Developing a Conceptual Framework for Occupational Therapy Fellowship Programs: A Qualitative Content Analysis Study

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Abstract

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Keywords

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Acknowledgements

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ABSTRACT
Today's health care environment calls for quality-care, the efficiency of services, a decrease in waste, and an increase in desired outcomes. This necessitates that occupational therapy (OT) practitioners engage in continuous professional development activities (i.e., continuing education, post-professional training) and lifelong learning to enhance their critical thinking and clinical reasoning. One way that OT practitioners can advance their clinical practice skills is through participating in OT fellowship programs, which are post-professional training programs aimed to advance one's knowledge and skills in focused areas of practice. Using theory to guide practice is also essential for OT practitioners as they make evidence-based decisions throughout the OT practice process. Grounded theory and qualitative content analysis (QCA) emerge as practical methods to uncover the constructs of competency domains of participants in OT fellowship programs. The themes emerging from the QCA process employed in this study resulted in the development of a preliminary conceptual framework for OT fellowship programs. The creation of the framework intends to help guide the development of evidence-based curricula and learning activities of OT fellowship programs. Furthermore, the use of the framework may act as a way to measure the advancement in clinical reasoning skills and the enhancement of professional development of OT practitioners seeking to acquire advanced knowledge and skills in OT practice beyond the novice level.

A body of literature is growing about the changes in health care policy and their effort "to reduce waste, increase the efficiency of health care delivery, and allocate resources in order to improve the value in health care" (Fraser et al., 2008, p. 1781). This necessitates that occupational therapy (OT) practitioners participate in interprofessional care teams and advanced training opportunities to provide services that enhance

clients' experiences and produce positive outcomes (American Occupational Therapy Association [AOTA], 2015a). Occupational therapy practitioners can equip themselves with the advanced knowledge and skills needed to meet the expectations to deliver high-quality services and positively influence client outcomes by participating in continuing and lifelong professional development activities. Therefore, AOTA (2020) has developed its own accredited OT fellowship program through which OT practitioners can enhance their professional skills in a specialized area of practice (i.e., assistive technology, driving and community mobility, environmental modification, feeding, eating, and swallowing, gerontology, low vision, mental health, pediatrics, physical rehabilitation, and school system). The goal of the AOTA fellowship program "is to cultivate and recognize post-professional training programs that advance the knowledge and skills of licensed occupational therapists in focused areas of practice" (AOTA, 2020, para. 1). Occupational therapy fellowship programs include structured learning activities ranging from nine to twelve months designed to enhance the knowledge and skills of a practitioner in a specific area of practice (Chapman et al., 2019). Fellowship programs include curricula with learning objectives, clinical competencies, didactic materials, mentored experiences, and clinical workloads in a subspecialty area of OT practice (AOTA, 2020). This learning process typically occurs under the supervision of an experienced mentor with advanced practice skills or specialty certification in the area in which the program has received AOTA-accreditation who provides support to the participant throughout the fellowship program in a specific practice setting.

The current health care environment demands high-value and high-quality outcomes. Additionally, evidence suggests that patient outcomes are better when the individuals providing those services possess advanced practice skills (Furze et al., 2016). Previous research in the discipline of physical therapy described that client outcome was considerably improved from services provided by clinicians who participated in fellowship programs versus those that participated in residency or non-residency programs (Furze et al., 2016; Rodeghero et al., 2015). The American Academy of Orthopedic Manual Physical Therapists (AAOMPT, 2020) define residency training as one designed for a physical therapist aspiring to become a board-certified clinical specialist; while fellowship training is geared towards a clinician who graduated from a residency program or is board-certified and wishes "to focus on a subspecialty area of clinical practice, education, or research" (para. 4). Furthermore, PT residency and OT fellowship programs share a similar aim to enhance a practitioner's knowledge and skills beyond that of a novice clinician. Therefore, the advanced knowledge and skills acquired as a result of one's participation in an OT fellowship program can benefit OT practitioners by enhancing practice competence, ensuring client safety, increasing outcomes, and expanding professional and career goals in specialized areas of practice (AOTA, 2017).

Problem Statement
As of February of 2020, 40 AOTA-approved fellowship programs in the United States (U.S.) offered learning experiences in a variety of clinical settings (i.e., acute and critical care, assistive technology, burns, gerontology, hand therapy, mental health, neurology, pediatrics, and physical rehabilitation). Despite the growth of OT fellowship programs,

Chapman et al. (2019) reported that no standard or consistent formats for didactic and clinical learning experiences existed across the OT fellowship programs in their study. Furthermore, the lack of consistency to guide the curriculum development and learning activities of OT fellowship programs creates a challenge in measuring the programs' quality and effectiveness in producing practitioners with advanced practice knowledge and skills. Therefore, in order to develop more consistent formats and standards aimed to facilitate measuring the quality and effectiveness of OT fellowship programs, it becomes essential for research in OT to investigate "the contextual factors that are critical components of the teaching and learning environment, as these factors also contribute to enhanced clinical outcomes through the development of advanced clinical reasoning skills, effective clinical practice, and patient-centered care" (Furze et al., 2016, p. 952).

Purpose of the Study
The purpose of this research project was to uncover the attributes of competent health care practitioners participating in post-professional training and use the concepts to inform the development of a conceptual framework for OT fellowship programs. Verma et al. (2006) defined competence as a "multifaceted and dynamic concept that is more than knowledge and includes the understandings of knowledge, clinical skills, interpersonal skills, problem-solving, clinical judgment, and technical skills" (p. 109). Therefore, a definition of competence is a set of skills, behaviors, and attitudes that express superior work performances in specific contexts. Furthermore, identifying a set of competencies in health care is essential as they establish a discipline's specialty standards and expectations for evidence-based and accountable professional performance and practice (Verma et al., 2006).

Methodology
Grounded theory (GT) was the theoretical approach utilized in this study given its ability "to discover or construct theory from data, systematically obtained and analyzed using comparative analysis" (Chun Tie et al., 2019). A definition of GT is "a method of conducting qualitative research that focuses on creating conceptual frameworks or theories through building inductive analysis from the data" (Charmaz, 2006, p. 187). Within GT, this study used a qualitative content analysis (QCA) method (Elo & Kyngas, 2008; Elo et al., 2014; Hsieh & Shannon, 2005; Marvasti, 2019) to uncover the competency domains for health care practitioners participating in professional training programs. These competencies informed the creation of a preliminary conceptual framework for OT fellowship programs.

Elo et al. (2014) defined QCA as a "systematic and objective means of describing and quantifying phenomena for analyzing data and interpreting its meaning" (p. 1). Aligning with the QCA method, the author utilized a general inductive approach (Thomas, 2006) to code the study's documents. According to Thomas (2006), "the primary purpose of the inductive approach is to allow research findings to emerge from the frequent, dominant, or significant themes inherent in raw data, without the restraints imposed by structured methodologies" (p. 238). Inductive approaches intend "to clarify the data

reduction process by describing a set of procedures for creating meaning in complex data through the development of summary themes or categories from the raw data" (Thomas, 2006, p. 239).

A comprehensive literature search ranging from 2009 to 2019 occurred using the ProQuest, ERIC, PubMed, and CINHAL databases. Additionally, to ensure an exhaustive search of the literature, the author included other research journals such as the *Open Journal of Occupational Therapy*, the *Journal of Occupational Therapy Education*, and the *American Journal of Occupational Therapy* in the literature search process. Search terms included "core competencies, "occupational therapists," and "post-professional training." The search yielded a total of 116 articles from a wide variety of health care disciplines. The author included other articles (n=3) found outside of this literature search that met inclusion criteria in the study's content analysis, given their relevance in answering the research question. Therefore, a purposive sampling technique occurred in selecting the articles included in the study. In addition, since this study did not involve research with humans or animal subjects, it did not require an institutional review board (IRB) review.

Following the literature search, the author reviewed all the articles' titles and abstracts, and excluded the documents that did not meet the inclusion criteria. The inclusion criteria were: (a) articles written in the context of competency-based education incorporating attributes of competent health care professionals (including students, residency or fellowship participants); (b) articles available in full-text; (c) articles published in peer-reviewed journals; and (d) articles written in English. The result of this process yielded a total of 13 documents (see Table 1) from a variety of health care disciplines (allied health, education, medicine, nursing, occupational therapy, and physical therapy) that were included for coding and data analysis.

Table 1

Documents Included in the Thematic Analysis

1. Standards for continuing competence. (American Occupational Therapy Association [AOTA], 2015b)
2. Importance of interprofessional education in occupational therapy curricula (American Occupational Therapy Association [AOTA], 2015a)
3. Continuing professional development in occupational therapy (American Occupational Therapy Association [AOTA], 2017)
4. Proposing a metacurriculum for occupational therapy education in 2025 and beyond (Tyminski et al., 2019)
5. Best practices for occupational therapy fellowship and physical therapy residency programs: A mixed-method study (Chapman et al., 2019)

6. Continuing competence trends of occupational therapy practitioners (Coffelt & Gabriel, 2017)
7. Toward a common taxonomy of competency domains for the health professions and competencies for physicians (Englander et al., 2013)
8. Physical therapy residency and fellowship education: Reflections on the past, present, and future (Furze et al., 2016)
9. Partnership in research: A vehicle for reaching higher summits (Gélinas, 2016)
10. Assessing health professional students' cultural competence using a global perspective (Jones & Pinto-Zipp, 2017)
11. Developing the occupational therapy profession through leadership and mentorship: Energizing opportunities (Lapointe et al., 2013)
12. Explicating our core competency (Polatajko et al., 2015)
13. Do professions represent competence for entry-to-practice in similar ways? An exploration of competence frameworks through document analysis (Rich, 2019)

The selected documents were imported into Mendeley, a reference management software, and printed for the initial review. The author also imported the documents into ATLAS.ti 8 for Windows, a computer-assisted qualitative data analysis software (CAQDAS) for coding and data analysis. As mentioned above, the author used a general inductive approach (Thomas, 2006) to code the data and refine the categories and subcategories.

A preliminary reading of the print versions of the documents enabled identifying the general sense of concepts emerging from the texts. The documents were then closely and carefully read a second time in ATLAS.ti, and line-by-line open and in-vivo coding occurred. According to Erlingsson and Brysiewicz (2017), "a code can be thought of as a label" (p. 94). Therefore, a code's representation is a word or a short phrase that expresses a single idea or meaning unit. The author generated a list of codes (n=73) and created a word cloud to assist with initial data analysis (see Figure 1). Additionally, establishing links amongst the various codes helped the author develop concepts that emerged from the data throughout the analytical process.

Figure 1

Word Cloud: Sample of Codes from all Documents Included in the Thematic Analysis

After establishing a list of codes, the author merged the codes that overlapped and compared and appraised the remaining codes. The codes associated with one another, either through their context or content, were grouped through axial coding techniques (a procedure of interconnecting and establishing relationships among codes) to create categories and subcategories (Erlingsson & Brysiewicz, 2017; Chun Tie et al., 2019). Moreover, to ensure the study's trustworthiness, the author used analytical notes (i.e., memos), maintained a research audit trail, and performed debriefing with an advisor to establish agreement on codes, categories, and subcategories (see Table 2). The author completed this same process to develop all of the categories and subcategories. Additionally, the author used definitions found in the articles chosen for the QCA to assist in building categories and subcategories. In addition to following a constant comparative analysis (Chun Tie et al., 2019) and a reflexive iterative process (Srivastava & Hopwood, 2009), the author employed aspects of groundedness or word frequency distribution as a quantitative method to help refine concepts and discern the categories. Furthermore, an overarching theme emerged through "the process of abstracting data to a higher level" (Erlingsson & Brysiewicz, 2017, p. 97).

Table 2

Research Audit Trail for the Ethics Competency

Definition of Ethics (based on Rich, 2019)	Author's Memo	Category	Subcategories
"the knowledge, skills, and attitudes needed to adhere to standards of practice/rules of conduct, be aware of social inequality and power differentials, make ethical decisions, demonstrate responsibility to clients, and contribute to professional regulation" (Rich, 2019, p. 6)	Terms relating to ethics were present throughout many of the documents included in the data analysis, making it a core category or competency Ethics was identified as a key characteristic for residents and/or fellows to be successful in post-training programs in physical and occupational therapy (Chapman et al., 2019) Professionalism and ethics have been identified as the most frequently reported core competencies in several health care professions (Wu et al., 2019)	Ethics	Accountability Advocacy Autonomy Cultural Competence Diversity & Inclusion Justice Professionalism Safety and Privacy

Results

A total of 13 documents met inclusion criteria and were selected for coding in ATLAS.ti using an inductive approach. As a result of the data abstraction process, a total of 73 codes emerged (see Figure 1). Throughout the coding analysis and interpretation of the data, the overarching theme of lifelong learning was identified; therefore, the author labeled each category as a competency that aligns with lifelong learning. The six major competency domains identified included: collaboration, education, ethics, leadership, practice, and research. The remaining codes interrelated to a particular competency were assigned, resulting in the identification of sub-competencies. Definitions of competency terms found in the documents used in the QCA (see Table 3) assisted with establishing relationships between codes (see Figure 2).

Table 3

Thematic Definition of Competencies

Competencies	Definition
Collaboration	"to effectively communicate and work interprofessionally with those who provide care for individuals and/or populations in order to clarify each member's responsibility in executing components of an intervention plan" (ACOTE, 2012, pp. S6-S8)
Education	"include both didactic and clinical components and emphasize the foundational piece of ongoing mentorship" (Furze et al., 2016, p. 950) "directed at the exploration of the teaching and learning environment that is central to the mentorship process" (Furze et al., 2016, p. 953) "advanced knowledge and skills in a specialized field of training" (Furze et al., 2016, p. 954)
Ethics	"the knowledge, skills, and attitudes needed to adhere to standards of practice/rules of conduct, be aware of social inequality and power differentials, make ethical decisions, demonstrate responsibility to clients, and contribute to professional regulation" (Rich, 2019, p. 6)
Leadership	"the inter-relationship of four key leadership elements, namely scholarship, accountability, funding, and workforce planning" (Lapointe et al., 2013, p. 39) "contribute to system improvement of service delivery; vision; responsiveness and influence" (Rich, 2019, p. 6)
Practice	"the application of knowledge and skills to be able to assess clients, identify problems, recognize the limits of their scope of practice, establish an intervention/management plan for their client, perform procedures/deliver services, and attention to continuous quality improvement" (Rich, 2019, p. 6)
Research	"involves researching and critically appraising different types of evidence to support clinical decision making and client-centered services, analyzing information collected as part of clinical practice to answer a research question, assisting with the translation of new knowledge for uptake into practice, and contributing to the generation of new knowledge through research activities" (Gélinas, 2016, p. 205)

Figure 2

Competencies and Sub-Competencies

Collaboration	• Communication • Interprofessional Collaboration • Interpersosal Skills • Partnership in Research
Education	• Critical Thinking & Reasoning • Knowledge, Skills & Attitudes • Teaching & Learning
Ethics	• Accountability • Advocacy • Autonomy • Cultural Competence • Diversity & Inclusion • Justice • Professionalism • Safety & Privacy
Leadership	• Business & Management • Mentorship
Practice	• Client-Centered • Evidence-Based • Evaluation & Intervention • Health Maintenance • Holistic • Information Technology • Mental Health • Occcupation-Based • Prevention & Wellness • Reflective • Scholarly-Focused • Systems-Based • Value-Driven
Research	• Scholarship • Theory-Driven

In addition to using the definitions of competency terms found in the articles included in the CQA, the creation of analytical memos, the comparison of terms, and using iterative reflection helped the author identify relationships in the data. For example, for the competency ethics, the definition used was the one found in the article by Rich (2019), "the knowledge, skills, and attitudes needed to adhere to standards of practice/rules of conduct, be aware of social inequality and power differentials, make ethical decisions, demonstrate responsibility to clients, and contribute to professional regulation" (p. 6). Therefore, based on the definition, the codes accountability, advocacy, autonomy, cultural competence, diversity, inclusion, justice, privacy, professionalism, and safety were assigned to the ethics competency as these terms are interrelated. The author used the same process to develop the other sub-competencies for all six competency domains (see Figure 2).
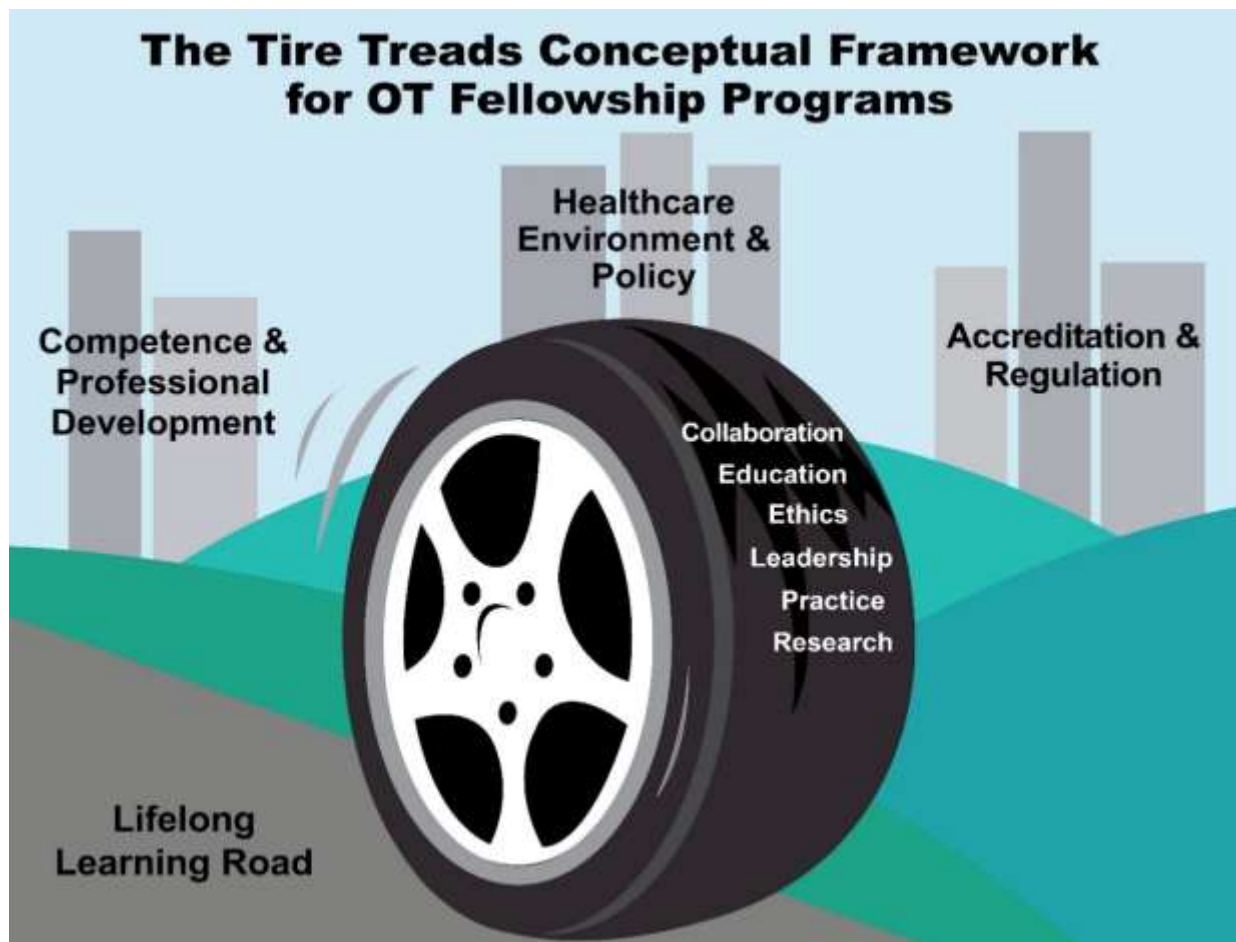
The author analyzed a few codes that did not fit in any specific competency (i.e., accreditation, competence or capabilities, community, environment, policy, population, regulation, social determinants of health) concerning the analytical framework, and concepts relating to external factors emerged. These concepts formed the environmental factors that influence advanced professional training programs in OT. The author labeled the external factors as continuing competence and professional development, healthcare environment and policy, and accreditation and regulation. Subsequently, the competencies and sub-competencies explicated the conceptual framework's core theme: the core competency domains for OT fellowship programs.

Tire Treads Conceptual Framework for OT Fellowship Programs
Through the process of reading and coding the documents included in the content analysis, the emergence of a variety of codes, the synthesis of the codes into categories (competencies) and subcategories (sub-competencies), and the generation of themes of professional competence, a conceptual framework emerged (see Figure 3). As OT fellowship programs grow and gain traction in the U.S., the Tire Treads Conceptual Framework for OT Fellowship Programs depicts a tire with treads picking up traction over a road. The road in Figure 3 is symbolic of a professional's lifelong learning journey when participating in an OT fellowship program. The tire's treads represent the six core competency domains described in this research study: collaboration, education, ethics, leadership, practice, and research. Each competency is composed of sub-competencies (see Figure 2) of interrelated factors. In the background of Figure 3, buildings comprise the external or environmental factors that influence the development of OT fellowship programs. These environmental factors include continuing competence and professional development, healthcare environment and policy, and accreditation and regulation.

Figure 3

The Tire Treads Conceptual Framework for OT Fellowship Programs

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Discussion

As the health care environment becomes more competitive and demands greater value, efficiency, enhanced outcomes, and low cost, the OT profession must increase efforts to prepare the future workforce to engage in continuing professional development and lifelong learning (AOTA, 2017). To do so, OT practitioners must remain proficient in their knowledge, skills, and behaviors to demonstrate competent practice skills concurrent with the demands from clients, accrediting and regulatory agencies, health care organizations, and society as a whole (Coffelt & Gabriel, 2017). Therefore, participation in post-professional mentored training such as OT fellowship programs in a specialized area of practice is beneficial for OT practitioners to advance their knowledge and skills beyond entry-level, generate evidence in the specialized or other emerging areas of practice, enhance the quality and safety of OT services, and attain desired professional growth (AOTA, 2017).

The identification and ongoing revisions of core competencies relating to advanced OT practice are of paramount importance to the profession, given the frequent changes in the health care environment. The competencies identified in the Tire Treads Conceptual Framework for OT Fellowship Programs assist in establishing standards for practice excellence and provide a set of constructs for the development of training and educational programs geared towards enhancing professional development in OT (Chapman et al., 2019; Verma et al., 2006). Moreover, the framework provides a set of competency standards that is vital to assess performance at the individual and program level, and for the generation of research to establish consistency among OT fellowship programs (Chapman et al., 2019; Furze et al., 2016).

Prior research evidence suggests that in order to differentiate professional from technical practice, OT practitioners must aspire to apply theoretical constructs to guide practice (Ikiugu, 2009). The use of theoretical frameworks provides a foundation for clinicians to explain their evidence-based and decision-making process during the provision of OT services. Additionally, conceptual frameworks help clarify the meaning of theory, examine the relationship among variables, and strengthen the empirical research process (Ravitch & Riggan, 2017). Similarly, theory should guide the design, implementation, and evaluation of OT fellowship programs. Therefore, the Tire Treads Conceptual Framework for OT Fellowship Programs (see Figure 3) is a useful theoretical construct that identifies a set of competency domains providing a road map to guide the creation, implementation, and measurement of OT fellowship program outcomes.

In practical terms, the Tire Treads Conceptual Framework for OT Fellowship Programs can guide continuous professional development activities in OT fellowship programs aimed at enhancing foundational knowledge and skills as well as advancing one's practice in certain specialized areas and beyond entry-level practice. For example, under the framework's practice competency, the fellow may develop an evidence-based supine exercise program (health maintenance sub-competency) designed to mitigate the physical and functional decline among clients with spinal cord injuries undergoing periods of prolonged bed rest due to pressure injuries. Under the framework's collaboration competency, another example may be the fellow's partnering (partnership in research sub-competency) with a researcher who has an interest in studying the outcomes of a virtual caregiver support group aimed to decrease caregiver burden among caregivers providing personal care services for aging clients with neurocognitive deficits.

Limitations
There were a few notable limitations to this study. Although there is no established agreement among researchers using GT and QCA on the number of documents used for the analysis, a greater amount and diversity of data sources may have enhanced the trustworthiness of the study's results. Another limitation of the study relates to the review of the articles' titles and abstracts, and the coding of data being completed only by the study's author. In addition, articles not available in full-text and written in the English language were also excluded from the study, which may influence the results'

generalizability. Although the author took steps to minimize bias, such as employing the inductive approach to code the data and debriefing with an advisor to establish agreement of codes and categories, the potential for some bias cannot be excluded. The methods employed in this study were consistent with QCA and appropriate in answering the research question, which provide reasonable evidence of the study's quality and rigor. Suggestions for future studies on this topic include using alternate document selection methods, a greater variety of documents (i.e., surveys, focus groups' transcripts) included for content analysis, and intercoder agreement or triangulation.

Implications for OT Education and Practice
This paper is the first of its kind to use GT and QCA to identify a set of core competencies and sub-competencies of health professionals, which informed the development of the Tire Treads Conceptual Framework for OT Fellowship Programs. The framework can guide the development of evidence-based curricula and learning activities of OT fellowship programs to assist clinical educators in mentoring the next generations of OT practitioners beyond entry-level practice. Consequently, the framework intends to provide a road map of concepts and components to create fellowship programs in OT.

Another important implication of the Tire Treads Conceptual Framework for OT Fellowship Programs for OT education and practice lies in its overarching purpose to assist in measuring: (a) enhanced knowledge, clinical thinking, and reasoning skills; (b) evidence-based, ethical, and scholarly practice; (c) collaboration, leadership, and mentorship skills; and (d) the continuing professional development of OT practitioners seeking competent and advanced skills in a specialized OT practice setting (i.e., gerontology, mental health, neurology, pediatrics, physical rehabilitation, etc.). The framework also aligns with AOTA's assertion that continuing professional development and lifelong learning are beneficial for enhancing the skills of OT practitioners as advanced-practice clinicians produce improved outcomes and benefit clients (AOTA, 2017; Furze et al., 2016).

The Tire Treads Conceptual Framework for OT Fellowship Programs may also assist with developing curricula intended to advance the practice of OT practitioners in subspecialty areas. For example, a health care organization desiring to initiate an OT fellowship program may use the competencies and sub-competencies in the framework to align with program learning objectives, course descriptions, teaching and learning materials, mentoring activities, and assessments. Finally, the framework also provides a set of standard parameters or variables aiming to guide the generation of research and to measure the effectiveness of OT fellowship programs (Chapman et al., 2019; Furze et al., 2016; Ravitch & Riggan, 2017).

Conclusion

Continuing professional development and lifelong learning are vital for OT practitioners to advance the profession in the current health care environment. The advanced knowledge and skills gained from mentoring activities such as OT fellowship programs are important for practice competence beyond entry-level, to enhance client outcomes, and to expand professional practice into specialty areas of OT practice (AOTA, 2017). Therefore, participating in post-professional training such as fellowship programs in OT is one way for a practitioner to achieve advanced-practice skills. Subsequently, practitioners with advanced-practice skills provide better quality and produce better client outcomes (Furze et al., 2016). GT and QCA were practical approaches used in this study to uncover the core competency domains for health care professionals, which informed the development of the Tire Treads Conceptual Framework for OT Fellowship Programs. The framework contains six competency domains and sub-competencies that can help create curricula designed to develop teaching and learning activities for OT practitioners participating in fellowship programs. Finally, the framework can provide some standard parameters and variables that can aid in generating research to measure the effectiveness of OT fellowship programs.

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