the survey. The study information page listed the risks associated with participation including a potential loss of privacy due to identifiable information addressed in the survey. Additionally, the page also explained a potential for participants to experience psychological discomfort when completing the survey. Participants established consent by clicking next on the survey's information page.

RESULTS

Demographic Information

A total of 219 practicing OTs within the U.S. completed this survey. The findings represented 102 entry-level OT educational programs, 40 different states, and all four regions (U.S. Department of Commerce Economics and Statistics Administration, U.S.

Census Bureau, n.d.) of the U.S. As demonstrated in Table 2, more than half of the participants achieved an entry-level Master's degree. Additionally, the majority of participants completed a Master's degree as their overall highest degree earned. The participants' professional experience ranged from less than one year to 53 years, with an average of 14.38 years. The sample represented 10 specific practice settings (see Figure 1) with school-based services being the participants' predominant clinical setting.

Table 2

Therapists' Degrees and Years of Experience (N= 219)

Characteristic	N	%
Entry-Level Degree		
Bachelor's Degree	78	(35.62%)
Master's Degree	131	(58.82%)
Doctorate Degree	10	(4.57%)
Highest Degree Earned		
Bachelor's Degree	51	(23.29%)
Master's Degree	135	(61.64%)
Doctorate Degree	33	(15.07%)
Years of Experience		
Less than 1 year	13	(5.94%)
1 to 5 years	63	(28.77%)
6 to 10 years	42	(19.18%)
11 to 15 years	26	(11.87%)
16 to 20 years	34	(15.53%)
21 to 25 year	12	(5.48%)
More than 25 years	29	(13.24%)

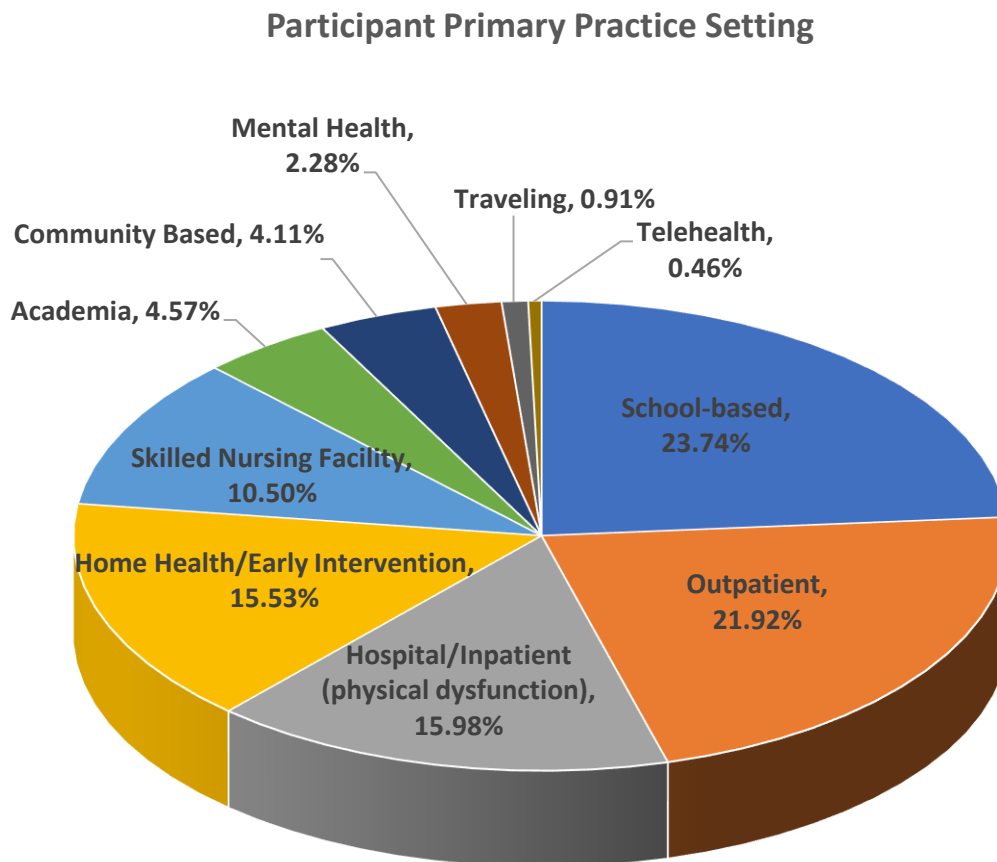


Figure 1. Participant primary practice setting.

Perceived Value and Utilization

One hundred and seventy-four participants (79.45%) indicated they were using OT models in practice with one hundred and seventy participants (77.63%) reporting they strongly agreed or somewhat agreed that models are valuable to their practice. Researchers found the greater the OT practitioner perceived value of models, the more often that person used models in practice ($r_s = .575$, $p < .001$). Participants identified two main benefits from using these models: guiding clinical reasoning in treatment decisions and interventions (39.73%, $n = 87$) and assisting practitioners in viewing the client in a holistic manner (37.44%, $n = 82$). Seventy-eight participants (35.62%) indicated utilizing models in their practice with every client, 21.46% ($n = 47$) indicated using models daily but not with every client, while 20.55% ($n = 45$) indicated they never use models in practice.

Barriers to Model Utilization

The survey included a multiple-choice question asking participants to identify which, if any, barriers limited practitioner model utilization. Participants indicated that time constraints were the greatest barrier to model utilization (29.68%, $n = 65$). The next most frequent response was “no barriers impact my use of occupational therapy models in practice” (26.94%, $n = 59$) followed by “knowledge of occupational therapy models” (19.18%, $n=42$). Finally, barriers did not correlate with how often OT models were used in practice ($r_s = .298$, $p < .001$).

Education

Participants recalled that an average of three models were taught in participants’ entry-level OT educational programs. The three OT models most frequently reported to be included in curricula were the MOHO (89.95%, $n = 197$), the CMOP (53.88%, $n = 118$), and the PEOP model (53.88%, $n = 118$).

Models Most Frequently Utilized

Participants reported using the PEOP (31.96%, $n = 70$) model followed by the MOHO (29.22%, $n = 64$) most often in practice (see Table 3). Almost 20% of participants reported using no models in practice. Survey participants predominantly reported working in school-based ($n = 52$) and outpatient settings ($n = 48$). These participants reported the MOHO (32.69%) was the model utilized most in school-based settings, whereas PEOP (33.30%) was the model utilized most in outpatient settings (see Table 4).

Table 3

Model Utilized Most Frequently Overall (N= 219)

Model	N	%
PEOP	70	(31.96)
MOHO	64	(29.22)
No Models	43	(19.63)
OA	13	(5.94)
EHP	11	(5.02)
CMOP	11	(5.02)
OTIPM	6	(2.74)
VdT MoCA	1	(0.46)

Table 4

Model Utilized Most Frequently by Practice Setting (N= 219)

Practice Setting	N	%
School-based	52	
MOHO	17	(32.69)
PEOP	15	(28.85)
No Models	12	(23.08)
EHP	5	(9.62)
CMOP	1	(1.92)
OA	1	(1.92)
OTIPM	1	(1.92)
Outpatient	48	
PEOP	16	(33.33)
MOHO	15	(31.25)
No Models	10	(20.83)
CMOP	4	(8.33)
OA	2	(4.17)
VdT MoCA	1	(2.08)
Hospital/Inpatient	35	
PEOP	10	(28.57)
No Models Used	9	(25.71)
MOHO	6	(17.14)
OA	4	(11.43)
OTIPM	3	(8.57)
EHP	2	(5.71)
CMOP	1	(2.86)
Home-health/Early Intervention	34	
MOHO	11	(32.35)
PEOP	8	(23.53)
No Models	7	(20.59)
CMOP	3	(8.82)
OA	2	(5.88)
OTIPM	2	(5.88)
EHP	1	(2.94)
Skilled Nursing Facility	23	
PEOP	10	(43.48)
MOHO	8	(34.78)
OA	3	(13.04)
EHP	2	(8.70)

Academia	10	
PEOP	4	(40.00)
CMOP	2	(20.00)
MOHO	2	(20.00)
No Models	2	(20.00)
Community	9	
PEOP	4	(44.44)
MOHO	4	(44.44)
No Models	1	(11.11)
Mental Health	5	
PEOP	3	(60.00)
EHP	1	(20.00)
OA	1	(20.00)
Travel	2	
MOHO	1	(50.00)
No Models	1	(50.00)
Telehealth	1	
No Models	1	(100)

Factors Influencing Practitioner Value

The researchers assessed correlations to determine factors that might impact practitioner value of models. These factors included the greater number of models taught in participants' entry-level OT educational program ($r_s = .179$, $p = .008$), the more recent a practitioner graduated from an entry-level program ($r_s = .065$, $p = .567$), the highest degree earned by participants ($r_s = .172$, $p = .011$), or the region where the participants received their entry-level OT degree ($r_s = .121$, $p = .074$). None of these factors correlated with increased practitioner value of OT models.

Knowledge of Theoretical Terms

Several participants (36.07%, $n = 79$) stated "no" or "I don't know" in response to whether there is a difference between the terms "occupational therapy models" and "frames of reference." In addition, most participants (61.19%, $n = 134$) indicated that they were "not likely" to attend continuing education courses related to OT models.

DISCUSSION

The researchers completing this study investigated the perceived value and utilization of models by OT practitioners in the U.S. The majority of respondents (79.45%) reported they were using OT models in practice. This is a greater number of therapists reporting utilization of theory in practice than the approximate 65% of occupational therapists indicated by Law and McColl (1989). These results differ from prior research which

reported that occupational therapists are experiencing multiple barriers to implementing model use in practice (Wong & Fisher, 2015). This study also agreed with the assertion by Krefling (1985) that models are used to guide treatment decisions and interventions. One hundred and seventy respondents (77.63%) expressed they strongly or somewhat agree that OT models are valuable to their practice. This study is the first to quantify OT practitioner value of model use in practice. The majority of survey participants recognize the value of OT models to their practice and are using them.

Participants in this study identified utilizing the PEO model most frequently in practice (31.96%, $n = 70$). The MOHO (29.22%, $n = 29.22$) and the OA model (5.94%, $n = 13$) were the next most utilized models in practice. These results differ slightly from prior researcher perceptions that the MOHO, PEO, and CMOP-E are the most widely used models in western countries (Ashby & Chandler, 2010; Wong & Fisher, 2015). In fact, results of this study indicated the EHP model (5.02%, $n = 11$) had the same level of utilization as the CMOP model (5.02%, $n = 11$) in U.S. OT practice.

Study results indicated an average of three models were included, or recalled by participants as being included, in entry-level OT educational programs. This number falls within the range of 3-10 models taught in entry-level OT programs reported by Ashby and Chandler (2010). Study findings indicated that the MOHO, CMOP, and PEO were the models most frequently included in entry-level OT curricula. This agrees with findings by Ashby and Chandler (2010) that “The Canadian Model of Occupational Performance and Engagement (CMOP-E) and MOHO were the most commonly taught models” (p. 619).

There continues to be a lack of consistency in application of the terms OT model and frame of reference by researchers (O’Neal et al., 2007; Owen et al., 2014). A third of study participants reported that there was no difference or that they did not know if there was a difference between these two terms. Establishing a common language to organize theory for the profession will support accurate dialog amongst professionals and support clarity in future research.

Practitioners continue to indicate knowledge of models as a barrier to model use in practice. A study specific to the MOHO by Lee et al. (2008) reported 80% of participants ($n=256$) identified knowledge and skill of the MOHO as the primary barrier to model use in practice, and results of the present study indicate 19.18% of participants ($n=219$) identified knowledge of OT models as their primary barrier to model use in practice. The results of this study also indicated limited interest in attending continuing education courses to gain information about OT models with 39% of participants reporting they were not likely or are very unlikely to attend such sessions. Continuing education focused on OT models, though potentially providing the knowledge and skills required to utilize a model in practice, does not appear to be practitioners’ preferred method to obtain this knowledge of models.

Limitations

Limitations of this study include that the survey tool used was created for this research project and, therefore, does not have previous reliability or validity established. Second, the list of OT models included in the survey was not exhaustive. In addition, the newest acronym, CMOP-E, was not used to identify this Canadian OT model on the survey. Furthermore, data collected was participant self-report and therefore subject to recall bias. For example, participants long out of school might have difficulty remembering the number of models taught in their entry-level OT educational programs. Another limitation was that this study excluded OT assistants; thus, this study does not give a complete picture of the entire OT profession. Finally, the small self-selected convenience sample was recruited solely via Facebook for this study. Due to these limitations, this study has reduced generalizability to the overall population of OT practitioners.

IMPLICATIONS FOR OCCUPATIONAL THERAPY EDUCATION

This study confirmed OT models are used to guide practice and treatment interventions and to view clients in a holistic manner. However, increased clarification and consistency is needed when defining and using the terms models and frames of reference as the profession works to establish a common language. In entry-level education, introducing OT students to models and frames of reference utilizing the definition selected by the researchers for this study, that frames of reference differ from models in that they are designed to address specific impairments (Wong & Fisher, 2015), would simplify for OT students how to categorize objectively the types of theory. This would be a shift from past interpretations where both frames of reference and models are broadly described as guiding OT practice. In addition, establishing clear definitions, as the one proposed, into common language in future OT textbooks and OT journals would support a clearer understanding of models in the classroom and in practice.

This study also made apparent that three models on average are the number practitioners recalled being taught in their OT entry-level programs. Thus, when designing a curriculum, a focus on teaching fewer models in greater depth might be more effective than exploring many models superficially which confirms the previous suggestion by Ashby and Chandler (2010). When designing an OT entry-level curriculum, including the three models participants reported as most utilized in practice per this research study (PEOP, MOHO, and OA) seems a logical place to start. In addition, incorporating case studies into classes with the goal of providing students the opportunity to actively compare and contrast models could enhance student knowledge and proficiency of model use.

This study made evident that almost 40% of practitioners have limited interest in attending continuing education programs about OT models. Though the OTs surveyed indicated they valued OT models, their lack of interest in learning more about them perhaps contradicts this result. Another interpretation, though, might be that when practitioners are pursuing continuing education opportunities they are selecting courses that more directly address their education needs related to treatment intervention. The

solution to enhancing current practitioner successful use of model application in practice could be to ensure that continuing education related to interventions clearly link model use to practice setting and approaches. Continuing education speakers consistently connecting their interventions to an OT model would potentially greatly enhance current practitioner understanding, utilization, and value of OT models.

FUTURE RESEARCH

Future research investigating the impact of OT model utilization on patient outcomes and determining if certain models are more effective in specific practice settings would be beneficial in evaluating the impact of using models. In addition, the evaluation of the most effective and efficient method of providing model education in entry-level OT educational programs would be meaningful. Collecting qualitative information in future studies would further illuminate the rationale for OT practitioner perceived value and utilization of models in practice. Results of such studies could translate into improved utilization of OT models in practice.

CONCLUSION

This cross-sectional research study investigated U.S. OT practitioners' perceived value and utilization of OT models in practice. In addition, this study explored correlations that might impact practitioner choice of model as related to entry-level OT educational program, practice setting, frequency of model utilization, and barriers to model use in practice. The majority of participants (77.63%, n=170) expressed they strongly or somewhat agree that OT models are valuable to their practice and 79.45% (n=174) reported utilizing OT models in practice. The study found that the greater the practitioner perceived value of models, the more often that person used these models in practice ($r_s = .575$, $p < .001$). This research did not find other significant correlations related to model utilization or value. Primary benefits of OT model use included guiding clinical reasoning in treatment decisions and interventions (39.73%, n = 87) and assisting practitioners in viewing the client in a holistic manner (37.44%, n = 82). This study concluded that time constraints (29.68%, n = 65) are the primary barrier to use of models in practice. Future research to determine the most effective methods of providing model education in entry-level OT programs and evaluating which models are optimal based on practice setting would be beneficial. Researchers recommend establishing a common language related to OT theory and labeling of models to enhance understanding by practitioners to improve application of OT models in practice.

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Appendix A

Survey Instrument

1. What was your entry-level occupational therapy degree?
Bachelor's
Master's
Doctorate
2. Where did you attend school for your occupational therapy entry-level degree?
3. What year did you graduate from your entry-level occupational therapy program?
4. What is your highest, overall degree completed?
Bachelor's
Master's
Doctorate
5. In which state do you currently practice?
6. Approximately, how long have you been practicing in this state?
7. In which state have you practiced the longest?
8. How long have you practiced in this state?
9. How many years of experience do you currently have in occupational therapy?
10. What is your current primary practice setting?
Academia
Community Based
Home Health/Early Intervention
Hospital/Inpatient (physical dysfunction)
Mental Health
Outpatient
School-based
Skilled Nursing Facility
Telehealth
Traveling
11. Is there a difference between the terms "occupational therapy models" and "frames of reference"?
Yes
No
I don't know

Note: For the purpose of this survey, occupational therapy models include:

- (a) Canadian Model of Occupational Performance, (b) Ecology of Human Performance, (c) Kawa (River) Model, (d) Model of Human Occupation, (e) Person Environment Occupational Performance, (f) Occupational Adaption, (g) Vona du Toit Model of Creative Ability, and (h) Occupational Therapy Intervention Process Model.

12. What occupational therapy models were taught in your entry-level program?

- Canadian Model of Occupational Performance (CMOP; The Canadian Association of Occupational Therapists)
- Ecology of Human Performance (EHP; Dunn, Brown, & McGuigan)
- The Kawa River Model (Iwama)
- Model of Human Occupation (MOHO; Kielhofner)
- Person Environment Occupational Performance (PEOP; Christiansen & Baum)
- Occupational Adaption (OA; Schkade & Schultz)
- Occupational Therapy Intervention Process Model (OTIPM; Fisher)
- Vona du Toit Model of creative Abilities (VdT MoCA; Vona di Tpot)
- No models were taught in my entry-level program

13. Which one of these occupational therapy models do you use most often in your practice?

- Canadian Model of Occupational Performance (CMOP; The Canadian Association of Occupational Therapists)
- Ecology of Human Performance (EHP; Dunn, Brown, & McGuigan)
- The Kawa River Model (Iwama)
- Model of Human Occupation (MOHO; Kielhofner)
- Person Environment Occupational Performance (PEOP; Christiansen & Baum)
- Occupational Adaption (OA; Schkade & Schultz)
- Occupational Therapy Intervention Process Model (OTIPM; Fisher)
- Vona du Toit Model of creative Abilities (VdT MoCA; Vona di Tpot)
- I don't use any of these models

14. How often do you use occupational therapy models in practice?

- With every patient/client
- Daily, but not with every patient/client
- Weekly
- During evaluations and treatment planning only
- Never

15. Occupational therapy models are valuable to my practice

- Strongly Disagree
- Somewhat Disagree
- Somewhat Agree
- Strongly Agree

16. If you experience barriers to the use of occupational therapy models in practice, which one of the following most impacts your use in practice?

No barriers impact my use of occupational therapy models in practice

Time constraints

Knowledge of occupational therapy models

Experience using occupational therapy models

There is a language barrier between the difference of occupational therapy models and frames of references

I do not value occupational therapy models

17. How do you most benefit from the use of occupational therapy models in practice?

Guides my clinical reasoning in making treatment decisions and interventions

Helps me view the client in a holistic manner

Occupational therapy models are an essential component to my OT practice

Helps me provide evidence-based practice

Occupational therapy models are not relevant or beneficial to my practice

18. If a continuing education opportunity were offered regarding the use of occupational therapy models, how likely would you be inclined to attend?

Very Unlikely

Not Likely

Somewhat Likely

Very Likely