2023

Occupational Therapy Certified Hand Therapists' Perceptions of Remaining Rooted in Occupation in the Hand Clinic: A Phenomenological Study

Andrea E. Berke-McLaughlin
Eastern Kentucky University, andrea_berkemclau@mymail.eku.edu

Occupational Therapy Certified Hand Therapists' Perceptions of Remaining Rooted in Occupation in the Hand Therapy Clinic: A Phenomenological Study

Presented in Partial Fulfillment of the
Requirements for the Degree of
Doctor of Occupational Therapy

Eastern Kentucky University
College of Health Sciences
Department of Occupational Science and Occupational Therapy

Andrea Berke-McLaughlin MSOT, OTR/L, CHT, CLT
2023

Executive Summary

Background: Occupational Therapy Certified Hand Therapists (OT CHTs) working in the outpatient hand clinic tend to use the dominant biomechanical approach in the rehabilitation of their upper extremity (UE) clients. Due to the existence of a multitude of barriers and challenges for implementing an occupation-based approach, OT CHTs may not treat their UE clients holistically, placing less focus on treating the occupational performance deficits caused by the UE impairment.

Purpose: The purpose of this Capstone is to explore the essence of OT CHTs' current lived experiences in the use of occupation-based approach in the outpatient hand therapy clinic.

Theoretical Framework. The Capstone project is guided by the dominant biomechanical approach used in the outpatient hand clinic, The Canadian Model of Occupational Performance and Engagement (CMOP-E) an occupational-performance model, and the International Classification of Functioning, Disability, and Health (ICF). The ICF is a framework that can bring balance to applying the occupation-based approach in hand therapy along with the dominant biomechanical approach.

Methods. The descriptive phenomenological study included a questionnaire that was completed through interviewing six study participants on their perspectives on using an occupation-based approach with their UE clients. The results of the interviews were then analyzed for codes that resulted in four themes on the participants' perspectives of the use of an occupation-based approach in outpatient hand therapy.

Results. The results from the study indicate that the participants value occupation and do apply occupation-based interventions (OBI). The use of an occupation-based approach was found to be implemented at varying degrees in the hand clinic determined by the challenges and existing barriers each of the OT CHTs faced in the hand clinic culture and environment.

Conclusions: The study participants demonstrated an awareness of occupation as the core value of the occupational therapy profession and implemented it to varying degrees in the outpatient hand clinic.

Acknowledgements

I would like to thank all of the study participants who made this research project possible. I would like to especially thank my Committee Chair Dr. Donna Colaianni, who provided undying support, shared her wealth of experience and knowledge throughout my entire research project, and for her paving the way through her own research on occupation in hand therapy. A special thank you, also, to Dr. Cindy Hayden for sharing her knowledge and providing helpful input and direction for my Capstone. Thank you, also, to Dr. Shirley O'Brien for always providing support when I needed it the most. Mitzie Mickelson, my dear friend, thank you for your camaraderie over the last 3 years. Last, but not least, I am eternally grateful to you, my family, for your continued support and sacrifice made in helping me obtain my dream goal.

EASTERN KENTUCKY UNIVERSITY
COLLEGE OF HEALTH SCIENCES
DEPARTMENT OF OCCUPATIONAL SCIENCE AND OCCUPATIONAL THERAPY

CERTIFICATION OF AUTHORSHIP

Submitted to: Dr. Donna Colaianni
Student's Name: Andrea Berke-McLaughlin
Title of Submission: Occupational Therapy Certified Hand Therapists' Perceptions of Remaining Rooted in Occupation in the Hand Therapy Clinic: A Phenomenological Study

Certification of Authorship: I hereby certify that I am the author of this document and that any assistance I received in its preparation is fully acknowledged and disclosed in the document. I have also cited all sources from which I obtained data, ideas, or words that are copied directly or paraphrased in the document. Sources are properly credited according to accepted standards for professional publications. I also certify that this paper was prepared by me for this purpose.

Student's Signature: Andrea Berke-McLaughlin

Date of Submission: May 9, 2023

Table of Contents

List of Tables

Section 1-Nature of Project and Problem Identification

In hand therapy, occupational therapy (OT) hand therapists provide holistic client-centered care to clients with upper extremity (UE) dysfunctions by combining the occupation-based approach with the biomechanical approach (ASHT, 2022; Robinson et al., 2016). Current research indicates that merging and balancing the occupation-based approach with the dominant biomechanical approach used in the outpatient hand therapy clinic has been difficult and challenging for OT hand therapists (Hubbuck et al., 2019; Robinson et al., 2016). There exists evidence that OT certified hand therapists (CHTs), who are considered proficient, competent, and experts in the field of hand therapy face many barriers in implementing occupation-based interventions (OBI) (Colaianni et al., 2021; HTCC, 2023; Keller et al., 2016). Che Daud et al. (2022) define OBI as implementing client's own occupations and using purposeful activities as modes of treatment to achieve the client's goals. Occupation-based interventions have been shown to lead to better outcomes and greater participation by clients than the interventions strictly directed by the therapist (Colaianni et al., 2021; Skubik-Peplaski et al., 2017). With the biomechanical approach being the dominant model used for UE rehabilitation, OT hand therapists tend to place greater emphasis on treating UE impairment rather than addressing the impact of the UE dysfunction has on the client's engagement, and participation in occupations and meaningful activities (Burley et al., 2018; Grice, 2015; Yong et al., 2021). The increased focus on the biomechanical approach for UE interventions may lead OT hand therapists to lose focus on occupation, the core foundation of the occupational therapy profession (Fitzpatrick & Presnell, 2004). Recently there has been a drive to re-examine occupational therapy hand therapists' perspectives on the value of occupation in the field of occupational therapy hand therapy (Burley et al., 2018).

Occupational therapy hand therapists working in hand therapy clinics tend to use the biomechanical approach to guide the treatment for UE impairments (Burley et al., 2018; Sanders & Lewis-Kipkulei, 2022). The biomechanical approach is reductionistic, provider centered, concentrates on body impairments, and utilizes objective measurements (Poulsen & Hansen, 2018; Robinson et al., 2016). Objective measurements typically used by OT hand therapists are UE range of motion (ROM) and grip strength used to identify improvements for the assessed UE impairments (MacDermid, 2011). OT hand therapists implementing the biomechanical approach use physical agent modalities, exercise regimes, and orthoses to improve the function of the impaired UE (Robinson et al., 2016; Sanders & Lewis-Kipkulei, 2022). Implementing the biomechanical approach infers that by improving the structure and anatomical function of the impaired UE, the client's engagement and participation in occupations will also improve (Burley et al., Colaianni & Provident, 2010; Grice, 2015; Weinstock-Zlotnick & Bear-Lehman, 2015). There exists, however, limited support in research that addressing only the physical symptoms of the impaired UE alone will lead to the improved functional performance of the client (Colaianni & Provident, 2010). Nevertheless, the biomechanical approach is vital for OT hand therapists to direct their UE client's return use of the involved UE. Using the biomechanical approach provides a framework to focus on the complexities of the UE anatomy, current surgical techniques, evidence-based treatment protocols, anatomical healing phases, and medical precautions (Guzelkucuk et al., 2007; Prignac, 2012; Robinson et al., 2016). The biomechanical approach addresses the anatomical function and structure of the affected UE. However, its narrow focus fails to address the impact of the UE dysfunction has on the client's occupational needs, engagement in meaningful occupations, and associated environment factors (Burley et al., 2018; Hanson et al., 2020).

The occupational therapy profession's core focus is to help clients engage in their occupations and daily activities. Improving clients' occupational performance is the basis of the occupation-based approach (Grice, 2015; Hubbuck et al., 2019; Robinson et al., 2015; WFOT, 2017). Studies indicate that in their daily practice, OT hand therapists consider the enablement of their hand therapy client's occupational performance through the implementation of OBI to be of value, importance, and the cornerstone of hand therapy (Colaianni & Provident, 2010; Colaianni et al., 2015; Hanson et al., 2010; Polatajko et al., 2007; Roley et al., 2010; Trombly, 1999; Valdes et al., 2021; Weinstock-Zoltnick & Bear-Lehman, 2015). Occupation-based interventions are defined as occupational therapists using a holistic client-centered approach to identify the client's occupational performance areas of dysfunction (Poulsen & Hansen, 2018). The OT and client collaborate closely to determine the client's occupational needs and choose the appropriate OBIs that are meaningful to the client (Poulsen & Hansen, 2018).

Studies on the perspectives of OT hand therapists and OT CHTs implementing an occupation-based approach indicate that participants in the studies believe occupation is essential in hand therapy and address occupation in assessment and intervention with their UE clients (Colaianni et al., 2021; Grice, 2015; Valdes et al., 2021). There exists evidence that OT hand therapists implement occupational performance assessments and self-reported measures of function for their UE clients, but not on a routine basis (de Klerk et al., 2015; Valdes et al., 2021). The two most frequently appearing occupational performance assessments and self-reported measures of function in research regarding OT hand therapy are the following: The Disability of Arm, Shoulder, and Hand (DASH) and the Occupational Performance Measure (COPM). The DASH, most frequently used in hand therapy, identifies the function and symptom status of clients with UE diagnoses (Che Daud et al., 2016; Grice, 2021). Another client-centered

outcome measure used by OT hand therapists and referenced in multiple studies is the COPM. The COPM was developed to be used by OTs to identify the change in a client's self-perception of occupational performance and occupational satisfaction over time and identify a client's self-determined occupational performance goals for hand therapy (Baptista et al., 2018; Che Daud et al., 2016). Implementing these and other occupational performance assessments and self-reported measures of function can provide the OT CHTs with the client's perceptions of engagement in meaningful occupation, their health and well-being, and the effects of occupation-based interventions on UE dysfunction (Woythal et al., 2021). In a study by Poulsen and Hansen (2018), the implementation of the COPM during UE evaluations identified that the most frequently expressed problem by hand therapy clients was not being able to hold their utensils for eating. Additional problems identified of primary concern to the clients in the study were completing self-care and being productive (Poulsen & Hansen, 2018). Clients also reported that it was important to them that their OT address their abilities to complete activities that were meaningful to them (Poulsen & Hansen, 2018).

Multiple available studies indicate the value of OBI in occupational therapy, in that they are meaningful, satisfying, and motivating to clients (Burley et al., 2018; Naughton & Ager, 2022; Poulsen & Hansen, 2018). In a study by Colaianni et al. (2021), OTs who are CHTs expressed the importance of implementing OBI in their practices. Though there is limited research on the effectiveness of OBI for UE conditions, what is available does provide evidence for its implementation in hand therapy (Colaianni et al., 2015; Colaianni & Provident, 2010; Weinstock-Zlotnick & Mehta, 2019). Recently there has been an increased use of OBIs, specifically with UE musculoskeletal disorders. A scoping review of thirteen studies of OT hand therapists was completed on the effectiveness of OBI in treating clients with UE dysfunctions

(Weinstock-Zlotnick & Mehta, 2019). Research does support the benefits of implementing OBIs for UE dysfunction. A case series study completed with participants with the diagnosis of thumb carpometacarpal osteoarthritis identified improvement in function and pain when OBI was incorporated into their home program related to joint protection techniques (Naughton & Ager, 2022). In another study, Wilson (2008) identified that hand-injured clients choosing to partake in an OT hand therapist run class on origami led to improved hand function and benefited the emotional, psychological, and social condition of the participants over those hand clients who participated in Theraputty exercises and manipulating game pieces.

Though there is limited research on the effectiveness of OBI in restoring the occupational performance of clients with UE dysfunctions, there are multiple studies that provide support for the implementation of OBI for other diagnoses, such as strokes, treated by an OT (Skubik-Peplaski et al., 2014). Multiple studies also support OBI using therapeutic activities that simulate activities of daily living (ADL) in hand therapy when combined with the biomechanical approach of using therapeutic exercises (Che Daud et al., 2016; Guzelkucuk et al., 2007). In addition, studies do indicate that OBIs have a motivating impact on client engagement in OT hand therapy (Burley et al., 2018; Poulsen & Hansen, 2018).

Although support exists for the effectiveness of using OBIs, including in hand therapy, research suggests that OBIs are not routinely implemented daily by OT hand therapists (Grice, 2015; Valdes et al., 2021). In Grice (2015), OT hand therapists stated they perceived the value of implementing occupation. However, they were unable to implement it due to barriers and challenges such as lack of time, cost-containment, and strong reliance on biomechanical protocols. Other barriers and challenges to the implementation of an occupation-based approach include a lack of evidence that defines occupation-based hand therapy thoroughly, a lack of

physical space in the hand clinic, and a lack of treatment areas for occupations to be performed in a typical natural setting (Colaianni et al., 2015; Poulsen & Hansen, 2018). In addition, OT CHTs in a study by Colaianni et al. (2021), stated barriers in implementing OBI in their practices included lack of resources, restrictions of medical protocols, productivity, and reimbursement.

Using an occupation-based approach is, however, vital to maintaining the occupational therapy profession's identity and its contribution to the therapeutic process for providing optimal care and best practice for treating clients in OT (Stav & Herman, 2022). In hand therapy, Amini (2008) stresses the importance of implementing the occupation-based approach and balancing the implementation of OBI with the biomechanical approach in treating UE dysfunctions. Nevertheless, evidence identifies the existence of the decreased implementation of the occupation-based approach when treating clients with UE dysfunctions. The decreased implementation of OBI in hand therapy, by OT hand therapists and OT CHTs, is leading to a detachment from the occupational therapy profession’s identity and core value that lies in occupation. This and the recent drive stated by Burley et al. (2018) for occupational therapy hand therapists to re-examine their perception on the use of occupation in hand therapy demonstrate a need for this Capstone study.

Problem Statement

The research literature reviewed identified only one available study examining the perspective of OT CHTs on the implementation of occupation-based hand therapy. Therapists who are CHTs demonstrate commitment and dedication to reach and maintain the highest of standards for the profession of hand therapy (HTCC.org, 2023). To achieve the CHT credentialing is voluntary for physical therapists (PTs) and OTs that exhibit competency and excellence in hand therapy (HTCC.org, 2023). The CHT credential defines a PT or OT with at

least three years of clinical experience, has four thousand or more hours of direct care with UE clients, and has passed the comprehensive hand therapy certification exam (Keller et al., 2016). Current statistics indicate that there are significantly more OTs (86%) who are CHTs than PTs (13%), therefore; one might infer that most CHTs are trained in the occupation-based approach, functional assessments, and occupation-based interventions (Grice, 2015). However, the biomechanical model remains the dominant model used in hand therapy. Such a deviation from the use of occupation-based hand therapy could lead to role blending of the two disciplines and decrease our profession's identity in this specialty area of OT (Henrichon & Toth-Cohen, 2022). Therefore, there is an additional need for research to understand OT CHTs perspectives on the use of occupation in the hand clinic and the status of implementing an occupation-based approach in the hand therapy clinic.

Purpose Statement

This phenomenological study will explore the essence of OT CHTs' current lived experiences in the use of an occupation-based approach in hand therapy in the outpatient hand clinic. At this stage in the research, the use of occupation-based hand therapy will generally be defined as the implementation of assessments, interventions, and goals related to the clients' valued and meaningful activities.

Central Question

What are OT CHTs' perspectives and experiences in providing occupation-based therapy to hand therapy clients in outpatient hand clinics?

The following questions were used to develop the interview guide for the study.

1. How do OT CHTs define occupation in UE rehabilitation?

2. What occupation-based frameworks and models are OT CHTs using for UE rehabilitation?
3. What are the perspectives of OT CHTs on the use of an occupation-based approach and the biomechanical approach in hand therapy?
4. What barriers exist for OT CHTs in implementing the occupation-based approach with clients with UE dysfunction?
5. How are OT CHTs meeting challenges in providing an occupation-based approach with the biomechanical approach in hand therapy?
6. What occupational performance assessments and self-reported measures of function are OT CHTs using with their UE clients to determine if their clients' occupational needs are being met?
7. How do OT CHTs provide OBI with their UE clients?

Theoretical Framework

The profession of OT provides client-centered care and views each client holistically (Sanders & Lewis-Kipkulei, 2022). These components of the occupational therapy profession direct OTs to assess all aspects of the client that may interfere with their satisfaction and participation in daily activities (Sanders & Lewis-Kipkulei, 2022). OT hand therapists evaluate their clients to determine how the pathology of the UE diagnosis affects impairment, participation, and activity (Skirven et al., 2011). In hand therapy practice, OT hand therapists merge the occupation-based approach with the biomechanical approach (Robinson et al., 2016).

The traditional and dominant framework for treating UE dysfunction in hand therapy is the biomechanical approach (Hubbuck et al., 2019; Robinson et al., 2016). The biomechanical approach is provider centered, reductionistic, and uses a bottom-up approach (Henrichon &

Toth-Cohen, 2022; Poulsen & Hansen, 2018; Robinson et al., 2016). Using biomechanical principles, OT hand therapy interventions focus on body structures and body function of the affected UE instead of activities, participation, and environmental factors that impact the client due to the UE dysfunction (Burley et al., 2018; Grice, 2015; Rose et al., 2011; Schultz-Krohn & Pendleton, 2017; Yong et al., 2022).

The Canadian Model of Occupational Performance and Engagement (CMOP-E) is an occupational performance model which uses a top-down approach (Law & Laver-Fawcett, 2013). The CMOP-E supports occupational therapy's occupation-based approach because it places focus on occupation, the occupational therapy profession's core value of practice (Law & Laver-Fawcett, 2013). The CMOP-E is comprised of three main components, and the domains respectively include the person (the spirituality of a person), occupation (self-care, leisure, and productivity), and environment (physical, social, cultural, and institutional environments of the client) (Davis, 2016). The CMOP-E also includes occupational engagement, that includes cognitive/affective dimension (Davis, 2016). The interaction between the three stated components of the CMOP-E results in occupational performance, defined as a person's ability to perform occupations and daily engagements (Davis, 2016). The CMOP-E model fits well with the occupation-based approach in hand therapy because it addresses occupational performance and engagement that are often impaired in clients with UE dysfunction (Robinson et al., 2016).

According to de Klerk (2016), a balance can be achieved between implementing the biomechanical approach and the occupation-based approach in OT hand therapy when using the International Classification of Functioning, Disability, and Health (ICF). The ICF provides a framework for evaluating the implication of health conditions on individuals (Fitzpatrick & Presnell, 2004). The ICF's unique framework addresses the interactions between elements of the

body structure and systems and includes activity, participation in life roles, and environmental factors (Rose et al., 2011). Case-Smith (2003) stated that the ICF is applicable as a framework for OT hand therapists to assess the consequences of UE dysfunction. The biomechanical approach relates to the OT hand therapist addressing the ICF components of body function and structure by assessing UE ROM deficits and decreased hand strength. OT hand therapists may implement UE ROM and hand strengthening exercises. OT hand therapists implementing the occupation-based approach assess the client's performance and engagement in daily routines utilizing the ICF components of activities and participation and the demands of daily life under ICF component of environmental factors (Fitzpatrick & Presnell, 2004). In addition, the OT hand therapists' implementation of occupational performance assessments and self-reported measures of function address activities and participation limitations can help implement meaningful OBI using the ICF to meet the occupational needs of the UE client in hand therapy. (Woythal et al., 2021).

The CMOP-E, biomechanical approach, and ICF will provide a basis for understanding how the occupation-based approach can be defined, the rationale for its implementation, and how it can be aligned with the biomechanical approach to provide holistic client-centered occupational therapy to hand therapy clients**.** This Capstone project will aim to understand the theoretical frameworks and models described by each OT CHT participant in the study.

Significance of the Study

The findings of the Capstone research may be significant for the OT specialty of hand therapy and the future application of the occupation-based approach in hand therapy outpatient hand clinics. The qualitative study aims to understand the essence of OT certified hand therapists' perspectives on the current implementation of an occupation-based approach in hand

therapy. It may yield a change in service delivery by the OT profession. Educating physicians, insurance providers, interdisciplinary team, clients, insurance companies, and OTs regarding the value of an occupation-based approach to treat UE clients holistically may also make this research meaningful. The study may further promote awareness of the OT profession's identity and its value in providing UE rehabilitation. Also, UE clients may benefit from the study through their OT hand therapists and OT CHTs, who practice in an occupation-based manner, ensuring that their client's occupational needs are met, their clients are treated more holistically, and their clients receive optimal care.

Summary

Occupational therapy hand therapy differs from other OT specialties in that it combines the occupational therapy profession's core value of providing occupation-based therapy with the biomechanical approach, addressing the client's occupational needs, and restoring UE function (Robinson et al., 2016). The relationship between the biomechanical approach and the occupation-based approach, however, has a long-standing tension between the two approaches (Colaianni et al., 2015; Robinson et al., 2016). The biomechanical approach to hand therapy focuses on body structure and assumes the body works like a machine, is directive in nature, is provider centered, and uses a bottom-up approach (Fitzpatrick & Presnell, 2004; Robinson et al., 2016; Rose, 2011.) The occupation-based approach used by occupational therapists is holistic, client-centered, and uses a top-down approach to treating clients. Robinson et al. (2016) promote and encourage the duality of focus on both the biomechanical approach and the occupation-based approach in hand therapy to minimize the reductionistic approach of care and promote health, occupation, and well-being associated with the occupational therapy profession.

OT hand therapists and OT CHTs have expressed many reasons for not being occupation-based in hand therapy (Grice, 2015). Although there is limited research on the effectiveness of the use of occupation-based interventions in hand therapy, recently, there has been a drive to re-examine the occupational therapy profession's perspectives on the value of occupation in a specialty field that focuses on the biomechanical approach (Burley et al., 2018). The purpose of this phenomenological study will be to understand the lived experiences of OT CHTs remaining rooted in occupation in the outpatient hand clinic.

Section 2- Literature Review

A literature review was completed to identify current research on an occupation-based approach in OT hand therapy, validate a greater understanding of the topic, and identify current implementation of occupation-based interventions by OT CHTs in outpatient hand clinics. The search engines utilized in this review of literature were CINHAL Complete, Med Bridge, Google Scholar, and Nursing & Allied Health Premium using the keywords: OT hand therapy, biomechanical approach, occupation-based hand therapy, International Classification of Functioning, Disability and Health, perspectives of hand therapists on client-centered therapy, perspectives of hand clients on rehabilitation, occupation-based interventions, patient-reported outcome measures used in hand therapy, barriers for implementing occupation-based therapy, and functional assessments used by hand therapists. The following is an overview of the available literature that addresses the perspectives of OTs using an occupation-based approach in hand therapy, the effectiveness of using OBIs in hand therapy, existing challenges for OT hand therapists to implement the occupation-based approach with the dominant biomechanical approach in hand therapy, and hand therapy clients' perspectives on receiving therapy that is occupation-based.

Overall, minimal research is available on OTs, OT hand therapists, and OT CHTs' perspectives on occupational-based hand therapy. The available studies indicate that newer OT graduates, OT hand therapists, and OT CHTs express the importance and value of occupation-based therapy in hand therapy but do not use it on a routine daily basis in their practices because of the strong influence of the biomechanical approach in hand therapy and other existing challenges and constraints (Colaianni et al., 2021; Colaianni et al., 2015; Di Tommaso et al., 2016; Grice, 2015; Henrichon & Toth-Cohen, 2022; Poulsen & Hansen, 2018; Valdes et al., 2021). The challenge expressed by new OT graduates for implementing occupation into their practices included lack of experience with clinical reasoning skills and being dependent on supervisors' fostering an occupation-based practice (Di Tommaso et al., 2016). The challenges the OT hand therapist participants in these studies express are as follows: occupation-based therapy requires extra effort on the therapist's part compared to the traditional biomechanical approach of completing exercises, there is a lack of availability of occupation-based equipment and physical space, there are reimbursement and cost-containment issues, restrictions of biomedical protocols, and productivity requirements and time constraints (Colaianni et al., 2021; Colaianni et al., 2015; Grice, 2015; Henrichon & Toth-Cohen, 2022; Valdes et al., 2021). An additional study describes three key factors needed when implementing occupational-based practice in hand therapy. These factors include customizing each treatment to ensure that the intervention is meaningful to the client, developing a strong client-therapist relationship, and requiring clinicians to possess the experience and skills necessary to apply creative OBIs (Henrichon & Toth-Cohen, 2022).

Multiple available studies indicate the value of OBI in therapy in that they are meaningful, satisfying, and motivating to clients with upper extremity conditions (Burley et al.,

2018; Poulsen & Hansen, 2018). One study by Wilson et al. (2008), demonstrated that the creative use of Origami as a purposeful activity with outpatient hand clients proved beneficial for not only improved physical hand function and but also impacted the emotional, psychological, and social condition of participants in a positive manner. Other studies indicated that the occupation-based approach, combined with the biomechanical approach using therapeutic exercises, also demonstrates benefits for clients in hand therapy (Che Daud et al., 2016; Guzelkucuk et al., 2007). In addition, research also indicates the usefulness of OBI in motivating client engagement in OT hand therapy (Burley et al., 2018; Poulsen & Hansen, 2018).

Despite the challenges to implement occupation-based hand therapy, only one current research article provided suggestions for OT hand therapists to overcome these challenges and constraints in the hand clinic. The expert opinions of OT hand therapists in a study by Colaianni et al. (2015) briefly discussed how to facilitate occupation-based hand therapy. They described implementing more functional assessment, making changes to the hand therapy environment, improving time management, partaking in professional development, and using occupation kits (Colaianni et al., 2015). In a study outside the field of hand therapy, the implementation of occupational kits has been shown to reduce barriers to implementing OBIs in a study conducted in a skilled nursing facility by Stav and Herman (2022).

Limited research exists on hand therapy clients' perspectives on the use of occupation implemented through an occupation-based approach by OT hand therapists. Poulson and Hansen (2018) explored the perspectives of hand therapy clients. Participants in this study reported that it was important to them that their OT hand therapists addressed their ability to complete activities that were meaningful to them (Poulsen & Hansen, 2018). Hand therapy clients have also reported

that they valued outcomes that focus on engagement in occupations more than outcomes that focus on improvements in objective measurements (Cheung et al., 2016; Engstrand et al., 2015).

Summary

Although research provides support for the effectiveness and benefits of occupation-based hand therapy, the literature indicates that there exists a detachment between the core value of occupation of the occupational therapy profession and its implementation in the occupational therapy specialty field of hand therapy. The available literature supports the need for research on the perspectives of OT hand therapists and OT CHTs incorporating occupation-based therapy alongside the biomechanical approach in hand therapy to provide holistic client-centered care for best practice in OT.

Section 3-Methods

Project Design

The research design was a qualitative descriptive phenomenological study. In a phenomenological study, rich descriptions of the shared lived experiences of participants, including the what and the how of the experience, are developed and synthesized into a description of the essence of the experience. (Creswell & Poth, 2018). The study's aim was to capture the essence of OT CHTs' perceptions of the shared experience of using occupation-based hand therapy in the outpatient hand therapy clinic setting. The rationale for choosing the phenomenological design was to capture a rich description of the shared experiences of OT CHTs to understand the what and how of their experiences in the implementation of occupation-based hand therapy. The synthesis of their experiences lead to a description of the essence of providing occupation-based hand therapy.

Being an OT CHT, the researcher was focused on gaining a new perspective on occupation-based hand therapy and included a description of her own experiences with occupation-based hand therapy with the aid of bracketing out her own views on the topic (Creswell & Poth, 2018). The researcher focused on the phenomenon of the use of an occupation-based approach in hand therapy specifically by OT CHTs and gained knowledge of the perspectives of those who are considered experts in the field of hand therapy.

Setting

The physical site for completing the study was not applicable to a phenomenological study. The setting of the study, however, was related to the lived experiences of OT CHTs in the outpatient hand clinic. Based on the evidence, OT CHTs do face many barriers in implementing OBI, such as lack of resources, restrictions of medical protocols, productivity, and reimbursement in the outpatient hand clinic (Colaianni, 2021). Facing these challenges and developing possible strategies and solutions to provide holistic client-centered occupation-based occupational therapy in the outpatient hand therapy clinic were the milieu of what the OT CHT participants in the study are most likely experiencing.

Participant Criteria

Participation inclusion criteria were as follows: 1.) OTs who are CHTs, 2.) OT CHTs must have had at least two years of experience working with UE diagnoses in an outpatient hand clinic, and 3.) OT CHTs who speak and read English fluently. Exclusion criteria for participants include 1.) PT CHTs who work in hand therapy and 2.) OT CHTs who are retired, work only in academia, and are not currently working in hand therapy in an outpatient setting.

Participant Recruitment

After IRB approval, potential participants were identified through criterion, convenience, and snowball sampling (Creswell & Poth, 2018). In a phenomenological study, Poth and Creswell (2018) state it is vital that the study participants chosen represent those persons who have experienced the same phenomenon. Criterion sampling was chosen for this study to focus on OT CHTs who have met the same requirements to become OT CHTs and work in the outpatient hand clinic. The recruitment of the participants was directed towards those OT CHTs known to researcher from a local hand therapy group and graduate school as having and maintaining CHT credentials and are currently working in outpatient hand therapy. Bonnel and Smith (2022) state convenience sampling in qualitative research can provide important descriptive details to understand the research topic when a small population is being studied. In this study, convenience sampling was implemented based on time limitations for completing the study (Bonnel & Smith, 2022: Creswell & Poth, 2018). Those OT CHTs living in Ohio and one out of state known to stated researcher from previous interactions and contacts as previous colleagues or university classmates were called and sent texts to ask if they would be interested in participating in the study. All voiced interest in participating in the study and were either emailed or texted the invitation to the study. Snowball sampling was also used. Participants in the study recruited through criterion and convenience sampling were asked to provide names and contact information for OT CHTs who work in an outpatient hand clinic. These potential participants were then sent the study invitation (Creswell & Poth, 2018), however, the only interested potential study participant did not meet the criteria for the study. In the end, six OT CHTs were recruited for the study.

The email invitation for the study contained a link to a brief questionnaire on Qualtrics (Appendix B.). The questionnaire provided a description of the purpose of the study, how the participant's identity will be protected, and that participation in the study is voluntary. The questionnaire contained the informed consent form where participants gained additional information about the study. The questionnaire also contained questions confirming that participants meet inclusion and exclusion criteria with the following questions: 1.) Are you an OT CHT working currently in an outpatient hand therapy clinic? 2.) Do you have at least two years of experience as an OT CHT working with upper extremity diagnoses? 3.) Do you speak and read English fluently? 4.) Do you have a degree in physical therapy and work in hand therapy? 5.) Are you an OT CHT who is retired, works solely in academia, is retired, or does not work in an outpatient hand clinic? If the potential participant met the criteria and had continued willingness to participate in the study, the questionnaire provided a place to add their phone number, dates, and times they were willing to participate in the study. After the first three OT CHTs responded to the email invitations by clicking on the link, answering questions on the questionnaire, meeting study criteria, and indicating their willingness to participate in the study, they were contacted through email to confirm a time and date for the interview.

When a potential participant declined to partake in the study, did not the meet inclusion and exclusion criteria after reviewing the consent form, or saturation of data had not been achieved, the following OT CHT who responded to the study invitation was contacted. This continued until saturation of data occurred and at least 3 to a maximum of 20 participants had been identified.

Project Methods

The research data for the phenomenological study was collected by the researcher using a semi-structured interview guide (Appendix A.) that encouraged the participants to provide rich information on their perspectives and experiences with occupation-based hand therapy in the outpatient hand clinic (Creswell & Poth, 2018). Before initiating the phone interviews, each participant was reminded by the researcher that a voice recording of the interview was to take place. The researcher's secured password protected laptop and iPhone were used to collect the data and transcribe the interviews using the transcription application, Otter.ai. Data analysis of the interview transcripts was begun after completing three interviews and continued until data saturation occurred. Data analysis by thematic analysis occurred through reading initial transcripts, development of codes from rereading the transcripts, development of the codes further into themes to obtain textual and structural descriptions of what the participants' experienced, and the development of the final essence of the phenomenon (Braun & Clarke, 2006; Creswell & Poth, 2018). Bracketing, member checking, and peer review were employed to verify the findings and trustworthiness of the study (Creswell &Poth, 2018). Bracketing was employed before starting semi-structured interviews and enabled the researcher to set aside her own experiences working in the hand clinic to best understand the experiences of the OT CHT hand therapists in the study (Creswell & Poth, 2018). Member checking was employed after initial semi-structured interviews to ensure that participants felt the transcript accurately reflected their thoughts. Three of the participants, initiated contact with the researcher by phone to add additional experiences to the study. Member checking was conducted to ensure the accuracy and credibility of the data, analysis, interpretation, and the conclusion of the study (Creswell & Poth, 2018). Member checking also occurred at the end of the analysis to check if the final description

accurately reflected each participant's descriptions of their experiences. The participants were emailed or texted the four developed themes that emerged from the study and were asked if the themes accurately described their experiences (Creswell & Poth, 2018). The participants responded verbally or texted agreement with defined themes representing their experiences. Peer review was completed during and at the end of study by faculty research advisor, Dr. Donna Colaianni and committee member, Dr. Cindy Hayden, who have familiarity with the topic of the research for the validation of the study (Creswell & Poth, 2018).

Ethical Considerations

According to Creswell and Poth (2018), ethical issues can arise throughout the entire research process. The following is a description addressing ethical issues that might occur during the study. The study was conducted only after the Eastern Kentucky University Institutional Review Board (IRB) approved it. Potential participants for the study were instructed in the purpose of the research being conducted, that their participation is voluntary, and that they have the right to decline to answer any of the interview questions and/or can withdraw from the study at any time. The researcher provided an email invitation to potential participants to participate in the study that provided a link to a brief questionnaire on Qualtrics. This link provided the informed consent form that willing and informed participants were asked to read prior to initiating interviews. The researcher did not pressure potential participants into participating in this study. The participant's identity was protected using pseudonyms for any identifying information during the study. The data for the study is housed on the researcher's iPhone and computer with secure encrypted passwords.

Timeline of Project

Data was collected after IRB approval and completed by the completion of the Spring A semester. The timeline for completing the project procedures was targeted at one year (See Table 1).

Table 1: Timeline of Project

Timeframe	**Project Development**
Fall 2022	Complete Capstone Draft Report
	Develop participant consent forms, design open-ended, unstructured survey questions
Spring A 2023	Complete authorship agreement
	Develop IRB and submit for approval
	Recruit participants and identify those who meet inclusion and exclusion criteria
	Begin bracketing
	Complete to saturation interviews following semi-structured interview guide
	Complete member check and peer review
	Transcribe recorded audio taped data verbatim
	Collect the data from interviews and complete additional interviews and member check until saturation of data occurs
	Complete data analysis and capstone write up
Spring B 2023	Complete the capstone
	Present the capstone

Section 4-Results and Discussion

Introduction

The purpose of the descriptive phenomenological study was to describe what OT CHTs perspectives and experiences are in providing occupation-based therapy to hand therapy clients in the outpatient clinic. The six study participants in this research provided in depth descriptions of their perspectives and experiences on the use of occupation with their UE clients in the hand clinic. This study resulted in four themes that were then synthesized into a final essence of the combined shared perspectives and experiences of the study participants.

Results

To gain a better understanding of the participants in this study, the following tables provide demographic information gained from the interviews. The study participants' practice backgrounds including both demographics for participants work assignments and client populations are listed in Table 2. The typical implemented modes of treatment in their practice expressed by the participants are listed in Table 3.

Table 2: Participant Demographics for Work Assignment in the Outpatient Hand Clinic

Demographics	**Work Assignment**
Work Setting	Main outpatient Office (6/6)
	Outpatient satellites (2/6)
	Share building with referring MDs (3/6)
	Share gym with PT (3/6)
Work Hours	10 hours/day (6/6)
	3-4 days/week (6/6)
	½ day -1 day/week attend Hand Clinic (3/6)
Diagnosis Treated	Acute UE injuries
	Post-operative UE diagnoses
	UE tendon injuries
	CMC arthroplasties
	UE nerve injuries
	Pediatric UE anomalies
	UE work injuries
	UE fractures

Demographics	4-99 years of age
	50-70
	Teenagers
	Geriatrics
Client Treatment Timespans	1 hour evaluations
	45-60 treatment sessions

Table 3: Description of Modes of Treatment Implemented in the Hand Clinic

Modes of Treatment	**Interventions**
Therapeutic Exercises	Range of Motion
	Grip strengthening
	Neuromuscular exercises
	Thera Web
	Flex Bar
	Medicine Ball
	Manual exercises
	Disc Weights
	Hand Weights
Occupation Based Interventions (OBI)	ADLs with adaptive equipment
	Jacket with buttons and snaps
	Magnetic Darts
	Golf club
	Dart board

	Baltimore Therapeutic Exerciser (BTE)
	Folding towels
	Nerf Gun
	Tennis Rackets
	Theraputty simulating chopping food
	Paint Roller
	Crochet Hook
	Gun holder to retrieve weapon
	Cinder Blocks for lifting
	Fishing Reel
Modalities	Paraffin
	Fluidotherapy
Orthoses	Fabrication and fitting clients with orthoses

This descriptive phenomenological study identified that merging and balancing the occupation-based approach with the dominant biomechanical approach in hand therapy was difficult and challenging, and that implementing the occupation-based approach by the OT CHT study participants occurred in varying degrees. The four themes that arose from coding the six study participants' transcribed interviews and led to the final essence of this study are as follows. Theme 1: A multitude of factors promote an occupation-based approach in outpatient hand therapy clinics, Theme 2: Benefits of using an occupation-based approach are acknowledged by clients and OT CHTs, Theme 3: Barriers exist for the implementation of an occupation-based

approach in the outpatient hand clinic, and Theme 4: The identity of occupational therapy is acknowledged and challenged in the outpatient hand clinic.

Theme 1: A multitude of factors promote an occupation-based approach in outpatient hand therapy clinics

Theme 1: A multitude of factors promote an occupation-based approach in outpatient hand therapy clinics is defined as the interplay between the biomechanical approach and occupation-based approaches used to guide OT CHTs in their treatment of UE clients. The interplay is influenced by a variety of factors that promote the merging of these two approaches. Theme 1: A multitude of factors promote an occupation-based approach in outpatient hand therapy contains the following codes: A.) The electronic medical record (EMR), B.) The therapist's preference, C.) The therapist's expertise, and D.) The therapist's creativity. Code A, The EMR, contains data regarding the EMR as being a guide, being flexible, and being amendable to allow additional assessments to evaluate the UE client's occupational performance. For example, one study participant identified the following assessments included in the EMR " We have the Quick Dash…, The Promis …, the SANE Score (Single Assessment Numeric Evaluation) in the EMR (Participant O). To address the EMR's flexibility, Participant D stated that the OTs use the PT's EMR program to input their UE client's evaluation data. The PT EMR allows for the OTs to further add in the occupational performance assessments and self-reported measures of function scores the OTs choose to use. Participant D stated, "So, we use what PT has and … they (the clients) answer it (The Upper Extremity Functional Index) on paper, but then we plug it in (to the EMR)…"Another study participant provided an example of the EMR being amendable to adding an additional patient-reported outcome measure that is diagnosis specific for thumb

carpometacarpal osteoarthritis (Johnson et al., 2022). Participant R stated, "… we are currently considering onboarding (adding to the EMR) the Thumb Disability Rating (TDX) …".

The data for Code B supports Theme 1: A multitude of factors promote an occupation based approach in outpatient hand therapy. The therapist's preference is defined as the therapist's preference for using certain theoretical models, approaches, and frameworks for guiding treatment. Participant D stated " I use the PEOP, person environment occupation performance (because)… I want …to know what is important to the person and what occupations are important for them to get back (to)." And Participant Y stated "… it's definitely mixed behavioral and biomechanical (approaches) … and sometimes behavior is (just) talking to the ones (UE clients) who are at CrossFit out of (attending) CrossFit training (while they are healing)."

Code C, The therapist's expertise also supports the first theme: The multitude of factors promote an occupation-based approach in outpatient hand therapy. Code C, The therapist's expertise, is defined as the therapist's skill and years of experience can promote the use of an occupation-based approach in the hand clinic. Participant O demonstrates her expertise on promoting the occupation-based approach by stating:

> … it's really asking the patient about their goals, and then implementing different treatment measures. Including range of motion and strength,(and) using those to apply to a functional activity in the clinic. Working on finding a purposeful

> activity that incorporates the motion and strength that you need to get better function.

Code D, The therapist's creativity also supports Theme 1: A multitude of factors promote an occupation-based approach in the outpatient hand therapy clinic. Code D is defined as the OT CHT's creativity used that promotes their ability to use an occupation-based approach. In Code D, the participants voiced their creativity by using OBI to treat both the UE client's occupational performance deficits and the physical dysfunction of their involved UE. The following study participants' perspectives demonstrate ingenuity by using therapy equipment for the purpose of addressing occupational performance deficits. For example, Participant Y stated "So, … functionally in the clinic, it's reaching for things. It's handling things. It's putting pipe trees together." Another example was described by Participant D:

> I have them use the Thera web. We have the wrist patients push into the therapy web. But then I'll talk about if somebody's really into going to the gym. I'll say like this is stage one of you getting back to doing a push up.

Participant O also gave an example. "I do not have a BTE machine that helps to simulate patients return to work or functional use to improve strength and endurance, so I need to get creative." Participant Y gave an additional example of using creativity by stating, " I don't have a bedroom in my area… but I can simulate getting up and down (from a bed)." Participant R gave an example too of being creative using an OBI for shoulder ROM recovery. " Using patient's tools to recover, for example, (using) a paint roller for shoulder range of motion ".

Theme 2:The benefits of using an occupation-based approach are acknowledged by clients and OT CHTs

Theme 2: The benefits of using an occupation-based approach acknowledged by clients and OT CHTs is defined as the satisfaction voiced by UE clients and OT CHTs with implementing an occupation-based approach. Theme 2 contains the Codes A.) The client's satisfaction with receiving an occupation-based approach in their treatment and Code B.) the benefit recognized by the therapists implementing an occupation-based approach. Code A is defined as UE clients providing positive feedback to the OT about receiving treatment that is occupation-based. An example of Code A, The client's satisfaction with receiving an occupation-based approach treatment was stated by Participant C. "Patients are very appreciative of me talking to them about their job because… one they're concerned about being able to return to the job…" Code B, The benefit recognized by the therapists implementing an occupation-based approach is defined as the successful use of OBI. Participant D stated, "Well, we use our Nerf gun with a police officer, and … then he qualified on his weapon."

Theme 3: Barriers exist to the implementation of an occupation-based approach in the outpatient hand clinic

Theme 3: Barriers exist for the implementation of an occupation-based approach in the outpatient hand clinic with barriers being defined by participants as existing limiting factors for the implementation of an occupation-based approach. Theme 3 included the following codes: A.) The acute stages of healing for the UE, B.) UE client buy-in to an occupation-based approach to treatment, C.) Meeting therapy department productivity requirements, D.) Providing therapy that is covered by UE client's insurance, and E.) The restrictions imposed by physical environment of the hand clinic. Code A, The acute stages of healing for the affected UE describes how medical and healing precautions restrict OT CHTs in the use of the occupation-based approach. Participant Y stated "…(clients) are coming in acute … they're coming in hot. It's not about

making them do more functionally, … Its more about … protection and respecting the tissue that's … trying to heal."

Code B, UE clients' buy-in to an occupation-based approach to treatment is defined as the client's acceptance to receiving OBI. Code B provides evidence for Theme 3 by describing how client buy-in can be a barrier. For example, Participant D stated:

> I think, in hand therapy, especially, you want to get clients buy in. …If you say …you utilized folding towels as an exercise, that's not going to produce the client buy in. They'll say, well, I can do that at home.

Code C supports Theme 3: Barriers exist for the implementation of an occupation-based approach in the outpatient hand clinic. Code C, Meeting therapy department productivity requirements contains data about OT CHTs being required to meet department productivity by treating a predetermined number of clients per day, limits their ability to provide occupation-based interventions. For example, Participant O indicated:

> …I personally feel like we need to slow down and really focus on client centered treatment versus productivity… We're not given the time to … problem solve like we want to, to get creative and really listen to the patient.

Code D, Providing therapy that is covered by UE client's insurance is defined as the limitations placed by insurance companies on the treatment options and outcome measures that can be implemented. For example, Participant O stated, "We need measurements to prove what we're doing is working so I give insurance companies like data and numbers and to the doctors."

Code E, The restrictions imposed by the physical environment of the hand clinic contains data about the physical environment not promoting the use of an occupation-based

approach supports Theme 3: Barriers exist for the implementation of an occupation-based approach in the outpatient hand clinic. Code E, The restrictions imposed by the physical environment of the hand clinic is defined as the lack of physical space and occupation-based equipment to provide an occupation-based approach to UE clients. For example, Participant Y stated "I don't have a laundry room. I don't have a cooking room. I don't have a kitchen. I don't have a bedroom in my area." In another example of Code E, Participant O, stated:

> … three days I'm in a satellite so I don't have much availability for equipment…I have like a hand helper and the PTs do have equipment. I use a lot of plyometric balls like weighted balls to simulate things and free weights but again, I don't have to be BTE or anything.

Theme 4: The identity of occupational therapy is acknowledged and challenged in the outpatient hand clinic

The final theme, Theme 4: The identity of occupational therapy is acknowledged and challenged in the outpatient hand clinic, is defined as OT CHTs having a unique role in hand therapy, while the occupational therapy profession's unique contribution to the therapeutic process in hand therapy is challenged. Theme 4 contains the Codes A.) The unique role of occupational therapy in the hand therapy clinic and B.) Occupational therapy's contribution in the hand clinic is challenged by the culture in the outpatient hand therapy clinic. Code A, The unique role of OT CHTs in hand therapy is defined as treating the client's occupational performance deficits caused by the UE dysfunction. Participant O stated, "We focus on functions. I think physical therapy plays a role in full body conditioning." Another example stated by Participant D is, "… we're holistic…I think we're unique because we really take the psychological component into our thinking especially in hand therapy … there's so much psych

involved with a hand injury." Participant C also described the unique role of OT CHTs in hand therapy by stating, "Occupation-based approach is assessing what the demands of the patient are for not only work but their daily activities, their leisure activities and basically addressing therapy on their needs… and… what is important to the client." Code B, The contribution of the occupational therapy profession is challenged in the therapeutic process in the outpatient hand therapy clinic also contributes to Theme 4: The identity of occupational therapy is acknowledged and challenged in the outpatient hand clinic. Code B is defined as expressions of anger towards role blending of the occupational therapy profession with physical therapy. For example, Participant B expressed anger about the loss of distinction between occupational therapy and physical therapy, stating "There is no difference (between OT CHT and PT CHT) whatsoever." Participant B expressed anger because of the perspective that OT and PT are considered the same in hand therapy. Participant D also voiced anger by stating "My shirts, say physical therapy, orthopedic, physical therapy. And I brought it to my boss's attention. And I was like, you know this shouldn't say physical therapy." Participant D did provide encouragement for perseverance in deterring role blending between the occupational therapy and physical therapy professions treating UE clients stating, "We need to not sit back and accept (that) people say its physical therapy and this is a problem at my work."

The 4 stated themes; Theme 1: A multitude of factors promote an occupation-based approach in outpatient hand therapy clinics, Theme 2: Benefits of using an occupation-based approach are acknowledged by clients and OT CHTS, Theme 3: Barriers exist for the implementation of an occupation-based approach in the outpatient hand clinic exists, and Theme 4: The identity of occupational therapy is acknowledged and challenged in the outpatient hand clinic that emerged from the study described the perceptions and lived experiences of OT CHTs

implementing an occupation-based approach in the outpatient hand clinic. Study participants described efforts made and the successful implementation of an occupation-based approach considering barriers faced to its implementation. All six participants voiced some type of application of OBI, functional, and purposeful activities into their treatment sessions. Some of the study participants did state using an occupation-based approach to guide their UE client's treatments, while others referred to following more of the dominant biomechanical approach. All study participants value occupation in hand therapy. Participants reported implementing a determined effort to apply an occupation-based approach in conjunction with the dominant biomechanics approach, while also reporting struggling for recognition from department managers, insurance, and UE clients that OTs have an important role and identity in the hand therapy clinic. Through the participants' perspectives as OT CHTs working in the outpatient hand clinic, it is demonstrated that they do value occupation and do apply an occupation-based approach to varying degrees. The final essence of OT CHTs' perceptions of the shared experience of using occupation-based hand therapy in the outpatient hand therapy clinic setting is that the extent to which an occupation-based approach can be implemented in the hand clinic is dependent on existing barriers imposed by the hand clinic environment, the clients, the multidisciplinary team, the insurance companies, and the perseverance of the OT CHT for the recognition of the unique role OT has in hand therapy.

Discussion of Findings

Important, Expected, and Unexpected Findings

This study aimed to discover what OT CHTs perspectives and experiences are in providing an occupation-based approach to hand therapy clients in outpatient hand clinics. The study participants described using an occupation-based approach along with the biomechanical approach in the hand clinic. The extent to which occupation-based therapy and OBI were implemented varied among the study participants. The variances in implementation were identified through the four themes of the study.

The important results from this study indicated the OT CHTs study participants included the implementation of an occupation-based approach with the biomechanical approach in the treatment of their UE clients. The participants indicated using a variety of occupational performance assessments and self-reported measures of function and that they were able to add additional occupational performance assessments and self-reported measures to the EMR to identify occupational performance deficits as needed. Although the study participants identified multiple barriers for the implementation of occupation-based approach, therapists described successful experiences of its implementation using their own creativity and expertise. The participants demonstrated a knowledge of the value of using an occupation-based approach with the biomechanical approach and described multiple examples of the collaboration of the two approaches. This study, however, also brought forth several unexpected findings.

In reviewing descriptions of the experiences of study participants about their inability to provide an occupation-based approach to UE clients in the acute stages of recovery, treating the client's occupational performance beyond the physical needs of the impaired UE was not mentioned. The UE client's dysfunction in occupational performance could be addressed in the acute stages of recovery by educating clients in one handed techniques, instructing in joint protection techniques for the unaffected arthritic hand, and informing the client about available

adaptive equipment. Another unexpected finding was the anger toward others blending the role identity of OT with PT. Negativity was also voiced by one study participant about insurance companies directing patient care instead of the client's occupational needs directing patient care.

Findings Related to the Literature

There exists literature on the perspectives of OTs using an occupation-based approach in hand therapy, existing barriers for OT hand therapists to implement the occupation-based approach with the hand therapy dominant biomechanical approach, and OT hand therapists and UE clients' perspectives on receiving therapy that is occupation-based. In this study, the findings aligned with the available research.

The study participants described their perspectives on the occupation-based approach and voiced value in its implementation. In available studies, OT hand therapists and OT CHTs also expressed the importance and value of occupation-based therapy in hand therapy but stated they do not use it on a routine daily basis in their practices because of the strong influence of the biomechanical approach in hand therapy and other existing challenges and constraints (Colaianni et al., 2020; Colaianni et al., 2015; Grice, 2015; Henrichon & Toth-Cohen, 2022; Poulsen & Hansen, 2018; Valdes et al., 2021). The OT CHTs in this study also indicated the biomechanical approach as being dominant in hand therapy and obstacles in implementing the occupation-based approach.

The study participants described facing barriers to implement an occupation-based approach, such as imposed medical and healing precautions for UE clients being treated in acute healing phase, lack of time for therapist to be creative to develop OBI, lack of available occupation-based equipment, department productivity standards, and constraints caused by insurance requirements for treatment reimbursement. These barriers were comparable to those

discussed in previous research. OT CHTs stated barriers existed for implementing OBI in their practices that included restrictions of medical protocols, productivity, lack of resources, and reimbursement (Colaianni et al., 2021). Similarly, lack of time, reliance on the biomechanical protocols, and lack of treatment areas to perform occupations in typical settings were identified by OT hand therapists in previous research (Colaianni et al., 2015; Grice, 2015; Poulsen & Hansen, 2018).

In a study by Poulsen and Hansen (2018), UE clients reported it was important to them that the OT address their abilities to complete activities that were important to them. Participants in this study identified similar responses from their UE clients. In addition, the study participants pointed out the value of using OBI, which aligned with previous research that stated OBI was meaningful , satisfying, and motivating to clients (Burley et al. 2018; Naughton & Ager, 2022; Poulsen & Hansen, 2018).

Strengths and Limitations of the Study

The strengths of this study were as follows. Saturation of data was achieved for those who expressed they implemented occupation-based therapy. The findings from this study aligned with previous research. The results also answered the research questions for the study.

There were also several limitations for this study. The time limitation for completing this study influenced the type of sampling completed, saturation of data, and demographics of recruitment of potential participants. Another limitation was the difficulty of bracketing for the researcher due to having to complete convenience sampling. The researcher knew all the participants and had worked at several of the participants' worksites in previous years. These were limitations because the researcher already has preconceived notions about the study participants and their work settings. Recording of the interviews and readability later of the

transcription from the interviews were difficult when researcher needed to also use home phone along with iPhone for recording when participants were not interviewed in person. The clarity of the participants' speech was often decreased using this method. Lastly, saturation may not have been fully met for those OT CHTs who only implement a non-occupation based approach in the hand clinic.

Implications for OT Practice in Hand Therapy

This study resulted in implications for OT CHT practice in the outpatient hand therapy clinic including providing holistic and client-centered care; enhancing occupational therapy's identity; educating the hand clinic interdisciplinary team, insurance companies, and OTs on professions core values; and improving service delivery to hand therapy clients. Participants indicated both the dominance and prevalence of the biomechanics model as well as their efforts to provide occupation-based approach. It is recommended that OT CHTs provide holistic and client-centered care through the implementation of a variety of occupational performance assessments and client self-reported measures of function even when they are not included in the EMR. These assessments and involved client interviews can provide valuable information for directing holistic and client-centered care and implementing individualistic occupation-based approach treatments in the hand clinic. It is recommended that OT CHTs follow through with the implementation of an occupation-based approach in the hand clinic and develop solutions to overcoming the identified barriers they face to improve service delivery to their UE clients. Developing occupation kits, providing instructions to clients on one handed techniques for ADLs/IADLs to address occupation limited by medical precautions during the acute healing phase, and improving time management skills for maintaining productivity requirements are suggested. It is recommended that OT CHTs use leadership skills and continue to educate the

orthopedic surgeons, the interdisciplinary team, insurance companies, and new OT graduates in the core values and unique role of the OT hand therapist. Implementing and working on balancing an occupation-based approach with the biomechanical approach in the hand clinic will demonstrate occupational therapy's unique focus on occupation in hand rehabilitation. This will also help decrease barriers and challenges OT CHTs face in implementing occupation-based approach and help diminish role blending with other health professionals.

Future Research

Future research is encouraged to understand what OT CHTs perspectives and experiences are in providing occupation-based therapy to clients with UE diagnoses. By further understanding OT CHTs perspectives on their experiences with implementing occupation-based approach in the hand clinic, therapists can improve service delivery to clients, educate others about the benefits of occupation-based therapy, and enhance the OT profession's identity. Considerations for future studies could focus on repeating this same study but recruiting study participants through AOTA and/or HTCC websites for a more diverse demographic population. Limited research is available on the effectiveness of the occupation-based approach in hand therapy; therefore, additional research is needed to provide more evidence to guide OT practice in the hand clinic. In a study by Di Tommaso et al. (2016), on the perceptions of occupational therapists on the use of occupation in practice, recent occupational therapy graduates felt that they were unable to implement occupation in their practices due to lack of experience with clinical reasoning. It is recommended that future research compare the perspectives of new OT graduates specializing in hand therapy on using occupation in hand therapy to that of more experienced OT hand therapists. It is also recommended the perspectives of OT and PT CHTs on assessments and interventions implemented with UE clients be compared.

Summary

This study described the perspectives of OT CHTs on the implementation of the occupation-based approach for the treatment of their UE clients in the outpatient hand clinic. Although some of the study participants described application of OBI based on client's occupational performance needs, other study participants indicated implementation of functional activities as another treatment method to achieve goals such as improved grip strength directed by the biomechanical approach. The study participants described recognizing the benefits of using occupation and functional activities, demonstrating an awareness of occupation as the core value of the occupational therapy profession, but implemented it to varying degrees in the outpatient hand clinic.

References

American Society of Hand Therapists. (2022). What we do. *American Society of Hand Therapists.* http://ASHT.org/about/what-we-do

Baptista, M., Kugel, J., Javaherian, H., & Krpalek, D. (2018). Functional outcomes of a community occupation-based hand therapy class for older adults. *Physical & Occupational Therapy in Geriatrics*, *36*(4), 380-398. https://doi.org/10.1080/02703181.2018.1556230

Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77-101. https://doi.org/10.1191/1478088706qp063oa

Bonnel, W. & Smith, K. (2022). Proposal writing for clinical nursing and DNP projects (3rd ed.). Springer Publishing. https://doi.org/10.1891/97808261489

Burley, S., Di Tammaso, A., Cox, R., & Molineux. (2018). An occupational perspective in hand therapy: A scoping review. *British Journal of Occupational Therapy*, *81*(6), 299-318. https://doi.org/10.1177/0308022617752110

Case-Smith, J. (2003). Outcomes in hand rehabilitation using occupational the rapy services. *The American Journal of Occupational Therapy*, *57*(5), 499-506.

Che Daud, A. Z. C., Azeland, W. S. A. W., Rahman, P. A., Tomori, K., & Sabri, M. Q. M. (2022). Perceived barriers to implementing occupation-based intervention. *Cadernos Brasileiros de Terapia Ocupacional*, *30*., e2890. https://doi.org/10.1590/2526-8910.ctoAO223828902

Che Daud, A. Z. C., Yau, M. K., Barnett, F., Judd, J., Jones, R. E., & Nawawi, R. F. M. (2016). Integration of occupation-based intervention in hand injury rehabilitation: A randomized controlled trial. *Journal of Hand Therapy, 29*(1), 30-40. https://doi.org/10.1016/j.jht.2015.09.004

Cheung, T. W., Clemson, L., O'Loughlin, K., & Shuttleworth, R. (2016). Understanding decision-making towards housework among women with upper limb repetitive strain injury. *Australian Occupational Therapy Journal*, *63*(1), 37- 46.

Colaianni, D. & Provident, I. (2010). The benefits of and challenges to the use of occupation in hand therapy. *Occupational Therapy in Health Care, 24*(2), 130-146. https://doi.org/10.3109/07380570903349378

Colaianni, D. J., Provident, I., DiBartola, L. M., & Wheeler, S. (2015). A phenomenology of occupation-based hand therapy. *Australian Occupational Therapy Journal*, *62*(3), 177-186. https://doi.org/10.1111/1440-1630.12192

Colaianni, D., Skuthan, A., Coscomb, B., Nost, L., Schray, A., Hahn, A., Frank, J. & Wynn, S. (2021). The use of occupation based interventions among certified hand therapists. *Work*, 1-9. https://doi.org/10.3233/WOR-205321

Creswell, J.W. & Poth, C. (2018). *Qualitative inquiry & research design: Choosing among five approaches (4th ed.) SAGE.*

Davis, J. A. (2016). The Canadian model of occupational performance and engagement (CMOP-E). In M. Curtin, M. Egan, J. Adams, & E. Townsend (Eds.), *Occupational therapy for people experiencing illness, injury, or impairment,* (7th ed., pp. 148-168). Elsevier.

de Klerk, S., Buchanan, H., & Pretorius, B. (2015). Occupational therapy hand assessment practices: Cause for concern? *South African Journal of Occupational Therapy*, *45*(2), 43-50. https://doi.org/10.17159/2310-3833/2015/v45n2a7

Di Tommaso, A., Isbel, S., Scarvell, J., & Wicks, A. (2016). Occupational therapists' perceptions of occupation in practice: An exploratory study. *Australian Occupational Therapy Journal*, *63*(3), 206-213. https://doi.org/10.1111/1440-1630.12289

Engstrand, C., Krevers, B., & Kvist, J. (2015). Factors affecting functional recovery after surgery and hand therapy in patients with dupuytren's disease. *Journal of Hand Therapy*, *28*(3), 255-260. https://doi.org/10.1016/j.jht.2014.11.006

Fitzpatrick, N., & Presnell, S. (2004). Can occupational therapists be hand therapists? *British Journal of Occupational Therapy*, *67*, 508–510. http://dx.doi.org/10.1177/030802260406701107

Grice, K. O. (2015). The use of occupation-based assessments and intervention in the hand therapy setting-A survey. *Journal of Hand Therapy*, *28*(3), 300–306. https://doi.org/10.1016/j.jht.2015.01.003

Guzelkucuk, U., Duman, I., Taskaynatan, M. A., & Dincer, K. (2007). Comparison of therapeutic activities with therapeutic exercises in the rehabilitation of young adult patients with hand injuries. *The Journal of Hand Surgery*, *32*(9), 1429-1435.

Hand Therapy Certification Commission (HTCC). (2023). Retrieved January 28, 2023, from https://www.htcc.org.

Hanson, A., Kristensen, H., Cederlund, R., Moller, S., & Tromborg, H. (2020). An occupation-based intervention in patients with hand-related disorders grouped using the sense of coherence scale- A randomized controlled trial. *Journal of Hand Therapy*, *33*, 455-469. https://doi.org/10.1016/j.jht.2019.12.009

Henrichon, K. A., & Toth-Cohen, S. E. (2022). Perspectives and influences on occupation-based hand therapy. *Canadian Journal of Occupational Therapy*, 1-13. https://doi.org/10.1177/00084174221102720

Hubbuck, M., Fang, L., McAndrew, R., & Kaskutas, V. (2019). Occupation-based upper extremity rehabilitation: A case study. *Journal of Hand Therapy*, *32*(4), 569-570. https://doi.org/10.1016/j.jht.2019.09.031

Johnson, L., Karau, R., & McGee, C. (2021). Concurrent validity and precision of the thumb disability examination (TDX) in first carpometacarpal osteoarthritis. *Journal of Hand Therapy*, *35*(3), 428-434. https://doi.org/10.1016/j.jht.2021.07.002

Keller, J. L., Caro, C. M., Dimick, M. P., Landrieu, K., Fullenwider, L., & Walsh, J. M. (2016). Thirty years of hand therapy: The 2014 practice analysis. *Journal of Hand Therapy*, *29*(3), 222-234. https://doi.org/10.1016/j.jht.2016.02.011

Law, M., & Laver-Fawcett, A. (2013). Canadian model of occupational performance: 30 years of impact! *British Journal of Occupational Therapy*, *76*(12), 519-519. https://doi.org/10.4276/030802213x13861576675123

MacDermid, J. (2011). Outcome measurements in upper extremity practice. In T. Skirven, A. Osterman, J. Fedorczyk, & P. Amadio (Eds.), *Rehabilitation of the hand and upper extremity* (6th ed., pp. 194-205). Elsevier Health Sciences.

Naughton, N., & Algar, L. (2022). Incorporation of occupational based intervention into joint protection education for individuals with thumb carpometacarpal osteoarthritis: A case series. *Journal of Hand Therapy*, *35*(3), 332-338. https://doi.org/10.1016/j.jht.2022.07.011

Polatajko, H., Davis, J., Stewart, D. et al. (2007). Specifying the domain of concern: Occupation as core. In E. Townsend & H. Polatajko (Eds.), *Enabling occupation II: Advancing an occupational therapy vision for health and well-being, & through occupation (pp.13-36).* CAOT Publications ACE.

Poulsen, H., & Hansen, A. (2018). Occupational performance problems identified by 507 patients: Insight that can guide occupation-based hand therapy. *Hand Therapy*, *23*(4), 121-129. https://doi.org/10.1177/1758998318784316

Priganc, V. (2012). The science behind the art of hand therapy. *Journal of Hand Therapy*, *25*(2), 115. https://doi.org/10.1016/j.jht.2011.11.002

Robinson, L., Brown, T., & O'Brien, L. (2016). Embracing an occupational perspective: Occupational-based interventions in hand therapy practice. *Australian Occupational Journal*, *63*(4), 293–296. https://doi.org/10.1111/1440-1630.12268

Roley, S., Barrows, C., et al. (2010) Occupational therapy practice framework: Domain & process (2nd ed.). *American Journal of Occupational Therapy, 62*, 625–683.

Rose, B. W., Kasch, M. C., Aaron, D. H., & Stegink-Jansen, C. W. (2011). Does hand therapy literature incorporate the holistic view of health and function promoted by the World Health Organization? *Journal of Hand Therapy*, *24*(2), 84–88. https://doi.org/10.1016/j.jht.2010.12.003

Sanders, T., & Lewis-Kipkulei, P. (2022). Occupational therapy interventions that address the psychosocial needs of clients with upper extremity injuries: A scoping review. *Journal of Allied Health*, *51*(3), 220–228.

Schultz-Krohn, W., & Pendleton, H. M. (2017). Application of the occupational therapy practice framework to physical dysfunction. *Pedretti's occupational therapy-e-book: Practice skills for physical dysfunction*, 24–46.

Skirven, T. M., Osterman, A. L., Fedorczyk, J., & Amadio, P. C. (2011). *Rehabilitation of the hand and upper extremity*. Elsevier Health Sciences.

Skubik-Peplaski, C., Custer, M., Powell, E., Westgate, P. M., & Sawaki, L. (2017). Comparing occupation-based and repetitive task practice interventions for optimal stroke recovery: A pilot randomized trial. *Physical & Occupational Therapy in Geriatrics*, *35*(3-4), 156-168. https://doi.org/10.1080/0270318.2017.1342734

Skubik-Peplaski, C., Howell, D., & Harrison, A. (2014). Becoming occupation-based: A case study. *Occupational Therapy in Health Care*, *28*(4), 431- 443. https://doi.org/10.3109/073895577.2014.921751

Stav, W. & Herman, A. (2022). An occupational-based clinic makeover: Perceptions and experiences of occupational therapists. *The Open Journal of Occupational Therapy, 10*(1), 1-7. https://doi.org/10.15453/2168-6408.1831

Trombly, C. A., & Wu, C. Y. (1999). Effect of rehabilitation tasks on organization of movement after stroke. *The American Journal of Occupational Therapy*, *53*(4), 333-344.

Valdes, K., Naughton, N., Téllez, R. C., & Szekeres, M. (2021). The use of occupation-based interventions and assessments in hand therapy: A cross-sectional survey. *Journal of Hand Therapy*, *S0894-1130*(21), 00157–5. https://doi.org/10.1016/j.jht.2021.10.008

Weinstock-Zlotnick, G., & Bear-Lehman, J. (2015). How therapists specializing in hand therapy evaluate the ability of patients to participate in their daily lives: An exploratory study. *Journal of Hand Therapy*, *28*(3), 261-268. http://dx.doi.org/10.1016/j.jht.2014.12.010

Weinstock-Zlotnick, G., & Mehta, S. P. (2019). A systematic review of the benefits of occupation-based intervention for patients with upper extremity musculoskeletal disorders. *Journal of Hand Therapy, 32*(2), 141-152. https://doi.org/10.1016.j.jht.2018.04.001

Wilson, L., Roden, P., Taylor, Y., & Marston, L. (2008). The effectiveness of origami on overall hand function after injury: A pilot controlled trial. *The British Journal of Hand Therapy*, *13*(1), 12-20. https://doi.org/10.1177/175899830801300102

World Federation of Occupational Therapists (WFOT). (2017). *Definitions of occupational therapy.* https://www.wfot.org/AboutUs?AboutOccupationalTh/Definitionofoccupationaltherapy/.aspx

Woythal, L., Comins, J., & Brorson, S. (2021). Patient-reported outcome measures for patients with hand-specific impairments — A scoping review. *Journal of Hand Therapy, 34*(4), 594-603. https://doi.org/10.1016/j.jht.2020.08.003

Yong, J., MacDermid, J. C., Packham, T., Bobos, P., Richardson, J., & Moll, S. (2021). Performance-based outcome measures of dexterity and hand function in person with hands and wrist injuries: A scoping review of measured constructs. *Journal of Hand Therapy*, *35*, 200-214. https://doi.org/10.1016/j.jht.2021.04.017

Appendices

Appendix A.

Interview Questionnaire Guide

Occupational Therapy Certified Hand Therapists' Perceptions of Remaining Rooted in Occupation in the Hand Therapy Clinic: A Phenomenological Study

Date: Time:

Interviewer: Andrea Berke-McLaughlin

Interview questions

Central Question

What are OT CHTs perspectives and experiences in providing occupation-based therapy to clients with upper extremity (UE) diagnoses?

Study Question

1.) Can you describe a typical day working with clients with UE diagnoses in your outpatient clinic?
2.) How do you describe the setting of the hand clinic you work in? (Probes: Physical space? Location compared to referring physicians. Available equipment/purposeful activities for OT use with UE clients?)
3.) Describe the typical UE diagnoses you work with in hand therapy? (Probes: Trauma? Post-operative? Industrial Rehabilitation? What are the typical age of clients, adults, pediatrics?)
4.) Describe what frameworks you prefer to use in hand therapy to guide you in your work with UE clients and why?
5.) Do you use a particular occupational performance and/or self-reported measures of function that you feel best captures dysfunctions of UE clients' abilities to fully engage in their occupations?
6.) Can you describe what occupational performance and self-reported measures of function assessments you typically perform with your UE clients?
7.) What other forms of assessment do you prefer to use to understand client's occupation performance?
8.) Describe a time when an assessment helped you the most to identify your client's occupational needs. (Probes: How did the client react? How did it make you feel?)
9.) Describe your definition of what is an occupation-based approach in hand therapy?
10.) Can you share a reflection of when you used occupation-based approach with an UE client?
11.) Can you describe any difficulties you have experienced in providing holistic client-centered occupation-based occupational therapy in the hand clinic?

12.) Describe any successful solutions to barriers you may have come across in providing occupation-based therapy to your hand clients.

13). Describe what you feel is the role of OT CHTs in hand therapy.

14). What are your thoughts on how other disciplines working with hand therapy clients meet their client's needs when their daily functions are negatively impacted by their hand diagnosis? (Probes: What needs do they address and how?)

15). What do you feel makes the identity of occupational therapy unique in the medical field? (Probes: Theoretical models used? Environment or setting?)

16.) If you could change anything in the occupation therapy profession specialty of hand therapy, describe what it would be?

17.) Is there anything else you would like to add on your thoughts or experiences in providing occupation-based therapy to clients with upper extremity (UE) diagnoses?

Appendix B

Study Invitation

Invitation to participate in a research study for Capstone project titled: Occupational Therapy Certified Hand Therapists' Perceptions of Remaining Rooted in Occupation in the Hand Therapy Clinic: A Phenomenological Study.

Dear Occupation Therapy Certified Hand Therapist,

I am a post professional OTD student at Eastern Kentucky University working on my Capstone. I am interested in understanding the perspectives of occupational therapy certified hand therapists on the implementation of occupation-based hand therapy in the outpatient hand therapy clinic. I am seeking to complete phone interviews with occupational therapy certified hand therapists who are currently working in an outpatient hand clinic regarding their experiences working with the biomechanical approach and occupation-based approach, implementing occupational needs reported outcome measures, and using occupation-based interventions. Participation in the study is voluntary and no compensation will be offered. Your input, however, is valuable for the research study and could positively impact providing improved client-centered care to hand therapy clients, educate physicians, occupational therapists, and insurance companies about the value of occupation, and benefit the occupational therapy profession's identity. The phone interview will generally last one hour. If you are interested in participating in the study, please read informed consent for further details.

Eastern Kentucky University Institutional Review Board
Informed Consent Cover Text for Exempt Studies

Occupational Therapy Hand Therapists' Perceptions of Remaining Rooted in Occupation in the Hand Therapy Clinic: A Phenomenological Study

You are being invited to take part in a research study on gaining an understanding of the perspectives of occupational therapy certified hand therapists on the implementation of occupation-based hand therapy in the outpatient hand therapy clinic. I am seeking to complete phone interviews with occupational therapists certified hand therapists who are currently working in an outpatient hand clinic, regarding their experiences working with the biomechanical approach and occupation-based approach, implementing self-reported outcome measures, and using occupation-based interventions. This study is being conducted by Andrea Berke-McLaughlin at Eastern Kentucky University.

If you decide to participate in the study, you will be asked to complete a phone interview. In the phone interview, you will be asked to answer seventeen questions about your perspectives and experiences with providing occupation-based therapy to clients with upper extremity diagnoses in the outpatient hand clinic. Your participation is expected to take no more than 60 minutes.

We will not ask your name, but the study will not be completed anonymously because we will need to ask for your phone number to complete the phone interview. Your phone number is the only identifying information you will be asked to provide. Your phone number will be kept confidential by the researcher. Your information will be combined with information from other people taking part in the study. When we write up the results of the study, we will write about this combined information.

We will make every effort to safeguard your data, but as with anything online, we cannot guarantee the security of data obtained via the Internet. Third-party applications used in this study may have terms of service and privacy policies outside the control of Eastern Kentucky University.

If you decide to take part in the study, it should be because you really want to volunteer. You will not lose any benefits or rights you would normally have if you choose not to volunteer. You can stop at any time during the study and still keep the benefits and rights you had before volunteering.

This study has been reviewed and approved for exemption by the Institutional Review Board at Eastern Kentucky University as research protocol number 5087. If you have any questions about the study, please contact Andrea Berke-McLaughlin OTDs MS OTR/L CHT CLT at andrea_berkemclau@mymail.eku.edu/330-523-9344. If you have questions about your rights as a research volunteer, please contact the Division of Sponsored Programs at Eastern Kentucky University by calling 859-622-3636.

By completing the activity that begins on the following page, you agree that you (1) are at least 18 years of age; (2) have read and understand the information above; and (3) voluntarily agree to participate in this study.