An Investigation into Attrition and Retention of Rehabilitation Professionals

by

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ABBREVIATIONS

Abbreviation	Meaning
CHAT	Cultural-historical activity theory
ID	Interpretive description
MSF	Multiple Streams Framework
OT	occupational therapy
PT	physical therapy
S-LP	speech-language pathology

ABSTRACT

Introduction: Health human resources are scarce worldwide. In occupational therapy (OT), physical therapy (PT), and speech-language pathology (S-LP), attrition and retention issues amplify this situation and contribute to the precarity of health systems. The overarching objective of this doctoral research was to investigate why OTs, PTs and S-LPs stayed in, or left their profession. Specific aims were to: 1) understand how educational and health care environments influence professionals' decisions to stay in, or leave their profession; 2) investigate reasons for attrition across the three professions; 3) explore stakeholder perspectives on attrition and retention; and 4) explore stakeholder-informed retention strategies for OTs, PTs and S-LPs in Quebec (Canada).

Methods: The research included three phases. Phase 1 was a scoping review to map the literature on attrition and retention in OT, PT and S-LP. Guided by cultural-historical activity theory (CHAT) as a theoretical scaffolding, phases 2 and 3 used interpretive description (ID) methodology including inductive and deductive analytical approaches and constant comparative techniques. Phase 2 involved interviews with 51 Quebec OTs, PTs and S-LPs. Phase 3 consisted of focus groups with 16 participants from 4 stakeholder groups: employers, professional education programs, associations, and regulatory bodies.

Results: Fifty-nine papers were included in the scoping review. Main findings highlighted push, pull, and stay factors that shaped professionals' decisions to leave their profession. Based on the interviews, six themes related to professionals' perceived factors contributing to attrition and retention, were developed: 1) characteristics of work that make it meaningful; 2) aspects of work that practitioners appreciate; 3) factors of daily work that weigh on a practitioner; 4)

factors that contribute to managing work; 5) relationships with different stakeholders that shape daily work; and 6) perceptions of the profession. Through a combined analysis of phases 2 and 3 data, five sets of retention strategies were generated: 1) ensuring that work aligns with values; 2) improving alignment of work parameters with professionals' needs and interests; 3) modifying physical, social, cultural, and structural aspects of a workplace; 4) offering informal and formal benefits; and 5) addressing how the profession is governed.

Discussion: Push, pull and stay factors shape professionals' decisions in terms of leaving their profession. Push factors (e.g., unsupportive environments) drive professionals *out* of their profession. Pull factors (e.g., career change) draw professionals *away* from their profession. In contrast, stay factors (e.g., positive impact on clients) support professionals to remain in their chosen profession. System-level factors (e.g., regulatory bodies' expectations) influenced participants' decision to stay in, or leave their profession.

Regarding retention strategies, professionals focused on improving public awareness of their profession while managers targeted individual-level retention strategies (e.g., providing support). Broader solutions were identified by professional education programs (e.g., mentorship), associations and regulatory bodies (e.g., scope of practice). The data demonstrate that stakeholders need to adopt an intersectoral approach to designing multi-system retention strategies.

Conclusion: This doctoral research makes an original and important contribution to knowledge around attrition and retention in OT, PT and S-LP. Using CHAT and ID, the research enriches concepts of attrition and retention, highlights the multi-level, contributing factors to attrition and retention and provides the first set of stakeholder-informed retention strategies. Designing

multi-level strategies will be especially important to ensure the availability of professionals for present and future rehabilitation needs.

ABRÉGÉ

Introduction : Les ressources humaines en santé sont en pénurie à l'échelle du monde entier. En ergothérapie, physiothérapie et orthophonie, l'attrition du personnel et les difficultés de maintien en fonction des effectifs amplifient cette situation et contribuent à la précarité des systèmes de santé. L'objectif principal de ce projet doctoral est de mieux comprendre pourquoi les ergothérapeutes, physiothérapeutes et orthophonistes restent en fonction ou quittent leur profession. Les buts spécifiques étaient de : 1) comprendre comment les environnements académiques et professionnels influencent le choix de rester en fonction ou de quitter sa profession ; 2) mieux comprendre les raisons d'attrition parmi ces trois professions ; 3) comprendre les perspectives des parties prenantes par rapport à l'attrition et du maintien en fonction ; 4) élaborer des stratégies de rétention pour les ergothérapeutes, physiothérapeutes et orthophonistes travaillant au Québec, Canada en tenant compte des perspectives de diverses parties prenantes.

Méthodes : Le projet a compris trois phases. La première phase était un examen de la portée des publications sur l'attrition et le maintien en fonction des effectifs en ergothérapie, physiothérapie et orthophonie. Conçus selon la théorie historico-culturelle de l'activité, la deuxième et la troisième phase ont été réalisées à l'aide de la méthodologie de description interprétative, comprenant des démarches d'analyse inductive et déductive ainsi qu'une démarche d'analyse comparative constante. Des entretiens avec 51 ergothérapeutes, physiothérapeutes et orthophonistes du Québec ont été réalisés pour la deuxième phase. La troisième phase a compris des groupes de discussion (entretiens style focus groupe) avec 16

participants représentant quatre groupes de parties prenantes : employeurs, programmes de formation professionnelle, associations professionnelles, organismes de réglementations.

Résultats : Cinquante-neuf articles ont été inclus dans l'examen de la portée. Les principales conclusions ont mis en évidence les facteurs de retrait et les facteurs d'attraction qui peuvent inciter un individu à quitter sa profession ainsi que les facteurs qui contribuent au maintien en fonction des effectifs. Selon les entretiens, six thèmes sont ressortis quant à la perception des professionnels par rapport à l'attrition et le maintien en fonction des effectifs: 1) les caractéristiques qui font qu'un travail soit valorisant ; 2) les aspects du travail que les professionnels apprécient ; 3) les aspects quotidiens qui pèsent sur les professionnels ; 4) les facteurs liés à la gestion du travail ; 5) les relations avec différentes parties prenantes qui ont une influence sur le travail au quotidien ; et 6) les perceptions de la profession. En faisant une analyse combinée des données de la deuxième et troisième phase, cinq stratégies de rétention ont été générées : 1) assurer que le travail rejoigne les valeurs du professionnel ; 2) mieux enligner les paramètres du travail avec les besoins et intérêts du professionnel ; 3) modifier les aspects physiques, sociaux, culturels et structurels du lieu de travail ; 4) offrir des bénéfices formels et informels ; et 5) aborder la gouvernance de la profession.

Discussion : Les facteurs de retrait et les facteurs d'attraction influencent les individus à quitter leur profession. Les facteurs de retrait (p. ex. : le manque de soutien) *incitent l'individu à se retirer* de sa profession. Les facteurs d'attraction (p. ex. : reconversion professionnelle) *attirent l'individu ailleurs*, le poussant donc à s'éloigner de sa profession. En contraste, les facteurs qui contribuent au maintien en fonction des effectifs (p. ex. : avoir un impact positif sur la clientèle) *encouragent l'individu à continuer* dans sa profession. Les facteurs systémiques (p. ex. : les

attentes des organismes de réglementation) ont aussi une influence sur la décision de continuer à travailler dans sa profession, ou de quitter sa profession.

Pour ce qui est des stratégies de rétention, les professionnels ont ciblé l'amélioration de la perception publique de leur profession tandis que les gestionnaires ont ciblé les stratégies de rétention de l'individu (p. ex. : fournir plus de soutien). Des solutions plus larges ont été identifiées par les programmes de formation professionnelle (p. ex. : mentorat), les associations professionnelles et les organismes de réglementation (p. ex. : champ de pratique). Les résultats démontrent que les parties prenantes doivent adopter une approche intersectorielle pour créer des stratégies de rétention qui agissent sur différents systèmes à la fois.

Conclusion : Ce projet doctoral est une contribution originale et importante aux connaissances sur l'attrition et la rétention des effectifs en ergothérapie, physiothérapie et orthophonie. S'appuyant sur le modèle de la théorie historico-culturelle de l'activité et la méthodologie de description interprétative, cette recherche enrichit les notions portant sur l'attrition et la de rétention des effectifs, met l'emphase sur les facteurs qui contribuent à l'attrition et la rétention des effectifs à plusieurs niveaux et propose un premier ensemble de stratégies de rétention élaboré en tenant compte des perspectives de diverses parties prenantes. La création de stratégies de rétention agissant à plusieurs niveaux sera particulièrement importante afin d'assurer la disponibilité d'un bassin adéquat de professionnels pour répondre aux besoins en réadaptation présents et futurs.

ACKNOWLEDGEMENTS

My thesis represents my doctoral journey, not only the findings of the research I conducted, but the trials and tribulations of my learning, my successes and my failures, and most importantly, all the personal lessons I learned along the way. It was a journey of exploring the topic of attrition and retention, learning about other rehabilitation professionals' experiences, and discovering qualitative research. My journey was also rich with self-discovery. I had never been so tested on my views, whether it be on what constitutes knowledge and robust research to what is needed to support professional retention. My trials and tribulations, as well as my failures, challenged my resilience, but also afforded many opportunities for personal growth. As challenging as this journey was, I feel privileged to have experienced this journey.

Several individuals and communities supported me during this journey, including my supervisors, family, friends, lab mates and colleagues at the School of Physical and Occupational Therapy and the Institute of Health Sciences Education, and in the broader Montreal rehabilitation community. These demonstrations of support came in different forms, such as words of wisdom, an empathetic ear, and acts of kindness like bringing me a cup of coffee. These acts of support and kindness were critical to my reaching this final milestone in my doctoral journey.

My first words of gratitude extend to my supervisors, Aliki Thomas and Matthew Hunt.
Thank you Aliki for putting me on this doctoral journey in the first place. The first time we discussed the importance of attrition and retention in OT was the moment the seeds of this idea

were planted in my mind, and the idea of a doctoral journey began to come together. You were patient, supportive and always willing to share knowledge, experiences and opportunities to foster my own learning and growth. Your adherence to the highest standards of rigor in research helped me to conduct research that I am proud of. I will be forever indebted to you for all that you have taught me about research and about myself during this process.

Matthew, I will always remember your generosity of time and effort to enrich my understanding of qualitative research, in particular, interpretive description. Your coaching helped to push my own reflexivity and interpretative lens. Your questioning of my work often left me reflecting for several days before reaching an “Aha” moment. You also taught me a great deal about academic writing, encouraging me to think creatively about my writing and providing me with strategic ways to organize and articulate my thoughts. Your lessons will always stay with me.

Aliki and Matthew, you were also so empathetic, gently nudging me along the way to be kinder to myself. The emotional support I received from you in some of my most challenging moments redirected me onto a path that was much more constructive. Thank you for being my anchors; your efforts steadied me during these past seven years.

I would also like to thank my committee members, Saleem and Kelly, for sticking with me during this long journey. During our meetings and communications, you were always constructive and helpful, sharing important perspectives that influenced my research. Your feedback helped to broaden my thinking and to strengthen the quality of my work.

I am also thankful for my friends and colleagues at the KEEP and GHER labs, the School of Physical and Occupational Therapy, and at the Institute of Health Sciences Education. Your guidance, constructive feedback, encouragement and unfailing support have been much appreciated in these past seven years. In particular, I would like to thank Sara Saunders, an amazing friend and colleague, who has been a huge cheerleader for me during this journey. You kept me going at times when I felt I did not have the strength to continue this path.

Finally, to my husband, Jean-François, my children, Aurélie and Julien, my parents, my mother-in-law, my brothers, and my sisters-in-law, I thank you immensely for bearing with me, often compromising and sacrificing what you wanted, in order to help me over the past seven years. This accomplishment of completing my PhD, and producing this work, not only belongs to me, but to all of us, as we all invested time and effort for it to come to fruition.

PREFACE

Contribution to original knowledge

The research described in this thesis is original scholarship. My contributions to the topic of attrition and retention of rehabilitation professionals are three-fold: 1) the synthesis of the existing literature on attrition and retention of rehabilitation professionals, mainly OTs, PTs and S-LPs; 2) the identification of push, pull and stay factors, as well as profession-specific ones, that may contribute to rehabilitation professionals' decision to stay in, or leave their profession; and 3) the development of multi-level retention strategies drawing on experiences and insights from rehabilitation professionals and stakeholder groups (employers, professional education programs, and professional associations and regulatory bodies) for rehabilitation professionals in Quebec.

I have also made methodological and theoretical contributions. First, I implemented and have described the strategies I adopted to support the development of a coherent logic for my ID inquiries, such as sharing my reflections on the interpretivist paradigm where ID is situated and my attentiveness to my positionality. Chronicling these steps might help others who are new to ID to operationalize the principles of ID in an inquiry. Second, given the scope of my dissertation project which spanned three distinct professions that also bear commonalities as rehabilitation professions, I engaged with and integrated multiple professional orientations within the ID inquiries; while professional orientations are central to ID, less has been described about how multiple professional orientations can be brought together in such inquiries. Third, I identified two ways that I used CHAT to inform my data analysis, while remaining within the scope of ID.

This contribution is significant given the ongoing debate about the role of theory within ID inquiry. In my research, using CHAT provided a theoretical scaffolding which strengthened my investigation, and offered a unique way (e.g., systems level) of examining the phenomena of attrition and retention of OTs, PTs and S-LPs in Quebec. Fourth, I also identified ways to further refine CHAT theory to better account for multi-system empirical investigations.

Contributions of authors

I am first author of the three manuscripts presented in this dissertation. I led the development and implementation of these inquiries with the guidance of supervisor, Aliki Thomas (PhD) and co-supervisor, Matthew Hunt (PhD), and in collaboration with co-authors as described below.

Aliki Thomas and Matthew Hunt provided substantive feedback to all chapters of this thesis which helped me to develop my ideas in-depth and convey them in a clear and coherent manner. They offered examples, suggested changes to the content and structure of each chapter, and provided guidance in how to connect the chapters to each other, so that this dissertation could present a whole narrative.

Aliki Thomas also provided substantive expertise regarding scoping reviews, interpretive description, qualitative research, health professions education research. She is a co-author on all three manuscripts.

As co-supervisor, Matthew Hunt shared extensive expertise on interpretive description, qualitative research and scoping reviews. He is also a co-author on all three manuscripts.

Saleem Razack and Kelly Root were members of my thesis committee. They shared their academic and clinical experiences as health care professionals, and participated in decision-making regarding the execution of the scoping review and interpretive description studies. For all three studies, they gave feedback on study documentation, preliminary findings and on the manuscripts themselves. They are co-authors on all three manuscripts as well.

For *Chapter 2: Attrition and retention of rehabilitation professionals: a scoping review*, I developed and executed the search strategy, and identified articles for the review. I screened the abstracts for article selection and identified those for full-text review. From the included articles, I extracted the data and engaged in data analysis to identify the main themes of the review. Serena Speranza Riccio was a co-author in this manuscript, as she was the second reviewer for the article selection, full-text review and data extraction. She also provided feedback on this manuscript as it was being developed. Aliki Thomas and Matthew Hunt guided me in the overall implementation of the study, provided expertise in scoping reviews and data analysis.

For *Chapter 4: Unravelling attrition and retention: a qualitative study with rehabilitation professionals* and *Chapter 5: Stakeholder perspectives on retention strategies for rehabilitation professionals*, I was responsible for the study design, ethics application, recruitment, and data

collection for all the interviews and focus groups, as well as the data analysis of the findings from these studies, with the guidance from Aliki Thomas and Matthew Hunt.

CHAPTER 1: INTRODUCTION

1.1 Access to rehabilitation professionals

An estimated 2.4 billion people worldwide are living with a health condition that may benefit from rehabilitation. [1,2] They include people from across the lifespan, from children with congenital disabilities to older adults and those with chronic health conditions. The need for rehabilitation is expected to continue to rise due to aging populations, growing prevalence of noncommunicable diseases, and persistent climate changes leading to natural disasters with devastating consequences on individuals and their families. [1] The Canadian context is part of this global reality: there are currently 6.2 million Canadians over the age of 15 years living with a disability. [3] Individuals with disabilities experience challenges in participating in their daily activities; for example, young adults with cerebral palsy have decreased participation in leisure activities, education, and employment. [4,5] Stroke survivors report reduced quality of life, and limited engagement in work and leisure activities. [6,7] These two examples are illustrative of the impact that these health conditions have on daily living and the need for timely rehabilitation.

Rehabilitation interventions provided by qualified professionals can help to increase the functional independence of individuals with disabilities and to maximize their participation in everyday activities. [5,8-10] There is a wide breadth of interventions that can be provided in rehabilitation including remedial and adaptive approaches. Remedial approaches aim to restore one's ability to engage meaningfully in a chosen activity. Restoration of chosen activities through an adaptive approach, aim to improve functional independence. [11] Interventions aligned with a remedial approach may include physical modalities to address pain, and exercise

programs to improve strength and joint range of motion. On the other hand, an adaptive approach is focused on using alternate ways to complete a task. [11] Examples of an adaptive approach could be using an assistive device to enhance a person's reach for an item due to limited shoulder range of motion or an orthotic that supports the hand and forearm in a particular position at rest or during activity. Environmental adaptations defined as changes made to a physical environment to improve a person's access and participation in a chosen activity, or engagement in their environment, are also part of an adaptive approach. Therefore, individuals living with a disability often experience positive outcomes due to rehabilitation interventions such as, improved social participation, quality of life and self-efficacy in everyday activities. [12-17]

Many professions fit within the scope of rehabilitation: dietetics, occupational therapy, physical therapy, podiatry, psychology, speech-language pathology, social work, audiology, and radiography. [9] For the purposes of my dissertation, I focused on occupational therapists (OT), physical therapists (PT) and speech-language pathologists (S-LP). I chose OT and PT because there is overlap in their knowledge and expertise, in particular as it relates to the physical functioning of an individual, despite differences in their profession's focus. [18] In addition, I included S-LP because S-LPs and OTs often overlap in practice areas related to augmentative communication and dysphagia care. [19,20] It is also common that OTs, PTs, and S-LPs collaborate with one another, may work in similar practice settings (e.g., rehabilitation center, acute care hospital) and share approaches to rehabilitation. [18,21,22] Therefore, commonalities in practice areas and settings across OT, PT and S-LP may also suggest similar issues in attrition and

retention. It is for these multiples reasons that I focused on these rehabilitation professions in my dissertation.

Despite the evidence supporting the impact of rehabilitation interventions, access to rehabilitation services remains difficult in many public health care settings globally. [23-25] Access challenges vary within health care systems, and from one health care system to another. For example, in Canada, many older adults cannot access community-based services due to eligibility criteria; one noteworthy example are older adults at risk for falls but without a diagnosis. [26] These individuals may be ineligible for a falls prevention program which only accepts individuals with movement disorders. [26] In both Canada and Australia, access to health care services is influenced by fragmentation and geographical dispersion of health care services leading patients to require transportation, and incur increased costs and travel time to access care; these can be seen with adults living in remote areas trying to access cardiovascular rehabilitation programs.[20,27] These examples from two high income countries underscore the importance of attending to the challenges of accessing rehabilitation services, concerns that may even be higher in other settings where rehabilitation professions are less well established and health systems less resilient. [2] A deeper understanding of access challenges can provide valuable insights for reducing or overcoming such challenges, and for minimizing wait times for those in need of services. [23-25] Therefore, though rehabilitation interventions can address individuals' decreased participation in everyday activities, structural factors such as program eligibility criteria, that contribute to, or limit access to these services, require careful

examination. An important consideration of this limited access to rehabilitation services is the well documented critical shortage of rehabilitation professionals.

1.2 Workforce shortages of rehabilitation professionals

The current workforce shortage crisis in Canada and globally is compounding health care systems' limited capacity to meet the rehabilitation demands of all those in need. [28-32] A recent WHO report demonstrates that there are not enough OTs, PTs and S-LPs to meet global rehabilitation needs (e.g., no S-LPs in low income countries in Africa). [32] This extent of the workforce shortage of rehabilitation professionals was also described by the World Federation of Occupational Therapists who reported a shortage of OTs in 62 countries.[33] These findings point to an alarming gap between population needs for rehabilitation and the availability of qualified rehabilitation professionals to meet such needs.

Multiple factors contribute to the shortage of rehabilitation professionals, including: 1) a lack of financial resources dedicated to rehabilitation workforce training; 2) inadequate government planning for future workforce needs (e.g., retention incentives, professional development); and 3) insufficient support for the rehabilitation workforce who often work in isolation. [34] In Canada, limited data regarding health workers (e.g., sociodemographic information), and insufficient coordination of collection and analysis of data, leaves policy makers without key information with which to make informed workforce planning decisions. [35] Combined, these diverse factors have contributed to an insufficient health workforce. In turn, shortages often result in situations where health workers face unsustainable workloads leading to burnout and exhaustion. [33,36,37]

1.3 Attrition and retention in rehabilitation professions

Attrition from OT, PT and S-LP professions is also a notable factor that further compounds these shortages. Attrition is defined as a permanent departure from one's profession or the workforce [38] and can compromise a health care system's capacity to provide services to individuals who need them.

Very few empirical studies have investigated the proportion of rehabilitation professionals who have left their profession and the reasons behind their decision to leave. Mulcahy et al. conducted a study in Australia with PTs from 2000-2004, and explored their intentions to leave their profession. [39] There were 256 respondents (62% response rate) who completed the survey. Two thirds of PTs (n=118, 65%) believed that they would leave the PT profession in the next ten years. [39] Respondents described career change, family commitments, retirement, greater skill recognition, and better remuneration, as reasons for their desire to leave their profession. [39] Similar findings were found in a more recent study conducted with American PTs in 2020. [40] Huddler completed semi-structured interviews with 15 PTs who had left their profession after ten years of employment. [40] Using a phenomenological approach, Huddler identified several factors that contributed to professional attrition. Poor working conditions characterized by high caseloads and poor quality of patient care were particular points of frustration for participants. Participants also reported negative relationships with managers who were insensitive to their needs and had "closed opinions" on patient care.[40] Colleagues who did not demonstrate mutual respect for them and their work also contributed to their decision to leave their profession. Finally, a lack of funding for continuing professional development which was found to limit personal and professional growth was reported to be problematic given that PTs are required to

pursue continuing professional development. [40] Participants also described legal issues, burnout, health problems, transition to management, and incompatible work schedules as primary reasons for leaving the PT profession. [40] Similar findings have been reported in only two other studies with OTs, dating back to the early 1990s.

In Canada, a single study has been conducted on attrition and retention of rehabilitation professionals. The Quebec Ministry of Health and Social Services collected data from 2008 – 2013 about OTs, PTs and S-LPs in the public health sector, and found that 10-15% of Quebec OT, PT and S-LPs (n = 1066) had left their profession within two years of graduation. [41] The report identified a few reasons for attrition: parental leaves, retirement and change in job title. [41]

These studies provide only a small snapshot of the existing empirical literature on attrition and retention in the rehabilitation professions. Next, I will describe the Quebec context in order to situate my research and why I chose to conduct this empirical investigation focusing on this jurisdiction.

1.4 The Quebec health care context

Quebec is the province with the second largest population in Canada, with 8.5 million residents. [42] In 2017, 16% (~ 1 million) of Quebec residents reported having at least one disability. [43] To meet the needs of its population, the Quebec health care system has two levels of management: 1) the Ministry of Health and Social Services (provincial government); and 2) integrated health and social service centres which are amalgamations of public institutions specific to a geographical region. [44] Each integrated health and social services centre offers general and specialized health care services to the population in the territory it serves and is

composed of local community service centres, hospitals, rehabilitation centres, long-term care facilities, and child and youth protection centres. [45]

In addition to Quebec's publicly funded, integrated health and social service centres, private health care services are also available to the general population where patients pay fees to access services (e.g., musculoskeletal disorders). [46] However, some of these services are partly funded through the provincial government and are available in different forms. Examples of such services include community organizations that offer health promotion programs and receive both public and private funding, [47] as well as private for-profit rehabilitation clinics that offer return-to-work rehabilitation programs, funded by the Quebec's Workers Compensation Board (*Commission des normes, de l'équité, de la santé et de la sécurité du travail*), an organization under the Ministry of Labour and Social Solidarity. [48] In the last 15 years, the Quebec government has also partnered with private clinics to offer certain surgeries with long wait times in the public system, such as cataract removal, hip and knee replacements. [49] These examples help to illustrate the complexity of the Quebec health care services, with both publicly and privately funded organizations delivering health care services to its general population.

Like some health care systems in other provinces [50] and high income countries (e.g., United States, England), Quebec is facing challenges in securing adequate health human resources. [51] The Quebec health care system's challenges to offer adequate care were particularly evident during the COVID-19 pandemic, with more than 8000 deaths in long term care facilities, in part due to a scarcity of health care workers. [51,52] The workforce shortage was so problematic that

the federal government deployed military forces to offer health care in Quebec's long term care facilities. [53] The demand for human resources resulting from the COVID-19 pandemic, revealed substantial gaps in Quebec's health human workforce that exposed the precariousness of the system that had existed even before the pandemic. These examples underscore the present critical state of Quebec's health human resource workforce. Thus, Quebec's workforce situation provided a unique context in which to investigate attrition and retention in the rehabilitation professions.

1.5 Empirical Gap

The phenomena of attrition and retention of rehabilitation professionals in Quebec and worldwide have been understudied; indeed, the available evidence is limited in scope and specificity. An example of this is the few empirical investigations differentiating professional and job attrition which could be useful to determine targeted retention strategies for rehabilitation professionals. [54] Consequently, the limited available evidence has resulted in a limited understanding of the reasons why rehabilitation professionals decide to stay in, or leave their profession, and how best to help them to stay. Further, the existing empirical research has fallen short in its use of robust theoretical frameworks, further narrowing our understanding of attrition and retention in the rehabilitation professions. Identification of conceptual aspects of attrition and retention, especially in terms of push, pull and stay factors, [54] can drive evidence-informed development of supports, resources, and strategies for the rehabilitation workforce.

Therefore, an empirical investigation with robust theoretical underpinnings is needed to better understand the specific reasons why rehabilitation professionals stay in, or leave their profession, the factors that influence their choices, the commonalities and differences among rehabilitation professions, and possible retention strategies.

1.6 My project

1.6.1 Positionality

The empirical gap on attrition and retention in the rehabilitation professions is of particular interest to me and holds deep meaning due to my identity and roles as an OT and OT educator. As a former OT clinician with 17 years of clinical experience, I often reflected on the value of my contributions to patient care. My own challenges of working within a system that posed barriers to my practice prompted me to consider other opportunities in other sectors or practice settings, with the aim of being able to practice clinically in the ways I valued and had always envisioned. Eventually, these reflections led me to leave the public health care sector altogether to work in the private sector as a self-employed OT, and to begin an academic career at a Canadian university.

My 19 years of pedagogical experience in a Canadian OT educational program also aligns with this empirical work and is a source of inspiration for it. I have encountered many OT students and clinicians who shared their frustrations about their profession, their practice within a public health care system, and their thoughts about the future of their profession. These shared experiences resonated with my own professional experiences, which led me to pursue doctoral

work, to develop knowledge around attrition and retention in the rehabilitation professions. Ultimately, my aims are to identify the reasons why OTs, PTs and S-LPs leave their profession and to develop strategies to foster their professional retention.

As well as being a primary source of motivation for the project, these professional experiences have shaped the ways in which I carried out the empirical components of my dissertation research. My clinical experiences from both public and private health care sectors attuned me to the realities shared by participants. My reflections and experiences influenced the decisions I made about research design (e.g., recruitment, timing of data collection) and how I viewed my findings (e.g., connection between barriers to practice and impact of interventions). I was particularly attentive to asking participants about their daily work experiences, their challenges in carrying out their responsibilities, and the sources of such challenges. I was also acutely aware that my experiences could shape my questioning during the interviews and focus groups; therefore, I reminded myself often to ask open-ended questions, and to remain open to different perspectives and experiences during data collection.

1.6.2 Thesis organization and overview

This dissertation presents the findings of my doctoral work which aims to respond to the empirical and theoretical gaps in the evidence on attrition and retention of rehabilitation professionals. To address these gaps, I conducted a 3-phase program of research where the overall objective was to investigate why OTs, PTs and S-LPs choose to stay in, or leave their profession. The specific aims of this research were to: 1) better understand how educational

and health care environments influence professionals' decisions to stay in, or leave their profession; 2) investigate the differences and/or similarities among the three professions in terms of the reasons why professionals stay or leave, and the factors that influence their choices; 3) explore stakeholder perspectives (employers, professional associations, regulatory bodies, professional education programs) on attrition and retention; and 4) generate potential retention strategies for Quebec OTs, PTs and S-LPs.

I have organized my dissertation into eight chapters.

Chapter 2: Attrition and retention in rehabilitation professionals: a scoping review presents the methodological approach used to conduct the review and the findings on the existing literature on attrition and retention in the OT, PT and S-LP professions (phase 1; specific aims #1, #2 and #4). Main findings from this review highlighted the existing literature on contributing factors to attrition (push and pull factors) and retention (stay factors), led to the identification of specific avenues for further empirical investigation (Chapter 4), and oriented the design of the data collection in phases 2 and 3.

In *Chapter 3: Literature review*, I build upon the previous chapter by summarizing two different topic areas that shed light on the broader subject of attrition and retention. The first topic is the perceived lack of awareness of OT, PT and S-LP among members of the public and health care professionals, and how this influences a rehabilitation professional's self-perception (individual professional identity) and their decision to stay in, or leave their profession. The second topic is

about cultural-historical activity theory (CHAT) and how the concepts of CHAT helped to provide the theoretical framing for the qualitative inquiries described in Chapters 4 and 5.

Chapter 4: Unravelling attrition and retention: a qualitative study with rehabilitation professionals presents a qualitative inquiry in which I conducted individual, in-depth interviews to explore the perspectives of OTs, PTs, and S-LPs who stayed in, or left their profession (specific aims #1, #2, #4). I used CHAT (theoretical framing) and ID as the methodological approach for this inquiry. ID is a qualitative research methodology aligned with a naturalistic approach to empirical inquiry. ID orients researchers to identify common patterns in human experiences while attending to their differences, and seeks to develop knowledge that has relevance for practice. [55]

The analysis of the interviews illuminated the factors that contribute to attrition and retention of Quebec rehabilitation professionals, including the importance of the reflection of rehabilitation professionals' values in their work, and how this is shaped by factors outside the work environment and tied to the meaningfulness derived from work. The theoretical contributions of this study are underscored by the insights informed by CHAT: the ways in which the components of an activity system and its interconnections with other systems influence a rehabilitation professional's work. From an empirical and pragmatic perspective, the findings from this inquiry contribute to the topic of attrition and retention by offering avenues from which stakeholders can develop strategies to support retention in OT, PT and S-LP.

The findings from the interviews helped guide the design and execution of phase 3 which is described in *Chapter 5: Stakeholder perspectives on retention strategies for rehabilitation professionals*. Phase 3 consisted of a second qualitative inquiry where I conducted focus groups with managers from the private and public health care sectors, professional associations and regulatory bodies, and professional education programs (specific aims #3 and 4). Findings from this phase include stakeholders' perspectives on retention strategies, identifying those they viewed as priorities, and how they should be operationalized. From a theoretical perspective, my use of CHAT in this inquiry expanded the types of retention strategies aimed at different levels of a system (individual-focused, organizational) that were considered. Therefore, the findings from this phase highlight the extent of the systemic factors that influence a rehabilitation professional's work experiences and contribute towards theory-driven recommendations to address these factors. Drawing on these findings, I argue that retention strategies should go beyond the individual level (as has been emphasized in Quebec and many other settings) and include more attention to the multiple systems that impact rehabilitation professionals' work.

Chapter 6 presents the discussion on a combined analysis of the findings from the three phases of my doctoral work, and summarizes the theoretical and methodological contributions of my work.

This dissertation concludes with *Chapter 7* which highlights the salient aspects of the dissertation and summarizes the contributions this research makes to the broader literature on

attrition and retention of rehabilitation professionals, CHAT and ID methodology, and to professional practice.

CHAPTER 2: MANUSCRIPT 1

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Attrition and retention of rehabilitation professionals: a scoping review

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Abstract

Introduction: Attrition is defined as a permanent departure from one's profession or the workforce. Existing literature on retention strategies, contributing factors to the attrition of rehabilitation professionals and how different environments influence professionals' decision-making to stay in/leave their profession, is limited in scope and specificity. The objective of our review was to map the depth and breadth of the literature on attrition and retention of rehabilitation professionals.

Methods: We used Arksey and O'Malley's methodological framework. A search was conducted on MEDLINE (Ovid), Embase (Ovid), AMED, CINAHL, Scopus and ProQuest Dissertations and Theses from 2010 to April 2021 for concepts of attrition and retention in occupational therapy (OT), physical therapy (PT) and speech-language pathology (S-LP).

Results: Of the 6031 retrieved records, 59 papers were selected for data extraction. Data were organised into three themes: 1) descriptions of attrition and retention; 2) experiences of being a professional; and 3) experiences in institutions where rehabilitation professionals work. Seven factors across three levels (individual, work, environment) were found to influence attrition.

Discussion and implications for practice: Our review showcases a vast, yet superficial array of literature on attrition and retention of rehabilitation professionals. Differences exist between OT, PT and S-LP with respect to the focus of the literature. *Push*, *pull* and *stay* factors would

benefit from further empirical investigation to develop targeted retention strategies. These findings may help to inform health care institutions, professional regulatory bodies and associations, as well as professional education programs, to develop resources to support retention of rehabilitation professionals.

Keywords: occupational therapy, physical therapy, attrition, retention, rehabilitation, scoping review, speech-language pathology

Introduction

Rehabilitation therapies (e.g., occupational therapy (OT), physical therapy (PT), speech-language pathology (S-LP)) help enable individuals to function independently in their daily lives, seek to facilitate community reintegration and promote optimal social participation. [1,2] While rehabilitation services can be beneficial, they can be challenging for the public to access, due to limited or non-availability. [3,4] Challenges related to access may be due to multiple factors, including an increase in service demand, partly due to changing demographics from an aging population in many settings, [5,6] and a persistent shortage of rehabilitation professionals. [7] Attrition from the profession is one of the reasons for the shortage of rehabilitation professionals[8,9]

Attrition is defined as a permanent departure from one's profession or from the workforce. [8] Approximately 10%-15% of Canadian rehabilitation professionals (OTs, PTs and S-LPs) leave their profession within two years of graduation. [10,11] In Australia, 65% of surveyed PT graduates foresee that they will leave their profession in the next ten years. [12] To date, only three empirical studies have explored the contributing factors to attrition among rehabilitation professionals. A study of OTs in the United States dating from the early 1990s identified that 31% of survey respondents had left their profession. [13] Factors that influenced OTs' decisions to leave their profession, included childcare, heavy caseloads of patients with multiple comorbidities, stress and burnout, desire for increased salary and promotional opportunities, and discrepancies between clinician expectations of practice versus actual OT practice. [13,14] A

more recent study from Australia identified a desire for increased salary and promotional opportunities, as well as family commitments, as common reasons for attrition among S-LPs. [9]

The permanent loss of rehabilitation professionals from the workforce poses a serious challenge for health care systems in terms of their capacity to provide quality rehabilitation services to those who need it. A deeper understanding of the reasons for attrition from OT, PT and S-LP can help inform educational and continuing professional development interventions to optimize the retention of rehabilitation professionals to meet the rehabilitation needs of the population. [1,15,16]

The overarching aim of our review was to map the breadth and depth of the literature on attrition and retention of rehabilitation professionals. We specifically aimed to identify: 1) the reasons why rehabilitation professionals stay in/leave their profession; 2) how educational and health care environments may influence attrition and retention; and 3) areas requiring future research.

Methods

There are six main reasons for conducting a scoping review: 1) identify core ideas and definitions on a topic; 2) determine the main aspects of an idea; 3) investigate the types of evidence available on a topic; 4) determine gaps in the literature; 5) explore the ways in which a topic was empirically studied; and 6) as a preliminary step towards conducting a systematic review. [17,18] The objectives of our review aligned with reasons 2, 3 and 4. We used Arksey and

O'Malley's methodological framework, further refined by Levac, Colquhoun and O'Brien [19,20] and consisting of six steps.

Step 1: identifying the research question

The question guiding the review was: *"What is known about attrition and retention in rehabilitation professions (specifically OT, PT and S-LP)?"*

Step 2: identifying relevant papers

The first author (SM) developed the search strategy and performed the literature searches in Medline (Ovid), EMBASE (Ovid), PsycInfo (Ovid), AMED, CINAHL, Scopus, and ProQuest Dissertations and Theses from 2010 to July 2020. The MEDLINE strategy was reviewed by a health sciences librarian. After the initial MEDLINE strategy was finalized, it was adapted for use in other databases. The search strategy (see Table 1) was designed to identify relevant literature on attrition and retention in OT, PT, and S-LP practitioners. Results from each database were exported into Endnote and duplicates were removed.

We included papers if they: 1) reported findings that focused on why rehabilitation professionals stay in/leave their profession; 2) involved OT, PT and/or S-LP clinicians; 3) were peer reviewed or part of the gray literature (non-peer reviewed); 4) contained empirical findings or were conceptual papers; 5) had a publication date from 2010 onwards, to identify the literature that captured the most recent changes in health care and health care practice in North America; and 6) were written in English or French. A paper was identified as an empirical

study if it met two criteria: it reported original research and it provided sufficient details in the methods section (e.g., sample, participant recruitment, data collection) to allow for replication. We included conceptual papers because they may have incorporated theoretical frameworks that help describe attrition and retention. Review papers were included if the authors presented a summary and/or an analysis of the findings of the literature and an explicit description of the methodology. Papers in French were included as both team members conducting the study selection are able to read and write in French, however none were found. We excluded papers that focused on: 1) OT/PT/S-LP assistants as their educational requirements and level of professional autonomy differ from those of OTs, PTs, and S-LPs; and 2) OT, PT and S-LP students as the reasons for attrition and retention from professional education may differ from those of practitioners.

Step 3: study selection

We conducted a calibration exercise that consisted of two team members (SM and SSR) independently reviewing the same 10% of retrieved papers. [21,22] They then met to compare their decisions and discuss discrepancies. This process was repeated once more to achieve 90% agreement on which papers to include in the review. [23-25] When this was reached, SM and SSR divided the remaining papers for screening.

Step 4: charting the data

The first author (SM) developed an extraction form based on the research question and corresponding units of analysis (e.g., key concepts in attrition and retention) and sought

feedback from the research team. Categories on the form included: author(s), year, country of origin, type of paper (empirical, conceptual or review), study purpose, methodology, study design, profession, sample population, study environment, use of a theoretical framework, major discussion points, limitations, key findings that relate to attrition and retention, and areas for future research.

SM and SSR pilot tested the form by independently extracting data from the same five included papers. They then met to compare the extracted data and discuss the similarities and discrepancies for each paper. This process was repeated four times (for a total of 20 papers), to ensure that the data extraction categories were clear and interpreted in the same way by both team members. Following these three rounds, 90% agreement was reached between SM and SSR. The remaining papers were divided between the same two team members for extraction.

Step 5: collating, summarizing, and reporting the results

Descriptive numerical analysis

We conducted a descriptive numerical (bibliometric) analysis to document the key characteristics of the included papers (e.g., year of publication, type of paper; where the study took place; methodology; study design; profession(s) addressed; and use of a theoretical framework). [18]

Qualitative thematic analysis

We conducted a thematic analysis of the extracted data [18] that focused on two central concepts in the review namely, attrition and retention: contributing factors to attrition and retention; primary reasons for attrition; retention strategies; and proportion of rehabilitation professionals who experience attrition and retention (specific period). We used an iterative approach to familiarize ourselves with the data and to refine codes and categories. [26] SM read the data from three sections in the data extraction form: key concepts in attrition; key concepts in retention; and main discussion findings. She then reviewed the two first sections, developed a set of codes and wrote an operational definition for each code. [26] As coding proceeded, she refined earlier codes or added new ones. Next, codes with similar meanings were grouped into categories. [26] If a code did not fit into any category, a new category was created. Once the preliminary data analysis was completed, an OT (AT) and a PT (MH) reviewed the codes and categories. Their feedback helped refine the analytic structure. SM then reviewed the codes and categories while reading the excerpts to ensure alignment. [26] A second round of feedback on the codes and categories was carried out with the other research team members, a physician (SR), a S-LP (KR) and another PT (SSR). Involving reviewers from different professions provided a broader perspective on the data analysis, led to further clarification of the codes and categories and ensured that they best reflected the extracted data.

To develop the themes, we used a similar process to the one used for developing the categories. [26] Once the preliminary themes were created by the first author (SM), they were reviewed by two research team members (AT and MH). Their feedback led us to revise the themes, bearing

in mind the associated categories, codes, and excerpts of data. AT and MH then provided a second round of feedback and the themes were revised further.

Reflexivity regarding the research team

The positionalities of our team members informed the ways we viewed our findings. [27] Our team is composed of health care professionals, many of whom are rehabilitation professionals. SM has over 15 years of clinical and teaching experiences in OT, which shaped the ways she engaged with the findings. For instance, SM's experiences with students regarding alignment between their values and those of the institutions where they learn/practice, were reflected in the codes (e.g., choice-making (Theme 2), workload (Theme 3a), institutional culture (Theme 3b)). While these insights have been informative, SM engaged in reflexive practices, such as memoing, to preclude imposing her views on the analytical process and to support the inductive analysis approach. [27]

Results

The results of the original and updated (July 2019 – April 2021) searches are presented in the PRISMA (preferred reporting items for systematic reviews and meta-analyses) flow diagram (Figure 1).

We identified 2588 papers after duplicates were removed. Following the initial abstract screening, we retained 63 papers. These papers were read in full, at which point an additional 11 were excluded (see Figure 1). In the 2021 update, we found 774 papers after duplicate

removal. We included 7 additional papers after screening, resulting in a final total of 59 articles for data extraction.

Descriptive numerical analysis

Figure 2 shows the number of papers published annually from 2010 to 2021. From 2010 to 2021, the number of papers reached a peak in 2011[28-37] but declined from 2012 to 2014/2015. The number of papers increased in 2016, but then dropped in 2017. A similar trend was noted in 2018 and 2019 with the number of papers increasing in 2018 and then dropping suddenly in 2019.

Table 2 presents the characteristics of the included papers. The greatest number of papers were written about rehabilitation professionals in Australia (n = 22; 37%), [9,12,32-34,36,38-53] followed by the United States (n = 18, 31%) [30,31,54-69] and Canada (n = 5, 10%). [29,35,70-72]

Ten papers (17%) included a theoretical framework in their paper. [31,35,36,40,49,52,64,69,72,73] Four papers used theoretical frameworks pertaining to the construct of a job: Mediating Model on Job Embeddedness, [52] Job Characteristics Model, [36] Job Demand-Resources theory, [73] and Job Demand-Control. [36] Other papers used theoretical frameworks related to motivational theory, such as Herzberg's Motivation theory[69] and Literature-based Motivation framework. [31] One paper used an OT theoretical framework, the PRIOrity model. [40] Two papers referred to a Canadian OT competency document, the Profile of Practice of OTs, as the conceptual basis for their empirical work. [35,72] While competency documents are not theoretical frameworks, we

have included them to show the different sources that authors have drawn from for the conceptual foundation of their empirical work.

Forty-eight papers (81%) described empirical investigations of attrition and retention. [9,12,28-34,37-46,49,51-62,64,67-69,71,73-83] Of these, more than half (n = 34; 71%) used quantitative methodological approaches, eleven used qualitative methodologies (23%) and three used mixed methods (6.3%).

Two thirds of the included papers pertained to the OT (n = 21, 36%) [28,32,35,36,40,42,43,47,51,53,63,65,66,70-73,76,80,82,83] and PT (n = 17; 29%) [12,30,39,41,46,48-50,55-57,64,69,74,75,77,84] professions. A much smaller number of papers related to the S-LP profession was found (n = 8, 14%). [9,31,37,52,60,79 67,81]Thirteen papers (22%) included at least one rehabilitation profession and another health profession (e.g., social work, audiology). [29,33,34,38,44,45,54,58,59,61,62,68,78]

Qualitative thematic analysis

We identified three major themes: 1) descriptions of attrition and retention; 2) experiences of being a professional; and 3) experiences in the institutions where rehabilitation professionals work (the inner and outer milieu). More details are provided in the supplemental material.

Theme 1: Descriptions of attrition and retention[9,12,31,33-43,45-54,56,57,59-62,64-66,71,72,74-79,84]

This theme pertains to how and why rehabilitation professionals stay in or leave their profession, and the number of rehabilitation professionals who left or were considering leaving

their profession in different countries. [37,74,75] For instance, one paper reported that 16% of surveyed PT practitioners from Poland foresaw leaving their profession in the next ten years. [77] Similarly, it was noted that S-LP practitioners stayed in their profession for ten years. [12,37,38,77] Other papers presented findings on the reasons why rehabilitation professionals left their profession, [38,49,52] including a desire for a career change, [12,48,49] family responsibilities, [37,49] and work-related harms (e.g., burnout or musculoskeletal injuries). [33,34,40,42,48,59,75] Four papers presented findings about contributors to attrition, such as misalignment in values between a rehabilitation professional and those of their workplace, or frustration with institutional practices [40,42,53,79] Twenty papers described factors that influenced retention: 1) support, mentoring and supervision throughout one's career were highlighted, especially in the early stages; [48,51] 2) positive therapeutic interactions with patients and colleagues; [52,56] 3) decision-making autonomy; [45,56,84] 4) a manageable workload; [36] and 5) opportunities such as working in other practice areas, and leadership positions. [43,52,53] Commonly reported retention strategies include: identifying professionals' changing needs for support related to administrative tasks and clinical situations; offering different forms of support (peer, mentoring); creating opportunities for recognition and rewards (e.g., acknowledgement of expertise); [56] and offering career or professional advancement opportunities (e.g., diversity in roles, participation in research or project work). [30,39,43]

Theme 2: Experiences of being a professional[9,12,29,31,33,35,37,40,43-53,56,57,59-62,65,71,74,75,79,80,84]

Thirty-two papers (54%) reported on the experiences of being a professional, namely how the characteristics of the individual therapist (e.g., skills, attitudes, and knowledge) can shape their

experiences in practice and play a role in attrition and retention. For example, Ashby et al. found that applying occupation-focussed models and OT concepts, and explaining the benefits of occupation in ways that are readily understood by other professionals, fosters career longevity (i.e. retention). [40] Life circumstances, which were defined as a period in one's life or a set of circumstances that relate to particular concerns, needs, and/or desires, also appeared to influence a professional's decision to stay in, or leave their profession (e.g., nearing retirement age, having young children). For instance, Gropelli and Corle described how PTs expressed concerns about keeping up with the physical demands of their work as they age, and how these concerns may lead them to seek employment outside of their profession. [59] McLaughlin et al. suggested that S-LPs with children under 18 years of age were more likely to leave their profession. Choice-making, a professional's ability to make decisions about their work (e.g., scheduling, how they carried out interventions), also appeared to influence a professional's intent to stay in, or leave their profession. Four authors commented on how professionals with more autonomy over daily work decisions experienced less job stress and greater satisfaction, thereby contributing to less turnover in the profession. [31,56,57,84]

Theme 3a: Experiences in the inner work milieu[9,12,29-36,39,43,45,47-52,56-62,64-66,71,76,77,79,80,84]

This theme reflects the nature of the professional's work, their workload, the support they received or would have liked to receive, the team they worked with, and their general social interactions. We identified the work milieu as "inner" to illustrate how these experiences took place in their immediate work environment, akin to a ward in an acute care institution, or a specific program in a rehabilitation center.

Role(s) that are ambiguous, [31] [32] poorly defined, [76,84] or that do not align with the rehabilitation professional's expectations of their role(s) [35] may lead to negative emotions about their work, contributing to attrition. Workload was also closely tied to a rehabilitation professional's experiences in the inner milieu. [31,32,34,36,43,45,52,57,58,60,61,64,65,79,84] Fifteen authors spoke generally about high workloads, but two papers reported the need for a manageable caseload, [58,60] revealing a mismatch between the quantity of work and the capacities of the rehabilitation professional to complete that work.

Twenty-three papers reported on support for the professional in clinical practice: 1) the purpose(s) the support meets, such as professional support (e.g., opportunities to ask questions about clinical decisions), [48,52] or administrative support (e.g., help for completing administrative forms); [60,84] 2) the individual(s) who was or should be, providing the support (e.g., management). [32,43,59]

Teams (in 13 papers) and social interactions (in 11 papers) were also reported as contributing to attrition and retention. Positive relationships with teammates, [31,52,57,61,77] a positive team environment [31,43] and opportunities to work in an interprofessional team [12,84] were noted as important factors in retention. In contrast, differences in values amongst team members [51] and conflicts within a team or between professions [47] were suggested to contribute to attrition. Social interactions with patients, families and peers, [56-58] as well as managers were also noted as possible factors for retention. [61]

Theme 3b: Experiences in the outer work milieu[9,12,28,29,31,33-40,43,45-53,55-57,59-62,64,70,71,74,75,77-80,84]

We defined the outer work milieu as the broader work environment, extending beyond a program, ward, or clinic (e.g., institution, health care authority). Four prominent codes were grouped within this theme: work opportunities; remuneration; institutional culture; and work-related harm.

Work opportunities were often reported as possibilities for professional growth and career advancement, such as working in other areas of practice, and with other patient populations. [12,33,35,37,43,45,46,48-50,52,53,56,77,79,84] Two authors wrote about rehabilitation professionals' perceptions of having unclear career paths and few opportunities for advancement, other than becoming a manager. [43,48] Three authors noted that these experiences led some rehabilitation professionals to burnout and contributed to leaving their profession. [12,48,84]

Remuneration was addressed in 23 papers. Three authors discussed how higher salaries would promote retention. [31,45,79] Two papers reported that participants expressed that they would have been less likely to pursue OT and PT had they been aware of the low salaries. [28,74]

Institutional culture (in six papers) was discussed with respect to managerial/leadership style and workplace climate. [40,52,53,55,74,84] Rehabilitation professionals experiencing ethical tensions in the workplace were more likely to experience burnout and attrition, [51,55] as were those who had insufficient resources or support for practice. [47,79] This finding also pertains to Theme 3a, as the

papers did not specify the aspects of the work environment which contributed to the likelihood of professional attrition.

For work-related harm, two papers reported that musculoskeletal injuries were commonly experienced among PTs, [34,38] leading to early retirement or attrition. [34,46,48,75] Two papers described stress and burnout as stronger contributors to attrition in the early career stages of OTs and PTs, than in S-LP. [48,80]

We also identified considerations related to the higher educational system and the profession(s). Four papers reported findings on professional education programs, reflecting graduates' inadequate preparedness for clinical practice, which lead to higher turnover and issues of retention in certain practice areas. [32,45,70,71] However, it was difficult to ascertain whether the issues of retention reported in these papers related to attrition from the position or the profession. Fifteen papers reported on barriers to the availability and access to continuing education opportunities which may influence participants' motivations to remain in their profession. [12,31,33,37,39,43-45,47,48,50,64,76,79,84]

Eight papers addressed visibility of the professions. [12,33,35,43,48,74,77,84] These described rehabilitation professionals' perceptions of the public's lack of awareness and recognition of the profession(s). [33,35,74,77] The authors proposed that professional associations and regulatory organizations participate in educating the public about the rehabilitation professions to promote their visibility and foster greater retention of rehabilitation professionals. [33,35,64,84]

Discussion

Our review revealed a breadth of literature in attrition and retention in the rehabilitation professions. The findings from a broad range of attrition literature (23 papers) suggest variability in the foci of empirical investigation across professions and regions. [9,12,31,34,35,37,43,45,46,48-51,62,64,71,72,74,75,77-79,84]

Factors contributing to attrition and retention are situated at three levels: 1) the individual practitioner; 2) work; and 3) the environment. At the individual level, life circumstances [9,59] and choice-making [45,56,57,84] appear to shape how an individual manages their work schedule and workload, by considering their commitment(s) and role(s) in their personal life. A rehabilitation professional's ability to control their schedule and/or workload may help to delineate boundaries of engagement in work, allowing for the pursuit of other commitments. This is consistent with the literature on how health care and corporate workers prioritize their personal life when they schedule their work shifts, with women working less to prioritize family life and leisure activities. [85] The inability to make such choices may be related to limited personal agency; feelings of powerlessness and fear of negative repercussions from institutions may lead rehabilitation professionals to perceive that they have limited choices. [86-88]

Role definition and time spent on administrative tasks (versus on direct client care), may influence a rehabilitation professional's perceived value of their contribution to client care. The extent to which a role is clearly defined seems to affect a rehabilitation professional's ability to articulate what they do. Indeed, two papers reported that OTs who adopt roles imposed by

managers may experience identity confusion, and feel undervalued for their work. [89,90] S-LPs perceived the greater time spent on administrative tasks than with their clients as wasteful, restricting their ability to respond to high demands for their services. [58,60,79] These findings may reflect a feeling of being torn between conflicting demands of clinical and administrative tasks, thereby placing a strain on clinical demands. [91] Comparable observations have been reported in nursing: 32% of nurses' time is spent on direct care, with the remaining time directed towards other tasks including administrative ones. [92]

For the environment, workplace factors (e.g., workload, teamwork) seemed to shape rehabilitation professionals' experiences of work; [31,34,38,43,45,47,51,52,56-58,60,61,65,77-79,84] in particular, work opportunities and work-related harms. [43,46,52,53] Systemic changes, such as health care and educational reforms, are often aimed at improving the accessibility and coordination of services, [93] but can lead to increased job demands and budget restrictions, leading to greater experiences of work-related harms. [94,95] Studies by Bourbonnais et al., Lavoie-Tremblay et al. and de Jong et al. have found that health care workers experienced increased workloads and greater psychological distress after organizational and systemic restructuring. [94-96] However, individual (e.g., perceived individual control) and organizational level factors (e.g., support from managers) can help to mitigate these negative effects. [96] More research is needed to explore different aspects of the restructuring process and how these may directly impact workers. [96]

In contrast to the more voluminous literature on attrition, only five papers primarily addressed retention. [29,30,36,56,58] Three of the five papers presented empirical investigations on mentoring,

healthy employment and workload., [29,36,58] but none included retention as part of the research question. However, we did find 31 papers which reported on both attrition and retention. [9,12,31,33-35,37-40,43-45,48-53,57,60,61,64,69,71,73,74,77,79,82,84] The large number of papers on both, speaks to a close relationship between the two phenomena. In a paper about teachers, Kelchtermans presents attrition and retention as "two sides of a coin", [97] a description which also reflects how these concepts are addressed in the rehabilitation professions literature. Future empirical work could focus on more targeted questions on retention in order to identify a problem relating to eventual professional attrition (e.g., sense of belonging to one's profession).

Only four papers provided a general overview of the different factors that contribute to attrition and retention. [37,38,48,84] To advance our knowledge of attrition and retention, further exploration of how these diverse factors may play out differently at various points of one's career is needed.

Our findings suggest that professionals are driven out of their profession (*push*), are drawn away from the profession (*pull*) and retained in their profession by different factors *(stay)*. For example, two papers discussed both a PT's desire for a career change (*pull*) versus health-related issues that impede their ability to practice, forcing a PT to leave the profession (*push*). [12,48] Two papers described S-LPs having young children as a factor in attrition *(pull)*. [9,37] Though the distinction between these *push* and *pull* factors was not elaborated upon, [12,48] these factors may reflect different ways of exiting the profession, and therefore, may point to different avenues of retention strategies. [98] For example, awareness of a rehabilitation professional's reasons (e.g., desire to pursue other interests) to leave their profession may shed light on *pull*

factors and how they influence attrition as a naturally occurring process in one's career. The concept of *push* and *pull* factors is not new; it has been used to describe physicians' mobility from the public to private sector. [99] *Push* and *pull* factors have also been part of the Pull-Push-Mooring (PPM) theory which explains human migration from an initial location to a destination due to the interaction of *push* and *pull* factors. [100] The PPM theory has been used to explore turnover intentions in other industries, such as the hotel industry. [101] Regional social, political and economic factors, available employment opportunities, trends in a profession (e.g., current career paths in PT) and their impact on *push* and *pull* factors, also need empirical investigation. [97] A deeper understanding of these factors and how they relate to attrition and retention may lead to more targeted interventions to address different needs. [97]

Stay factors were also reflected in our findings; specifically, the influence of positive work relationships and environments on retention. [31,45,52,64] This observation aligns with existing literature in organizational climate in health care and in the food service industry. [102-104] Positive practices (e.g., respect, care for others), a positive social climate (e.g., team harmony) and interactions characterized by openness, friendship, collaboration, and trust, were noted to promote greater meaningfulness in work. [102-104] The professional identity literature has also shed light on institutions as social in nature: institutions embody values, philosophies, and possess policies and procedures that can shape the experiences of rehabilitation professionals. [105,106] For example, an investigation of the institutional values which support power dynamics in interprofessional teams, may shed light on their contributions to work relationships and environments for rehabilitation professionals. This line of inquiry may be especially relevant for

settings where rehabilitation professionals may have less decision-making power than other professions (e.g., acute care). [107-110]

Push, pull and *stay* factors demonstrate that retention strategies need to be sufficiently detailed and targeted: Who do these retention strategies target? What factor(s) do they respond to? In what way(s) will they address the factor(s)? Whose responsibility are they? Who participates in the decisions and actions related to retention strategies? A more nuanced understanding of these elements can help to create versatile and flexible retention strategies tailored to the diverse needs of rehabilitation professionals.

Differences between professions

We observed different areas of foci in the literature involving OT, PT and S-LP. Notably, there was more discussion about public perceptions of the profession in OT, than in PT and S-LP; misunderstanding or a lack of understanding of OT leads to dissatisfaction among OT practitioners. [33,47,62] Others' perceptions of OT can influence how practitioners articulate who they are (professional identity) and what they do, contributing to their perceptions of being valued and recognized for their work. [111,112] Feeling unvalued and unrecognized for one's work can shape their work satisfaction, influencing their retention in their profession. [83,113] Unfortunately, the public's limited awareness of OT is not new; indeed, this has been reported in several studies. [111,114-116] Thus, it may be worthwhile to explore how public perceptions of the OT profession contribute to therapists' professional identity and professional status, and whether these shape the retention of OTs. [111,112,117,118]

The occurrence of musculoskeletal injuries led to attrition amongst PTs (e.g., early retirement or career change). [34,38,46,59,75] This mirrors the findings by Vieira and colleagues who found that up to 90% of PTs develop work-related musculoskeletal disorders during their careers. [119] While these findings align with what is known of the physical strain associated with PTs' work responsibilities, they emphasize a need to address work injury reduction and prevention strategies, [38] such as fostering physical fitness and the use of equipment to replace manual lifting. [59] Similarly, planning for the latter stages of their career could be done to reorient PTs to other, less physically demanding, forms of PT practice.

Certain practice settings were discussed more frequently than others in relation to attrition and retention for S-LP. High workloads among S-LPs in school settings were linked to concerns about retention. [58,60,79,81] Katz et al. determined a mean caseload size of 49 students for S-LPs working in American school settings, though some S-LPs found their caseloads to be unmanageable with 41-45 students. [60] Other factors such as the SLP's years of experience, also need to be considered: the fewer years of experience a S-LP had, the more likely they perceived their caseload as unmanageable. [60] Therefore, using caseload size as an indicator of caseload burden appears to us as overly simplistic. Our identification of school settings may point to specific needs for S-LPs in this setting, in particular, to closely examine the definition of a manageable caseload and to develop supports and resources (e.g., support groups, mentoring) for retention. [32,40,42]

Future directions for empirical inquiry

We summarize the recommendations for future inquiry which were described earlier in the Discussion.

Further investigation of *pull*, *push* and *stay* factors is needed. It would be useful to learn more about the *pull* factors, and how they contribute to a natural transition in professional attrition. [101] Therefore, attrition may not be a problem and efforts could be directed towards those who experience *push* factors.

Stay factors, such as positive relationships and work environments, are also worthy of additional research. Given that rehabilitation professionals work in interprofessional teams, [1] targeted interventions that support individual agency and advocacy in team-based care is likely to be an additional avenue worth exploring. [120,121]

The role of professional associations and regulatory organizations also warrants further study. Though only a handful of papers reported on these organizations, the role of professional associations and regulatory bodies may be limited or non-existent depending on the context. Given the evidence on the increasing demands placed on professionals, [122] it would be important to explore how professional associations and regulatory organizations shape rehabilitation professionals' experiences of attrition and retention.

Strengths and Limitations

A strength of this review is the inclusion of three rehabilitation professions which allowed for both unique and common aspects of attrition and retention to be identified. However, the number of papers published in each profession limited our ability to make comparisons or to draw conclusions, especially for S-LP (n = 8). Another possible limitation lies in classifying the findings of a paper as job retention versus professional retention. We attempted to mitigate this limitation through discussing each paper during the data extraction phase. Finally, even with support from an experienced health sciences librarian, we cannot say with certainty that we found every possible article on our topic.

Conclusion

We have reported on findings related to attrition and retention and discussed aspects of both that could benefit from further empirical investigation. We hope that the findings will lay the foundation for future research aimed at better understanding the characteristics of attrition and retention, as well as be used in academic and health care environments to facilitate retention for rehabilitation professionals.

Lessons for Practice

- Retention strategies need to be tailored to address the factor(s) that affect retention and attrition amongst rehabilitation professionals.
- Efforts should be targeted to mitigate push factors that may lead to early or sudden attrition from a profession.
- Positive work environments and relationships are *stay* factors that contribute to optimizing team-based patient care; efforts should be aimed at fostering team dynamics to support the retention of rehabilitation professionals.

References

1. Lizarondo L, Turnbull C, Kroon T, et al. Allied health: integral to transforming health. *Aust Health Rev*. Apr 2016;40(2):194-204. doi:10.1071/ah15044

2. Steultjens EM, Dekker J, Bouter LM, Leemrijse CJ, Ende CHvd. Evidence of the efficacy of occupational therapy in different conditions: an overview of systematic reviews. *Clin Rehabil*. 2005;19(3):247-254. doi:10.1191/0269215505cr870oa

3. Deslauriers S, Raymond MH, Laliberté M, et al. Variations in demand and provision for publicly funded outpatient musculoskeletal physiotherapy services across Quebec, Canada. *J Eval Clin Pract*. Dec 2017;23(6):1489-1497. doi:10.1111/jep.12838

4. Raymond MH, Demers L, Feldman DE. Waiting list management practices for home-care occupational therapy in the province of Quebec, Canada. *Health Soc Care Community*. Mar 2016;24(2):154-64. doi:10.1111/hsc.12195

5. Ordre des ergothérapeutes du Québec. Participation du personnel non-ergothérapeute à la prestation des services d'ergothérapie: lignes directrices. *Montréal: Ordre des ergothérapeutes du Québec*. 2005:34.

6. Canadian Association of Occupational Therapists. CAOT position statement: Occupational therapy and home and community care. *OT Now*. 2008;10(6):20-22.

7. Zweck C. The occupational therapy workforce in Canada: A review of available data. *OT Now*. 2008;10:3-6.

8. Castro Lopes S, Guerra-Arias M, Buchan J, Pozo-Martin F, Nove A. A rapid review of the rate of attrition from the health workforce. journal article. *Hum Resour Health*. 2017;15(1):21. doi:10.1186/s12960-017-0195-2

9. McLaughlin EG, Adamson BJ, Lincoln MA, Pallant JF, Cooper CL. Turnover and intent to leave among speech pathologists. *Aust Health Rev*. May 2010;34(2):227-33. doi:10.1071/ah08659

10. Ministère de la Santé et des Services Sociaux. *Portrait de la main d'oeuvre: secteur de réadaptation*. 2014.

11. Walton D. How Does PT Attriton Compare to Other Professions? *How Does PT Attriton Compare to Other Professions?* blog. 2017. Accessed September 26, 2017. http://www.physiomovescanada.com/blog/2017/9/26/how-does-pt-attrition-compare-to-other-professions

12. Mulcahy AJ, Jones S, Strauss G, Cooper I. The impact of recent physiotherapy graduates in the workforce: a study of Curtin University entry-level physiotherapists 2000-2004. *Aust Health Rev*. May 2010;34(2):252-9. doi:10.1071/ah08700

13. Bailey DM. Reasons for attrition from occupational therapy. *Am J Occup Ther*. Jan 1990;44(1):23-9. doi:10.5014/ajot.44.1.31

14. Freda M. Retaining Occupational Therapists in Rehabilitation Settings: Influential Factors. *Am J Occup Ther*. 1992;46(3):240-245. doi:10.5014/ajot.46.3.240

15. Statistics Canada. Disability in Canada: Initial findings from the Canadian Survey on Disability. Accessed October 2, 2016, http://www.statcan.gc.ca/pub/89-654-x/89-654-x2013002-eng.htm

16. Canadian Institute for Health Information. HCRS Profile of Clients in Home Care 2016-2017. Accessed September 27, 2017, https://www.cihi.ca/sites/default/files/document/hcrs-quickstats-2016-2017-en.xlsx

17. Peters MDJ, Marnie C, Colquhoun H, et al. Scoping reviews: reinforcing and advancing the methodology and application. *Syst Rev*. 2021/10/08 2021;10(1):263. doi:10.1186/s13643-021-01821-3

18. Peters MDJ, Marnie C, Tricco AC, et al. Updated methodological guidance for the conduct of scoping reviews. *JBI Evid Synth*. 2020;18(10):2119-2126. doi:10.11124/jbies-20-00167

19. Arksey H, O'Malley L. Scoping studies: towards a methodological framework. *Int J Soc Res Methodol*. 2005;8(1):19-32. doi:10.1080/1364557032000119616

20. Levac D, Colquhoun H, O'Brien KK. Scoping studies: advancing the methodology. *Implement Sci*. 2010;5:69. doi:10.1186/1748-5908-5-69

21. Mak S, Thomas A. An introduction to scoping reviews. *J Grad Med Educ*. 2022;14(5):561-564. doi:10.4300/JGME-D-22-00620.1

22. Mak S, Thomas A. Steps for conducing a scoping review. *J Grad Med Educ*. 2022;14(5):565-567. doi:10.4300/JGME-D-22-00621.1

23. Tricco AC, Cardoso R, Thomas SM, et al. Barriers and facilitators to uptake of systematic reviews by policy makers and health care managers: a scoping review. *Implement Sci*. 2016/01/12 2016;11(1):4. doi:10.1186/s13012-016-0370-1

24. Thomas A, Law M. Research utilization and evidence-based practice in occupational therapy: a scoping study. *Am J Occup Ther*. 2013;67(4):e55-e65. doi:10.5014/ajot.2013.006395

25. Thomas A, Lubarsky S, Durning SJ, Young ME. Knowledge syntheses in medical education: demystifying scoping reviews. *Acad Med*. 2017;92(2):161-166. doi:doi:10.1097/ACM.0000000000001452

26. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol*. 2006;3(2):77-101. doi:10.1191/1478088706qp063oa

27. Braun V, Clarke V. *Thematic Analysis: A Practical Guide*. SAGE Publications Limited; 2021:376.

28. Abu Tariah HS, Abu-Dahab SMN, Hamed RT, AlHeresh RA, Arahim Yousef HA. Working Conditions of Occupational Therapists in Jordan. *Occup Ther Int*. 2011 2011;18(4):187-193.

29. Asseraf-Pasin L. Mentoring practices in physical and occupational therapy: The experiences of Canadian mentors and mentees. *Physiother Theory Pract*. June 2011;1:eS91-eS92.

30. Collins TL. Characteristics of the home health practice setting that attract and retain physical therapists: results of a survey and implications for home health. *Home Healthc Nurse*. 2011 2011;29(3):156-167. doi:10.1097/NHH.0b013e31820be2e9

31. Eaton AS, DeVore D. *Motivators affecting retention decisions of speech-language pathologists in Orange County school districts*. University of La Verne; 2011. Accessed December 19, 2019. https://proxy.library.mcgill.ca/login?url=https://www.proquest.com/dissertations-theses/motivators-affecting-retention-decisions-speech/docview/1323346855/se-2?accountid=12339

32. Hardaker L, Halcomb E, Griffiths R, Bolzan N, Arblaster K. A survey of 63 Australian occupational therapists working in youth mental health. *Occup Ther Ment Health*. 2011;27(2):140-54. doi:10.1080/0164212X.2011.566911

33. Jepsen DM, Craig J, O'Neill MS. *Tackling the allied health worker crisis : a multiple stakeholder perspective on career attitudes and longevity : preliminary results*. Macquarie University; 2011:50.

34. Passier L, McPhail S. Work related musculoskeletal disorders amongst therapists in physically demanding roles: Qualitative analysis of risk factors and strategies for prevention. *BMC Musculoskelet Disord*. 2011;12(24):1-9. doi:10.1186/1471-2474-12-24

35. Putman J, Craik J, von Zweck C. Exploring 'use of title' for occupational therapists in Canada. *OT Now*. 2011;13(2):24-27.

36. Scanlan J. Creating healthy jobs: supporting retention of occupational therapists through evidence-based management...Occupational Therapy Australia, 24th National Conference and Exhibition, 29 June - 1 July 2011. 2011:131-132.

37. Tillard GD. Factors contributing to the brain drain in speech-language pathology: a New Zealand example. *Int J Speech Lang Pathol Audiol*. Aug 2011;13(4):360-8. doi:10.3109/17549507.2011.548530

38. Anderson S, Stuckey R, Fortington LV, Oakman J. Workplace injuries in the Australian allied health workforce. *Aust Health Rev*. 2019;43(1):49-54. doi:10.1071/AH16173

39. Arkwright L, Edgar S, Debenham J. Exploring the job satisfaction and career progression of musculoskeletal physiotherapists working in private practice in Western Australia. *Musculoskelet Sci Pract*. 2018;35:67-72. doi:10.1016/j.msksp.2018.03.004

40. Ashby SE, Ryan S, Gray M, James C. Factors that influence the professional resilience of occupational therapists in mental health practice. *Aust Occup Ther J*. 2013;60(2):110-9. doi:10.1111/1440-1630.12012

41. Bacopanos E, Edgar S. Identifying the factors that affect the job satisfaction of early career Notre Dame graduate physiotherapists. *Aust Health Rev*. 2016;40(5):538-543. doi:10.1071/AH15124

42. Ceramidas DM. A case against generalisation of mental health occupational therapy in Australia. *Aust Occup Ther J*. 2010;57(6):409-16. doi:10.1111/j.1440-1630.2010.00876.x

43. Department of Health and Human Services (State of Victoria). *Victorian Allied Health Workforce Research Program: Occupational Therapy Workforce Report*. 2018. Accessed January 10, 2020. https://www2.health.vic.gov.au

44. Gallego G, Chedid R, Dew A, et al. Private Practice Disability Therapy Workforce in Rural New South Wales, Australia. *J Allied Health*. 2016;45(3):225-9.

45. Leach MJ, Segal L, May E. Lost opportunities with Australia's health workforce? *Med J Aust*. 2010;193(3):167-172. doi:10.5694/j.1326-5377.2010.tb03838.x

46. McPhail SM, Waite MC. Physical activity and health-related quality of life among physiotherapists: A cross sectional survey in an Australian hospital and health service. *J Occup Med Toxicol*. 2014;9(1)doi:10.1186/1745-6673-9-1

47. Murray C, Turpin M, Edwards I, Jones M. A qualitative meta-synthesis about challenges experienced in occupational therapy practice. *Br J Occup Ther*. 2015;78(9):534-46. doi: 10.1177/0308022615586786

48. Pretorius A, Karunaratne N, Fehring S. Australian physiotherapy workforce at a glance: a narrative review. *Aust Health Rev*. 2016;40(4):438-442. doi:10.1071/AH15114

49. Sheppard L, Crowe M, Jones A, Adams R. Returning to physiotherapy practice: the perspective of returners, potential returners and clinical supervisors. *Aust Health Rev*. 2010;34(3):304-311. doi:10.1071/AH08681

50. Australian Physiotherapy Association. *InPractice 2025: Final Report*. 2013. Accessed February 28, 2020. https://australian.physio/sites/default/files/tools/InPractice_2025.pdf

51. Hazelwood T, Baker A, Murray CM, Stanley M. New graduate occupational therapists' narratives of ethical tensions encountered in practice. *Aust Occup Ther J*. 2019;doi:10.1111/1440-1630.12549

52. Heritage B, Quail M, Cocks N. How important is embeddedness in predicting Australian speech-language pathologists' intentions to leave their jobs and the profession? *Int J Speech Lang Pathol Audiol* 2019;21(2):189-200. doi:10.1080/17549507.2018.1441439

53. Hills C, Ryan S, Warren-Forward H, Smith DR. Managing 'Generation Y' occupational therapists: optimising their potential. *Australian Occupational Therapy Journal*. Aug 2013;60(4):267-75.

54. Bryan Sexton J, Adair KC. Forty-five good things: A prospective pilot study of the Three Good Things well-being intervention in the USA for healthcare worker emotional exhaustion, depression, work-life balance and happiness. *BMJ Open*. 2019;9doi:10.1136/bmjopen-2018-022695

55. Cantu R, Samuels D. *A Survey of Physical Therapists' Perceptions of Workplace Ethics in the State of Georgia*. Nova Southeastern University; 2014. https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.954.3534&rep=rep1&type=pdf

56. Collins TL. Characteristics of Geriatric Practice Settings That Attract and Retain Physical Therapists. *Phys Occup Ther Geriatr*. 2012;30(2):124-137. doi:10.3109/02703181.2012.677116

57. Collins TL. Characteristics of Geriatric Practice Settings that Attract and Retain Physical Therapists in the SNF/ICF Practice Setting. *Phys Occup Ther Geriatr*. 2013;31(4):310-327. doi:10.3109/02703181.2013.852650

58. Erika A, Ginger W, Laura M-C, Cindy G. Workload Status of School-Based Speech-Language Pathologists in Texas. *Perspect Sch Based Issues*. 2012;13(4):136-149. doi:10.1044/sbi13.4.136

59. Gropelli TM, Corle K. Nurses' and therapists experiences with occupational musculoskeletal injuries. *AAOHN J*. 2010;58(4):159-66. doi: 10.3928/08910162-20100316-01

60. Katz LA, Maag A, Fallon KA, Blenkarn K, Smith MK. What makes a caseload (un)manageable? School-based speech-language pathologists speak. *Lang Speech Hear Serv Sch*. 2010;41(2):139-51. doi: 10.1044/0161-1461(2009/08-0090)

61. Mason VC, Hennigan ML. Occupational therapy practitioners' ratings of job satisfaction factors through a lens of social capital. *Occup Ther Health Care*. 2019;33(1):88-107. doi:10.1080/07380577.2018.1543912

62. Maxim AJM, Rice MS. Men in Occupational Therapy: Issues, Factors, and Perceptions. *Am J Occup Ther*. 2018;72(1):1-7. doi:10.5014/ajot.2018.025593

63. Reed KL, Peters CO. Occupational therapy values and beliefs: part V. 1986-2000: is this really occupational therapy? *OT Pract*. 2010;15(6):15-18.

64. Landry M, Hack L, Coulson E, et al. Workforce projections 2010-2020: Annual supply and demand forecasting models for physical therapists across the United States. *Phys Ther*. 2016;96(1):71-80. doi:10.2522/ptj.20150010

65. Waite A. Battling workplace burnout. *OT Pract*. 2012;17(17):9-12.

66. Waite A. Earning Employees' RESPECT. *OT Pract*. 2013;18(17):12-21.

67. Azios JH, Bellon-Harn M. "Providing a perspective that's a little bit different": Academic and professional experiences of male speech-language pathologists. *Int J Speech Lang Pathol Audiol* 2021;23(1):3-14. doi:10.1080/17549507.2020.1722237

68. Bowens AN, Amamoo MA, Blake DD, Clark B. Assessment of Professional Quality of Life in the Alabama Physical Therapy Workforce. *Phys Ther*. 2021 2021;doi:10.1093/ptj/pzab089

69. Huddler RL, Jr., Kimmel S. *Qualitative Inquiry of the Root Cause for High US Physical Therapy Attrition Rate: A Phenomenological Study*. Northcentral University; 2020. https://proxy.library.mcgill.ca/login?url=https://www.proquest.com/dissertations-theses/qualitative-inquiry-root-cause-high-us-physical/docview/2457567266/se-2

70. Beagan BL, Fredericks E. What about the men? Gender parity in occupational therapy: Qu'en est-il des hommes? La parite hommes-femmes en ergotherapie. *Can J Occup Ther*. 2018;(2):137-145. doi:10.1177/0008417417728524

71. Birioukova A, ra, So K, Barker D. The male occupational therapist: demographics, issues and recommendations. *OT Now*. 2012;14(1):18-20.

72. Zweck Cv. Career mobility of occupational therapists in Canada. *OT Now*. 2012;14(6):7-9.

73. Chun BY, Song CS. A moderated mediation analysis of occupational stress, presenteeism, and turnover intention among occupational therapists in Korea. *J Occup Health*. 62(1):e12153. doi:10.1002/1348-9585.12153

74. Agarwal Y, Agarwal M, Gupta N. Awareness of Physiotherapy among Higher Secondary Students and Perseverance among Physiotherapy Students and Professionals in Meerut - A survey. *Indian J Physiother Occup Ther*. 2012;6(1):176-177.

75. Anyfantis ID, Biska A. Musculoskeletal Disorders Among Greek Physiotherapists: Traditional and Emerging Risk Factors. *Saf Health Work*. 2018;9(3):314-318. doi:10.1016/j.shaw.2017.09.003

76. G R. Gone too far? Assessing roles and responsibilities of occupational therapists...RCOT (Royal College of Occupational Therapist) Annual Conference 2017. *Br J Occup Ther*. 2017;80:28-29. doi:10.1177/0308022617724785

77. Jaros AA. The course of the professional development and the level of job satisfaction among physiotherapists. *Medical Studies/Studia Medyczne*. 2015 2015;31(1):26-34. doi: 10.5114/ms.2015.49949

78. Kovacs D, Ponusz R, Boncz I, Szabo Z, Endrei D. Survey of the Hungarian health care practitioners' economic-migration and career changing attitude. *Value Health*. 2018;21:S115. doi:10.1016/j.jval.2018.04.779

79. Pring T, Flood E, Dodd B, Joffe V. The working practices and clinical experiences of paediatric speech and language therapists: a national UK survey. *Int J Lang Commun Disord*. 2012;47(6):696-708. doi:10.1111/j.1460-6984.2012.00177.x

80. Reyes RCD. Burnout Among Filipino Occupational Therapists: A Mixed Methods Analysis. *Open J Occup Ther*. 2018;6(4):1-13. doi:10.15453/2168-6408.1469

81. Ewen C, Jenkins H, Jackson C, Jutley-Neilson J, Galvin J. Well-being, job satisfaction, stress and burnout in speech-language pathologists: A review. *Int J Speech Lang Pathol Audiol* 2020:1-11. doi:10.1080/17549507.2020.1758210

82. Lexen A, Kahlin I, Erl, sson LK, Hakansson C. Occupational Health among Swedish Occupational Therapists: A Cross-Sectional Study. *Int J Environ Res Public Health*. 2020;17(10):12. doi:10.3390/ijerph17103379

83. Porter S, Lexén A. Swedish occupational therapists' considerations for leaving their profession: outcomes from a national survey. *Scand J Occup Ther*. 2021:1-10. doi:10.1080/11038128.2021.1903992

84. Lau B, Skinner E, Lo K, Bearman M. Experiences of physical therapists working in the acute hospital setting: Systematic review. *Phys Ther*. 2016;96(9):1317-32. doi:10.2522/ptj.20150261

85. Nabe-Nielsen K, Lund H, Ajslev JZ, et al. How do employees prioritise when they schedule their own shifts? *Ergonomics*. 2013;56(8):1216-24. doi:10.1080/00140139.2013.815804

86. Clark FA. Power and Confidence in Professions: Lessons for Occupational Therapy. *Can J Occup Ther*. 2010;77(5):264-269. doi:10.2182/cjot.2010.01.77.5.2

87. Drolet M-J, Lalancette M, Caty M-È. « Brisées par leur travail! OU Au bout du rouleau » : réflexion critique sur les modes managériaux en santé. *Canadian Journal of Bioethics / Revue canadienne de bioéthique*. 2020;3(1):103-107. doi:10.7202/1070230ar

88. Rivard AM, Brown CA. Moral Distress and Resilience in the Occupational Therapy Workplace. *Safety*. 2019;5(1):10. doi:10.3390/safety5010010

89. Devery H, Scanlan JN, Ross J. Factors associated with professional identity, job satisfaction and burnout for occupational therapists working in eating disorders: A mixed methods study. *Aust Occup Ther J*. 2018;65(6):523-532. doi:10.1111/1440-1630.12503

90. Fortune T. Occupational Therapists: is our Therapy truly Occupational or are we merely Filling Gaps? *Br J Occup Ther*. 2000;63(5):225-230.

91. Hertting A, Nilsson K, Theorell T, Larsson US. Downsizing and reorganization: demands, challenges and ambiguity for registered nurses. *J Adv Nurs*. 2004;45(2):145-154. doi:10.1046/j.1365-2648.2003.02876.x

92. Michel O, Garcia Manjon AJ, Pasquier J, Ortoleva Bucher C. How do nurses spend their time? A time and motion analysis of nursing activities in an internal medicine unit. *J Adv Nurs*. 2021;77(11):4459-4470. doi:10.1111/jan.14935

93. Levesque J-F, Pineault R, Provost S, et al. Assessing the evolution of primary healthcare organizations and their performance (2005-2010) in two regions of Québec province: Montréal and Montérégie. *BMC Fam Pract*. 2010;11(1):95. doi:10.1186/1471-2296-11-95

94. Bourbonnais R, Brisson C, Malenfant R, Vézina M. Health care restructuring, work environment, and health of nurses. *Am J Ind Med*. 2005;47(1):54-64. doi:10.1002/ajim.20104

95. Lavoie-Tremblay M, Bonin J-P, Lesage AD, Bonneville-Roussy A, Lavigne GL, Laroche D. Contribution of the Psychosocial Work Environment to Psychological Distress Among Health Care Professionals Before and During a Major Organizational Change. *Health Care Manag*. 2010;29(4):293-304. doi:10.1097/HCM.0b013e3181fa022e

96. de Jong T, Wiezer N, de Weerd M, Nielsen K, Mattila-Holappa P, Mockałło Z. The impact of restructuring on employee well-being: a systematic review of longitudinal studies. *Work Stress*. 2016/01/02 2016;30(1):91-114. doi:10.1080/02678373.2015.1136710

97. Kelchtermans G. 'Should I stay or should I go?': unpacking teacher attrition/retention as an educational issue. *Teachers and Teaching*. 2017;23(8):961-977. doi:10.1080/13540602.2017.1379793

98. Rudman A, Gustavsson P, Hultell D. A prospective study of nurses' intentions to leave the profession during their first five years of practice in Sweden. *Int J Nurs Stud*. 2014;51(4):612-624. doi:10.1016/j.ijnurstu.2013.09.012

99. El Koussa M, Atun R, Bowser D, Kruk ME. Factors influencing physicians' choice of workplace: systematic review of drivers of attrition and policy interventions to address them. *J Glob Health*. 2016;6(2):020403-020403. doi:10.7189/jogh.06.020403

100. Hou A, Shang R-A, Huang C-C, Wu K-L. The effects of push-pull-mooring on the switching model for social network sites migration. 2014:

101. Haldorai K, Kim WG, Pillai SG, Park T, Balasubramanian K. Factors affecting hotel employees' attrition and turnover: Application of pull-push-mooring framework. *Int J Hosp Manag*. 2019;83:46-55. doi:10.1016/j.ijhm.2019.04.003

102. Geue PE. Positive Practices in the Workplace: Impact on Team Climate, Work Engagement, and Task Performance. *J Appl Behav Sci*. 2018;54(3):272-301. doi:10.1177/0021886318773459

103. Schön Persson S, Nilsson Lindström P, Pettersson P, Andersson I, Blomqvist K. Relationships between healthcare employees and managers as a resource for well-being at work. *Society, Health & Vulnerability*. 2018;9(1):1547035. doi:10.1080/20021518.2018.1547035

104. Madden L, Mathias BD, Madden TM. In good company. *Management Research Review*. 2015;38(3):242-263. doi:10.1108/MRR-09-2013-0228

105. Monrouxe LV. Identity, identification and medical education: why should we care? *Med Educ*. 2010;44(1):40-49. doi:10.1111/j.1365-2923.2009.03440.x

106. Cruess RL, Cruess SR, Boudreau JD, Snell L, Steinert Y. A schematic representation of the professional identity formation and socialization of medical students and residents: a guide for medical educators. *Academic medicine : journal of the Association of American Medical Colleges*. Jun 2015;90(6):718-25. doi:10.1097/acm.0000000000000700

107. Jovic L, Bianchi E, Decouflet S, Loizeau V, Amiot P, Teixeira M. Nurses in France:Between Autonomy and Subordination in Front Line Care. *Glob Qual Nurs Res*. 2015;2:2333393615584550. doi:10.1177/2333393615584550

108. Deslauriers S, Raymond M-H, Laliberté M, et al. Prioritization of Referrals in Outpatient Physiotherapy Departments in Québec and Implications for Equity in Access. *Canadian Journal of Bioethics / Revue canadienne de bioéthique*. 2018;1(3):49-60. doi:10.7202/1058251ar

109. Ghisi GL, Polyzotis P, Oh P, Pakosh M, Grace SL. Physician factors affecting cardiac rehabilitation referral and patient enrollment: a systematic review. *Clin Cardiol*. 2013;36(6):323-335. doi:10.1002/clc.22126

110. Philip K. Allied health: untapped potential in the Australian health system. *Aust Health Rev*. 2015;39(3):244-247. doi:10.1071/AH14194

111. Turner A, Knight J. A debate on the professional identity of occupational therapists. *Br J Occup Ther*. 2015;doi:10.1177/0308022615601439

112. Mak S, Hunt M, Boruff J, Zaccagnini M, Thomas A. Exploring professional identity in rehabilitation professions: a scoping review. *Adv Health Sci Educ Theory Pract*. 2022;doi:10.1007/s10459-022-10103-z

113. Bailey C, Yeoman R, Madden A, Thompson M, Kerridge G. A Review of the Empirical Literature on Meaningful Work: Progress and Research Agenda. *Human Resource Development Review*. 2019;18(1):83-113. doi:10.1177/1534484318804653

114. Ashby SE, Adler J, Herbert L. An exploratory international study into occupational therapy students' perceptions of professional identity. *Aust Occup Ther J*. 2016;63(4):233-43. doi:10.1111/1440-1630.12271

115. Sauvageau A, Drolet MJ, Gohier C. Le développement identitaire de l'ergothérapeute éclairé par un modèle de construction de l'identité professionnelle de l'enseignant. *Ergotherapies*. Oct 2017;67:71-80.

116. Drolet MJ, Desormeaux-Moreau M. The values of occupational therapy: Perceptions of occupational therapists in Quebec. *Scand J Occup Ther*. Jul 2016a;23(4):272-85. doi:http://dx.doi.org/10.3109/11038128.2015.1082623

117. Rodríguez C, Pawlikowska T, Schweyer F-X, et al. Family physicians' professional identity formation: a study protocol to explore impression management processes in institutional academic contexts. *BMC Med Educ*. 2014;14(1):184. doi:10.1186/1472-6920-14-184

118. ten Hoeve Y, Jansen G, Roodbol P. The nursing profession: public image, self-concept and professional identity. A discussion paper. *J Adv Nurs*. 2014;70(2):295-309. doi:10.1111/jan.12177

119. Vieira ER, Schneider P, Guidera C, Gadotti IC, Brunt D. Work-related musculoskeletal disorders among physical therapists: A systematic review. *J Back Musculoskelet Rehabil*. 2016;29:417-428. doi:10.3233/BMR-150649

120. Carrier A, Éthier A, Beaudoin M, et al. Acting as Change Agents: Insight Into Québec Occupational Therapists' Current Practice: Actions menées à titre d'agents de changement : aperçu des pratiques actuelles parmi les ergothérapeutes du Québec. *Can J Occup Ther*. 2021;88(2):173-181. doi:10.1177/0008417421994367

121. Picotin J, Beaudoin M, Hélie S, Martin A-É, Carrier A. Occupational Therapists as Social Change Agents: Exploring Factors that Influence Their Actions. *Can J Occup Ther*. 2021;88(3):231-243. doi:10.1177/00084174211022891

122. Freeman A, Jauvin N. Analyzing the professional practice context using three lenses: An essential step for responding strategically. *Occup Ther Health Care*. 2019;33(2):142-158. doi:10.1080/07380577.2018.1553086

Table 1: Search Strategy: Medline (Ovid) – 2010 to April 2021

1. "intent to leave".mp.

2. attrition.mp.

3. job turnover.mp.

4. human resources.mp.

5. employee satisfaction.mp.

6. quitting.mp.

7. termination.mp.

8. staff reduction.mp.

9. resignation.mp.

10. retention.mp.

11. manpower.mp.

12. job satisfaction.mp.

13. health workforce.mp.

14. "salary and fringe benefits"/

15. Burnout, Professional/

16. Career Mobility/

17. Personnel Loyalty/

18. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading

word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

19. occupational therap*.mp.

20. Physical Therap*.mp.

21. physiotherap*.mp.

22. speech-language patholog*.mp.

23. speech therap*.mp.

24. Occupational Therapy/

25. Physical Therapy Specialty/

26. Speech Therapy/

27. speech-language pathology/

28. occupational therapist/

29. physiotherapist/

30. physical therapist/

31. 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30

32. 18 and 31

33. limit 32 to yr="2010 -Current"

Figure 1: Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Flow Diagram

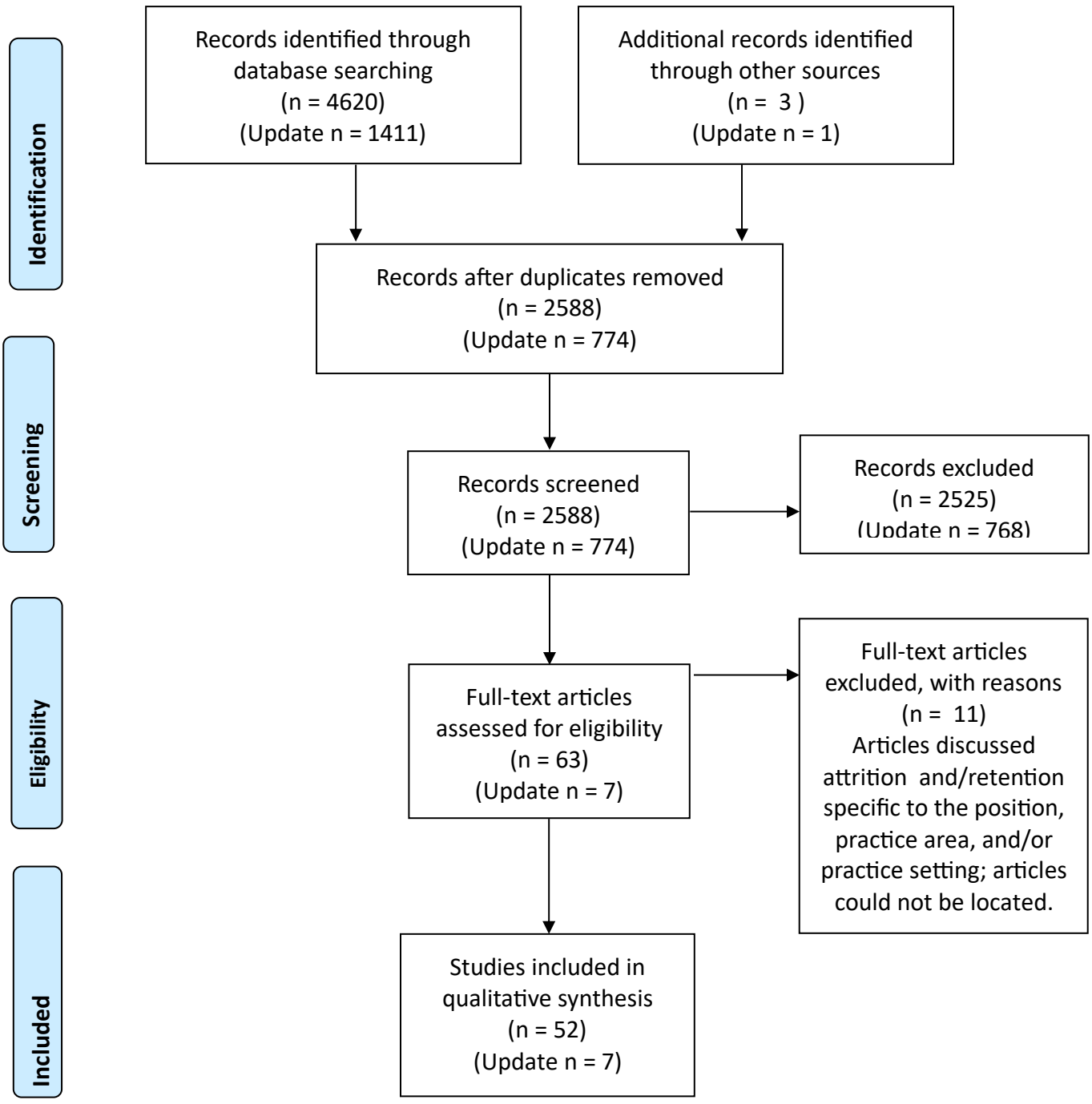


Figure 2: Number of papers by year of publication

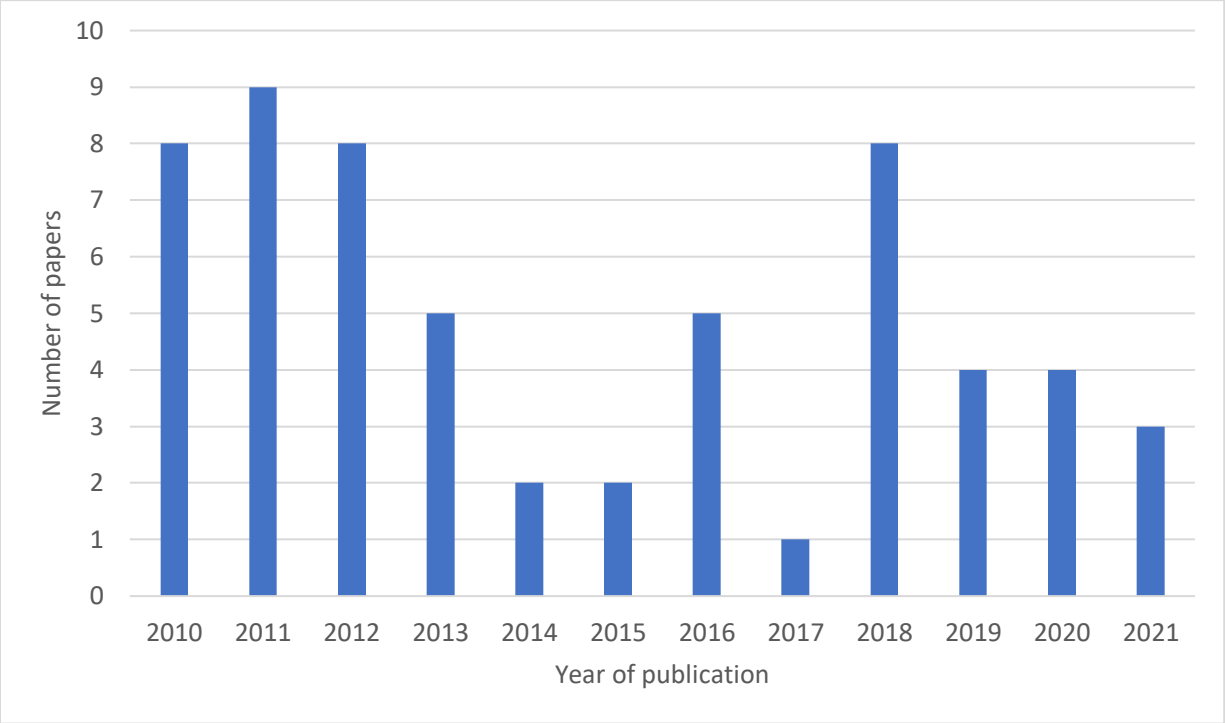


Table 2: Characteristics of included papers

	N (Total = 59)	Percentage
Country		
North America	23	39
Europe	8	14
Asia	4	7
Oceania	23	39
More than 1 location	1	2
Profession		
OT	21	36
PT	17	29
S-LP	8	14
Rehabilitation profession and at least one other health profession	13	22
Type of paper		
Empirical	48	81
Conceptual	7	12
Other (knowledge syntheses)	3	5
Not specified	1	2
Use of a theoretical framework		

Yes	10	17
No	49	83

Figure Legend

Figure 1 PRISMA Flow diagram

Presents a flow diagram describing the initial number of records obtained and how we arrived at the final number of included papers.

Figure 2 Number of papers by year

Presents the number of included papers published per year from 2010 to April 2021.

CHAPTER 3: LITERATURE REVIEW

This chapter follows the scoping review on attrition and retention of rehabilitation professionals which mapped existing knowledge about the key phenomena examined in my dissertation. This chapter introduces two additional topics that provide important background to my area of inquiry.

The first section (3.1) summarizes the evidence on the lack of awareness of the OT, PT and S-LP professions amongst the public and other health care professionals. I have chosen to discuss this topic because of its influence on rehabilitation professionals' work experiences. [56] Perceptions of the rehabilitation professions within and outside of health care also shape how rehabilitation professionals see themselves and their ability to clearly articulate their roles and their added value to patient care. In turn, uncertainty regarding their roles and questioning about the value of their contributions can affect rehabilitation professionals' decision-making about staying in, or leaving their profession.

The second section (3.2) focuses on the development of CHAT and the concepts that make up CHAT. I chose to use CHAT as a theoretical framing for my qualitative inquiries because of how it conceptualizes a system and its connections to other systems. Using CHAT was instrumental to how I executed my qualitative inquiries and analyzed the data from the second and third phases of my doctoral work. In particular, the structure and concepts of CHAT provided critical starting points to develop the interview (phase 2) and focus group (phase 3) questions, and to analyze if and how CHAT was reflected in the data. I have summarized the concepts of CHAT to offer an

overview of this theory which is necessary to understand its role in the work undertaken in this dissertation.

3.1 Perceived lack of awareness of OT, PT and S-LP

The professions of OT, PT and S-LP are less known by the public and by other health care professionals, compared to health professions like nursing and medicine. [10,57-59] This lack of awareness is, in part, a misunderstanding of rehabilitation professionals' scope of practice, their specific roles in a given setting, and their overlapping roles with other professions. [57-60] Findings from three studies highlight a lack of awareness amongst the general population in multiple countries. [61-63] In Australia, a survey was conducted with 1004 members of the public about their perceptions of OT: half had a basic understanding of OT, while only 10% were able to give a more in-depth description of the profession. [61] Similarly, in a qualitative study aimed at identifying threats and opportunities for the PT profession in the next decade, PT clinicians and educators expressed discontent with the limited awareness of their profession among Canadian policy makers, funders and consumers. [62] For S-LP, a 2021 survey was conducted amongst the general population in Queensland (Australia): of the 311 respondents, 59% described some knowledge of the S-LP profession but only 16% stated that they "knew a lot" about the profession. [63] For these respondents, several factors, such as personal contact with a S-LP and having a higher level of education (e.g., post-secondary education), appeared to increase awareness of the S-LP role. [63] Taken together, these studies suggest a widespread lack of awareness of OT, PT and S-LP among members of the public across multiple jurisdictions.

A lack of awareness of OT, PT and S-LP also exists among health care professionals. [59,64,65] For instance, a 2019 clinical report published by the American Academy of Pediatrics found that although pediatricians are expected to refer children with disabilities to OT, PT, and S-LP, few have the adequate training to prescribe rehabilitation therapies. [59] Likewise, rehabilitation professionals have reported that there is a lack of awareness among health care professionals working with adults: in a study from the United Kingdom, 69% of S-LP respondents perceived that a lack of awareness of their profession amongst physicians was a barrier to referring patients with primary progressive aphasia to S-LP. [64] This lack of awareness is not limited to physicians; in a study regarding mental health services, the authors reported that nurses were less aware of OTs' roles in this practice area, a situation which contributed to fewer referrals for OT services. [65] The widespread nature of the lack of awareness is further underlined by a finding from a qualitative study on PT in Canada: PT participants remarked that they spend a lot of time educating other health care professionals about the scope of their profession and noted that many of their health care colleagues were surprised by what they can offer. [62]

A lack of awareness of the three professions also exists among rehabilitation professionals. For instance, in a study by Tariah et al., PTs were reported to have a limited awareness of the OT profession even though their understanding was more in-depth than that of other health care professionals in Jordan. [66] Sarsak drew comparable conclusions from their study of rehabilitation professionals across nine Arab countries. [67] These findings are not limited to the Middle East. Simliar findings have been reported in Nigeria, based on survey results from students in PT and other health professions programs, [68] as well as in Malaysia, where a

qualitative study was conducted with PTs, S-LPs, and other health care professionals. [69] From this literature, it appears that health care professionals would benefit from further education about each other's roles in patient care. To address this gap, interprofessional education courses and initiatives have been developed to improve students' awareness of the roles of different health care professionals including OT, PT and S-LP. [10,68,70] Policy development and funding opportunities dating back to 2005 in Canada, are examples of how the federal government prioritized interprofessional education and have led to the successful development of interprofessional activities in many health professions programs. [71,72]

Despite efforts in the past two decades to address the lack of awareness of the roles and responsibilities of various rehabilitation professionals, the problem persists. This situation has implications for rehabilitation professionals' professional identities. [56] Professional identity is described as an individual's recognition and understanding of the beliefs, values, attitudes, and roles ascribed to their professional group, and includes how professionals see themselves and how they differ from others in the group. [56] For instance, it has been suggested that among OTs, possessing a strong professional identity is important for self-confidence in their ability to carry out their work [57,73] and for their professional resilience. [74] In particular, both self-confidence and professional resilience are essential to fostering OTs' job satisfaction and for reducing their risk of developing professional burnout. [75,76]

Challenges related to professional identity also exist in the PT profession but are of a different nature than those identified for the OT profession. The PT profession's main challenge involves

differentiating it from other professions. This concern shapes how PTs articulate their role and how others external to the profession understand it. This challenge in differentiating PT from other professions is further described in Hammond's work, where he explains how PTs struggle with the ambiguity of their roles due to overlapping professional boundaries with other professions. [58] A recent study in Canada supports the underlying tensions in identifying the unique roles of the PT profession. [62] These tensions were highlighted when a few participants suggested that the profession can be described in different ways. [62] One participated stated: "Are we purveyors of modalities? Exercise? Manual therapy? Education? Are we diagnosticians? Primary care providers? All of those, or something else?". [62] The researchers also argued that the absence of an exclusive domain of practice also poses a threat to the future of the PT profession. [62] In these participants' view, this lack of exclusivity of domain challenges PTs to distinguish what their profession has to offer, compared to other professions and especially those who are unregulated. [62] These issues suggest that there is some uncertainty in the collective identity of the PT profession. In addition, this challenge regarding collective professional identity occurs in tandem with the need and desire from PTs to optimize their profession's connection with human movement in order to articulate their own body of knowledge and unique scope of practice. [62,77] These studies point to questioning amongst some PTs about who they are, what they do, and how they are distinct from other professions. Ultimately, the uncertainty surrounding their individual and collective identities influences how PTs communicate what they do and how others external to the profession understand their role.

For SLP, there is some lack of awareness amongst health care professionals and the general population, but it seems to be less prominent than in OT and PT. However, an important caveat is that the empirical evidence related to the extent and nature of awareness of S-LP external to the profession is limited. Further empirical investigation is needed to explore the public's awareness of S-LP, in order to understand how it influences attrition and retention in their profession.

Overall, the lack of awareness of a profession seems to influence rehabilitation professionals' explanations of what they do and affects how they view themselves both individually and collectively (i.e. professional identity). Consequences of a lack of a strong identity may include reduced career longevity (i.e. attrition) and less professional resilience. [74] Thus, to adequately address attrition and retention issues, it is imperative to better understand the relationship between professional identify, professional resilience, and the phenomena of attrition and retention. In later chapters of this dissertation, I will examine this relationship with respect to the findings from phases 2 (*Chapter 4*) and 3 (*Chapter 5*) of my research and discuss it in relation to the entire research program in *Chapter 6* (Discussion).

3.2 Cultural-historical activity theory (CHAT)

The earliest form of CHAT was developed in the 1920s by Lev Vygotsky.[78] It was described as an interaction between the main person(s) involved in the activity (subject) and the activity or the purpose (object), mediated by artefacts (tools) (see Figure 1). [78-80] While this first generation of conceptualization highlighted the importance of the cultural context of the object, it was very

focused on the individual, making the individual the primary unit of analysis. [80] In the late 1970s, Alexei Leont'ev created the second generation of CHAT. [80] Leont'ev expanded the theoretical model to include the notion of a collective activity. This change shifted the focus of the model from an individual to a group. It also added concepts such as community, rules, and division of labour, which expanded the description of an activity system. [79,80] The second generation of CHAT is depicted in Figure 2.

Figure 1: First generation of cultural-historical activity theory. [81]

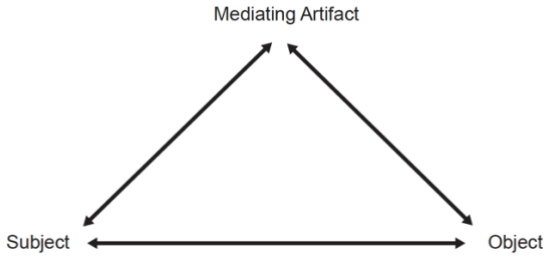
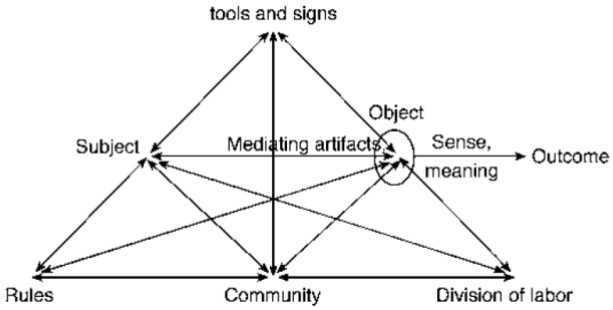
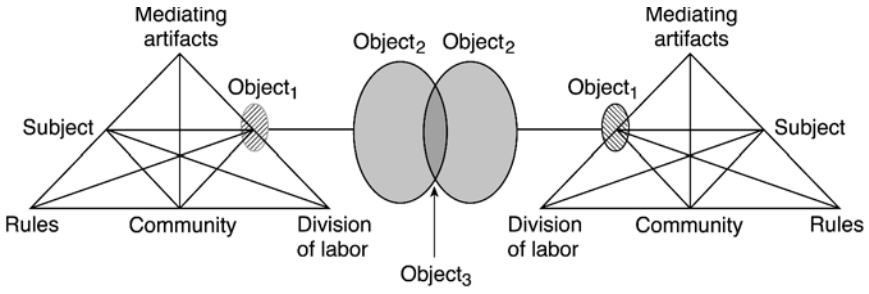


Figure 2: Second generation of cultural-historical activity theory. [80]



The most recent iteration of activity theory, the "third generation" created by Yrjö Engeström in the late 1990s, consists of two or more interacting activity systems to show movement towards a shared object or a co-constructed understanding (see Figure 3). [80] Each activity system consists of several components which interact. [79,80] These components include: 1) the subject; 2) the values, norms, guidelines and expectations that the subject must follow to engage in the activity (rules); 3) others who contribute to the activity (community); 4) how the activity is shared between the subject and the community (division of labour); and 5) the physical and symbolic objects that influence the activity, and that the person uses, to complete the activity (artefacts or tools). [79,80] These interactions, characterized by dialogue and the creation of ideas, give rise to a series of activities that are implemented within the system, so that the object can be achieved. [80,82]

Figure 3: Third generation of cultural-historical activity theory. [80]



Five principles underpin the third generation of CHAT. The first principle is that an activity system is based on a collective with a purpose and thus, is object-oriented. [80] The activity system is mediated by artefacts and is viewed with respect to its connections (e.g., shared

object(s)) to other activity systems; therefore, the activity system is the main unit of analysis. [80] A health care institution is an example of an activity system. The purpose (i.e., object) of a health care institution is to deliver high quality patient care to meet patient needs. It is composed of many individuals (i.e., subjects) who may be organized by role (e.g., having roles as part of administrative, clinical, technical or information systems). An institution is also governed by its procedures and processes (i.e., rules), and is influenced by the clinical, technical, and informational tools (i.e., artefacts) used to carry out its purpose. A health care institution also interacts with other activity systems, such as other health care institutions within a health care network, as well as professional regulatory bodies and professional education programs which reside in adjacent activity systems (i.e., professional regulation, educational system). Hence, an activity system's relationships with other systems can be examined through CHAT.

The second principle describes an activity system as having multi-voicedness: [80,82] individuals have different perspectives and histories which may be brought to bear and influence the activity system. [80] In the example of a health care institution, the clinical, technical, and administrative staff, as well as the managers and senior administrators, bring their unique perspective relative to their roles and experiences. These perspectives and experiences shape the activity system as a whole and affect how it carries out its mission. [80]

The third principle is that an activity system has historicity, constituted by the local history of its activities and objects. [80] For instance, a health care institution may have a practice of educating students from professional education programs based on its longstanding affiliation with an

academic institution. This affiliation outlines certain expectations in the relationship between the academic and health care institutions in terms of contributions to teaching future health care professionals. This historicity suggests that an activity system should be analyzed in light of the history of the organization, while considering the tools, concepts and procedures used by the organization to accomplish its mission. [80]

The fourth principle is that there are contradictions that influence an activity system. Contradictions are structural tensions within, between, or outside of activity systems that have accumulated over time, leading to conflicts and misalignments that drive change in an activity system. [79,80,83] An example of a contradiction could be tensions arising from the sharing of human resources between two departments in a health care institution, such as occupational and physical therapy departments sharing administrative staff. This sharing of resources can lead to discussions among managers about whether these resources can be shared equally if departmental needs are different. This contradiction, which gives rise to questioning by individuals within the activity system, can lead to conflict or change, such as a new decision-making process of how resources will be divided between the two departments and the indicators to be used in this decision-making.

The final principle is that an activity system undergoes expansive transformations, defined as stepwise cycles of change, in response to contradictions. [79,80] Cycles of change are characterized by a questioning of the existing practices within an activity system, followed by an analysis of its contradictions, and results in changes to how the system achieves its object. [84] The following

example describes how a cycle of change from CHAT can be applied to a real-life situation. In 2016, an article was published about the need for the OT profession in Canada to respond to calls for action from the Truth and Reconciliation report (*contradiction*). [85] This article, among others, informed national conversations among several interested parties. [86] Ultimately, a document describing new national competencies for OTs was developed and published in 2021 which included cultural safety and responsiveness to issues of equity and inclusion. [87] Consequently, professional regulatory bodies (*activity systems*) are now examining how they will operationalize these competencies through their various activities (inspection, licensure) to ensure that their members possess and maintain such competencies (*expansive transformation*). [88] This example illustrates how contradictions external to an activity system can lead to expansive transformations within the system.

In this chapter, I have summarized the findings from the literature on two important topics: 1) the perceived lack of awareness of OT, PT and S-LP amongst the public and for members of other health care professions; and 2) CHAT. These topics provide empirical (perceived lack of awareness) and theoretical (CHAT) grounding to my dissertation research. In the next chapter (Chapter 4), I describe how the perceived lack of awareness of OT, PT and S-LP, may influence rehabilitation professionals' work experiences and their decisions to stay in, or leave their profession. I will also discuss how I relate my findings to CHAT in order to shed light on the phenomena of attrition and retention of rehabilitation professionals.

CHAPTER 4: MANUSCRIPT 2

This manuscript has been accepted for publication in the *WORK: A Journal of Prevention, Assessment & Rehabilitation*, on January 11, 2023, pending one minor change.

Mak S, Thomas A, Razack S, Root K, Hunt M. Unravelling attrition and retention: a qualitative study with rehabilitation professionals. *WORK: A Journal of Prevention, Assessment & Rehabilitation.*

Unraveling attrition and retention: a qualitative study with rehabilitation professionals

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Abstract

Background: Health human resources are scarce worldwide. In occupational therapy (OT), physical therapy (PT), and speech-language pathology (S-LP), attrition and retention issues amplify this situation and contribute to the precarity of health systems.

Objective: To investigate the phenomena of attrition and retention with OTs, PTs and S-LPs who stayed in, or left their profession.

Methods: Cultural-historical activity theory provided the theoretical scaffolding for this interpretive description study. We used purposeful sampling (maximum variation approach) to recruit OTs, PTs, and S-LPs from Quebec, Canada. Individual interviews were conducted with 51 OTs, PTs, and S-LPs in Quebec, Canada, in English or French (2019 - 2020). Inductive and deductive approaches, and constant comparative techniques were used for data analysis.

Results: Six themes were developed: 1) characteristics of work that made it meaningful; 2) aspects of work that practitioners appreciate; 3) factors of daily work that weigh on a practitioner; 4) factors that contribute to managing work; 5) relationships with different stakeholders that shape daily work; and 6) perceptions of the profession. Meaningfulness was tied to participants' sense that their values were reflected in their work. Factors outside work shaped participants' work experiences. Recurrent negative experiences led some to leave their profession.

Conclusion: Findings underscore a critical need to address contributing factors to attrition and retention which are essential to ensuring the availability of OTs, PTs and SLPs for present and future rehabilitation needs.

Keywords: occupational therapy, physical therapy, speech-language pathology, retention, rehabilitation, qualitative research, health workforce.

1. Introduction

The need for rehabilitation is growing globally. [1] Many health care systems face a lack of qualified health care providers such as rehabilitation professionals (i.e., occupational therapists (OT), physical therapists (PT) and speech-language pathologists (S-LP)) with the necessary skillsets and expertise to help promote individuals' ability to function independently in their daily lives, to integrate into their communities, and to engage socially. [2, 3] While rehabilitation interventions offer many benefits, access can be challenging for those who need them most. In many health care systems, services such as outpatient pediatric rehabilitation services, are limited and hard to access [4, 5] while in others, they are unavailable. [6, 7] Several factors contribute to these challenges, including an increase in demand for services, partly due to the increasing incidence of chronic diseases and comorbidities, [8, 9] shifting demographics and an aging population. [10, 11] One important contributing factor to the access problem is the persistent shortage of rehabilitation professionals worldwide. [12, 13] In 2021, the World Federation of Occupational Therapists reported a shortage of OTs in 62 countries. [14] This gap between the need and availability of qualified rehabilitation professionals adds to the challenge of achieving the World Health Organization's vision to ensure access to quality services for everyone who needs rehabilitation services. [1]

Poor health workforce planning, an absence of data concerning health workers and challenges in attracting and retaining health workers [15] can contribute to a lack of rehabilitation professionals. [16] Government decisions about health care workforce capacity tend to be made irregularly, and without considering future needs [16]; as a result, an insufficient workforce leads the remaining health workers to face an increased workload, burnout, and

exhaustion. [14, 17, 18] Attrition from a profession, defined as a permanent departure from one's profession or from the workforce, also contributes to the global shortage of health care workers. In a cohort study with health care workers from the UK's National Health Service workforce, nearly half of the 4916 participants intended to change or leave their health care role. [19] Unfortunately, rehabilitation professionals are also subject to professional attrition; such a loss in human health resources can severely jeopardize health care systems' capacities to respond to individual needs for rehabilitation services. [20, 21]

In 2014, a report from the Ministry of Health and Social Services of Quebec, a province with the second largest population in Canada, [22] indicated that 10%-15% of Canadian OTs, PTs and S-LPs had left their profession within two years of graduation. [23] Similar patterns were seen in other countries. In a 2000-2004 study in Australia, 65% of surveyed PT graduates from Curtin University intended to leave their profession in the next ten years. [24] Despite the significance and potential negative impact of attrition from these professions, only three empirical studies have explored contributing factors to attrition among rehabilitation professionals. Two studies of American OTs (early 1990s) identified factors influencing clinicians' decisions to leave the profession, including childcare, heavy patient caseloads, experiences of stress and burnout, desire for increased salary and promotional opportunities, and discrepancies between clinician expectations of practice and actual OT practice. [25, 26] A 2010 study from Australia showed that a desire for increased salary and promotional opportunities, as well as family commitments were common reasons for attrition among S-LPs. [21]

In a recent scoping review on attrition and retention in the rehabilitation professions, we

identified five avenues for future research. [27] The first was a paucity of literature on the attrition of rehabilitation professionals due to negative experiences (*push factors*), such as work-related stress and burnout. The reasons for attrition across different career stages were also identified as a research gap. A third research gap related to factors that influence rehabilitation professionals' decisions to stay in their profession (e.g., sense of belonging to their profession). The ways that positive relationships and work environments can be fostered in health care settings were identified as a fourth gap. The final gap was the influences of professional associations and regulatory bodies on rehabilitation professionals' experiences, and their role in attrition and retention. [27]

Attrition is not only a concern for rehabilitation professions, but for many other health professions, such as nursing [28] and social work [29]. Consequently, professional attrition from multiple health professions can substantially undermine a health care system's capacity to deliver patient care. In Canada, a reduced health care system's capacity for patient care thus compromises everyone's right to access health care. [30]

Given the rising demand for rehabilitation services in Canada and worldwide, the permanent loss of rehabilitation professionals from the health workforce can compromise a health care system's capacity to provide quality services for the millions of citizens who are at risk of developing, and living with a disability. Therefore, a deeper and theory-informed understanding of the reasons for attrition from OT, PT and S-LP can support the design and implementation of educational strategies, practice changes and continuing professional development activities to optimize the retention of rehabilitation professionals to meet population needs. [2, 31]

Therefore, the overall objective of the research reported in this paper was to explore the perspectives of rehabilitation professionals in Quebec, Canada who have stayed in, or left their profession.

2. Methods

2.1 Theoretical underpinning

Our study was informed by cultural-historical activity theory (CHAT). CHAT offers a framework to describe a system where several components interact, leading to the implementation of activities that enable the system to reach its intended objective (object). These components include: 1) the main person(s) involved in the activity (subject); 2) the values, norms, guidelines and expectations that the person must follow to engage in the activity (rules); 3) others who contribute to the activity (community); 4) how the activity is shared among the person and the community (division of labour); and 5) the physical and symbolic objects that influence the activity and that are used to complete the activity (tools). [32, 33] In its earliest iteration, CHAT was described as an activity system, composed of an interaction between the subject and the object, mediated by artefacts (tools). [34] The most recent iteration of CHAT shows two activity systems that share an object and the extent to which systems interact with each other; this change shifted the unit of analysis from the person to the activity system. [33]

We selected CHAT because it offers a broad perspective on a system as a whole, rather than focusing on the actors within a system, and considers the connections across systems. Specifically, in using CHAT, we framed the health care and educational systems as activity systems that influence practitioner experience, and ultimately, on their decision to stay in, or

leave their profession. We defined the delivery of health care services as the object. We also identified other systems, such as the professional system (e.g., professional regulation) as activity systems and considered their interactions with health care and educational systems to achieve the shared object of health care delivery.

2.2 Design

We used interpretive description (ID), a qualitative research methodology aligned with a naturalistic approach to inquiry. [35] Researchers who use ID aim to identify common patterns in human experiences while also attending to differences, to investigate a phenomenon. [35]

Nursing researchers developed ID in order to offer an additional methodological approach for inquiries which did not adequately align with traditional qualitative approaches and sought to answer practice-oriented questions in applied health disciplines. [35] Therefore, when using ID, researchers draw on traditional qualitative methodologies (e.g., phenomenology, ethnography, grounded theory) based on the methodological needs of their research question, and are encouraged to use clinical and empirical knowledge as a robust starting point from which to build empirical work. [36] For these reasons, ID is well-suited for our inquiry: it allowed us to draw from existing literature and our experiences as clinicians and scholars interested in professional practice. Our intent of developing our findings for the practice environment aligned with the theoretical underpinnings of ID, and our investigation of rehabilitation professionals is supported by ID's orientation towards disciplinary relevance. [35, 36]

2.3 Participants and recruitment

We used purposive sampling (maximum variation approach) to recruit a diverse range of participants based on profession, practice sector, practice area (e.g., childhood disabilities, musculoskeletal, stroke), practice setting (e.g., acute care, long term care), and years of experience. Study eligibility criteria consisted of: 1) current or past membership with one of three regulatory bodies: the *Order of occupational therapists of Quebec*, the *Professional order of physiotherapy of Quebec,* or the *Order of speech-language pathologists and audiologists of Quebec;* 2) employment in Quebec as an OT, PT or S-LP for at least one year; and 3) completion of their professional degree in OT, PT, or S-LP in Canada.

Recruited participants were divided into two groups: attrition and retention. The attrition group included participants who were no longer a member of their professional regulatory body, as licensure is required for practice in Canada. [37-39] Participants in the retention group were licensed with their regulatory body. We aimed for approximately 15 participants in each group based on existing literature on sample sizes for this type of qualitative inquiry. [40, 41] One participant was still a member of their regulatory body but was not interested in keeping their membership; they were subsequently placed in the attrition group.

2.4 Data collection procedures

We conducted a semi-structured, in-depth interview with each participant by Zoom, Facetime, telephone, or in-person. We developed separate interview guides for the attrition and retention groups. The content of interview guides drew on existing literature on attrition and

retention, and concepts from CHAT (rules, community, division of labor and tools). For example, to explore how health care environments contribute to retaining rehabilitation professionals, the interview probes included questions about their community (managers, team members). To ensure that the interview questions were clear and not overly leading, they were sent to a group of graduate students (many of whom are rehabilitation professionals) for feedback and then pilot-tested with two OTs (one of whom was no longer licensed).

As interviews progressed, we modified certain questions based on our experiences and initial analysis of earlier interviews. For example, managers who were still licenced as rehabilitation professionals were asked additional questions, such as: “Why do you continue to maintain your licence with your professional order?”

Interviews were conducted from December 2019 to August 2020. All interviews were recorded and transcribed verbatim, and then verified for accuracy by a second person (SM or a research assistant).

2.5 Ethics

This study was reviewed and approved by the McGill Faculty of Medicine and Health Sciences Institutional Review Board (A02-E12-19A) on March 11, 2019. All participants provided written, informed consent to participate in the study.

2.6 Data analysis

A synopsis of each interview was created to summarize the findings and facilitate recall of participant interviews. During data analysis, SM read the synopses to remind herself of the

context behind a portion of text that had been assigned to a code, or of the salient aspects of a participant's narrative for initial coding or later stages of data analysis.

We began data analysis as soon as transcripts were available. We imported each transcript into NVivo software, where we read them to familiarize ourselves with the participant's narrative, and then conducted initial coding. For French transcripts, SM re-read the quotes to ensure that they aligned with the codes, and verified her understanding of certain excerpts with a native Quebec French speaker, to ensure that she accurately interpreted the participant's narrative. Consistent with ID, we used both deductive and inductive approaches and constant comparative techniques. [35]

As part of our inductive approach, we assigned labels to sections of text to respond to questions such as: "What is going on here?" After coding one transcript, MH and AT, two experienced qualitative researchers and content experts reviewed the codes from that transcript and provided feedback. The codes were subsequently modified and a provisional codebook was created. We applied the provisional codebook to two more transcripts and added several new codes. MH and AT then reviewed the updated codebook and provided additional feedback. After a total of 20 transcripts had been coded, SM presented the codebook to a group of graduate students (many of whom are rehabilitation professionals) who also gave feedback; the codebook was subsequently revised.

Once all transcripts were coded, we used display tables and concept maps to create an analytical structure amongst the codes, and to develop categories. We reviewed transcripts and the interview synopses to ensure the coherence and completeness of the analytical structure.

We were mindful of CHAT during our review, in order to identify missing codes and categories that may have been important in the development of the themes, and possible interconnections between categories and themes. However, to avoid overreliance on the theoretical scaffolding from CHAT and to align with ID methodology, we sought feedback from our research team and applied a more inductive approach in earlier stages of data analysis.

Using this analytical structure and CHAT, we developed interpretive themes. We framed the themes as questions to emphasize participants' reflections that were evoked by the interview questions, and to highlight the intimacy of these themes to participants' daily work and professional career. Once the preliminary themes were developed, we gathered additional feedback from the research team and further refined the analytical structure.

Finally, we note that the existing literature on attrition and retention and CHAT contributed to our analytical approach. Findings from the scoping review helped us attend to certain factors raised about attrition and retention of rehabilitation professionals. For instance, we were aware of the unmet needs of PTs in later career stages (coded as *life stage*) from our scoping review. [42] While *life stage* was used less frequently than other codes (four times) in this study, we considered how *life stage* aligned with categories and interpretive themes, given the importance of this gap in the literature.

2.7 Reflexivity

The positionalities of our research team members informed our research process. Our research team is composed of four rehabilitation professionals (2 OTs, 1 PT, 1 SLP) and one physician.

The first author, SM, is an OT with 17 years of clinical experience and 19 years of pedagogical experience in a Canadian OT educational program. Her clinical and academic experiences helped to shape the interview questions and the ways she viewed her findings. Her experiences in private and public health care sectors attuned her to some of the realities expressed by participants. We engaged in reflexive practices, such as memoing, throughout all stages of this study. Therefore, these reflections, the findings from our scoping review and the existing literature, contributed to the research processes (e.g., decisions related to participant recruitment) of this study.

3. Results

3.1 Participant information

Tables 1 and 2 present the participants' characteristics. Fifty-one participants were interviewed, divided between two groups: 1) attrition (n = 14); and 2) retention (n = 37). More than half of the participants were OTs (n = 32, 63%). Fewer PTs (n = 11, 22%) and S-LPs (n = 8; 16%) were recruited. Table 3 shows the timing of attrition for the participants in the attrition group. Participants left their profession at all career stages.

Table 1: Participant characteristics

Gender	**OT**	**PT**	**S-LP**
Male	2	2	1
Female	30	9	7
Other	0	0	0
Geographical location			
Urban	24	7	7
Suburban	8	3	1
Rural	0	1	0
Years of experience			
1-5 years	8	1	5
6-10 years	9	1	0
11-15 years	4	5	2
16+ years	11	4	1
Practice Sector			
Public	19	4	2
Private	9	4	1
Other (schools)	4	2	5
Practice Settings			
Hospital-based	15	4	3
Community-based	3	1	0
School settings	0	1	5
Private practice	1	4	0
Other (academic, corporate)	3	1	0
Practice Area			
Adults, physical medicine	13	7	2
Adults, mental health	0	0	0
Adults, all	3	0	0
Children, physical medicine	1	1	1
Children, mental health	1	0	1
Children, all	8	1	4
Other (management, corporate, academia, all clientele)	6	2	0

Table 2: Attrition and retention participant groups

	OT	PT	S-LP
Retention	23	8	6
Attrition	9	3	2
Total	**32**	**11**	**8**

Table 3: Timing of attrition among participants in attrition group

Timing of attrition	**OT**	**PT**	**S-LP**
1-5 years	3	1	2
6-10 years	1	1	0
11-15 years	2	1	0
16 + years	3	0	0

In the following section, we describe six themes related to participants' experiences and perceptions of attrition and retention: 1) What characteristics of work make work meaningful to me? 2) What aspects of work do I appreciate? 3) What factors of my daily work weigh on me? 4) What factors contribute to my capacity to manage work satisfactorily? 5) How do relationships with different stakeholders shape my daily work? and 6) What are my perceptions of the profession as a whole? Note that verbatim excerpts in French have been translated into English for this paper.

3.2 Theme 1: What characteristics of work make work meaningful to me?

More than half of the participants reported that alignment between their work and their values brought meaning and pleasure and acted as a motivator for work. A PT with 15 years of experience described how she valued helping others:

What motivates me to go to work every day is because I enjoy my work and I know today that what I do in my work in particularly in clinical work corresponds to my values. My main value is taking care of others, it's a very important value to me. It's something that I identified which in the process of changing from being a full-time student to going back to work is something that I identified is a gap for me. [Retention, PT3]

The participant's desire to help others prompted her to return to clinical work after undertaking graduate studies.

Other participants also shared the need for a close alignment between their work and what they valued and enjoyed. An S-LP with 15 years of experience in a hospital explained how the acute care environment met her daily desire for change and excitement:

I don't think it's for everybody. I don't think anybody would come out of... you know, SLP school master's degree thinking, "I'm going to end up working in acute care, wearing a mask, gloves, and dealing with secretions sometimes," but, it has to be a fit […]I like the fact that my day is not predictable, not boring, it's... there's never a dull moment. [Retention, S-LP6]

Seeing the impact of their interventions on clients also contributed to participants' sense of meaningfulness regarding their work as expressed by an OT with eight years of experience: *"Establishing a link with people and seeing the results, seeing an improvement usually is what motivates me to continue or what I love about my job." [Retention, OT11]* Most participants found seeing the impact of their interventions for a client rewarding. On the other hand, when there was no observable change in their client's health or functional state, participants

expressed frustration and dissatisfaction from their work. An S-LP with five years of experience working with children with special needs reported that:

I would say though unfortunately it doesn't happen all the time, and that probably is also the hardest part of my job […] usually they've kind of plateaued in a lot of their abilities so the stuff we're seeing, both they're not improving that much […] It's amazing when it happens but most of the time it doesn't, and so that's very frustrating, very difficult. [Retention, S-LP5]

Consequently, this led to frustration and questioning of the relevance of their interventions, and whether the time and efforts invested were worthwhile.

A main concern for participants was finding meaning in their work; meaning appears to come from a match between what they value in their work, and the affordances of their work. This relationship with one's work seems to rest upon certain characteristics, including authenticity, alignment and autonomy, and perceived tangible outcomes. It is from these outcomes, that rehabilitation professionals experience a sense of satisfaction and perceive that their efforts and time were used in a meaningful way.

3.3 Theme 2: What aspects of work do I appreciate?

Meaningful and beneficial relationships with colleagues, clients and managers in the work environment were deemed important for most participants, and often influenced their decision to stay in a given setting. Mutual respect, camaraderie, solidarity, openness to different perspectives and being inspired were key to these relationships. For instance, a OT participant with over 30 years of experience described how:

…the doctors all understood what I needed to do. They asked me to start working in the ER, screening people in the ER to see if we could send them home or if we needed to admit them. […] I really felt that my opinion mattered and that I played a real part in determining outcomes. [Attrition, OT22]

Her sense of being understood, listened to and valued by her colleagues contributed to her satisfaction with her work and her decision to stay in that practice setting. A few participants also talked about their relationships with clients who inspired them and motivated them to achieve their own goals as professionals. An OT with four years of experience in pediatrics described how her patients' efforts *"motivated me to like... work on my own goals, and be a better person and... help them more, but they're really like, my champions of like, strength and resilience." [Retention, OT27]*

The ability to learn and grow professionally was also a driving force for participants to stay in their profession; mentorship, role-models and professional development were key opportunities for growth. A S-LP with over 20 years of experience, described how professional development opportunities offered through her work triggered her interest in new approaches, and supported her learning: *"It's that kind of feeling you get if you're at a... conference where you're like, you get kind of sparked, and come away with insight and another way of doing something." [Retention, SLP4]*

Overall, the participants found that their relationships with others (clients, peers and managers) and the learning opportunities in the work environment added to their satisfaction with their daily work.

3.4 Theme 3: What factors of my daily work weighs on me?

In considering whether to stay in or leave their profession, half of participants weighed factors that impinged negatively on their practice against positive aspects of their work. Some factors contributed to a sense of *heaviness* arising from delays in health care system processes (e.g., approval for therapeutic equipment), complex client situations (e.g., family member's lack of acceptance of a loved one's condition), or insufficient resources to meet service demands. The experience of heaviness is reflected in the emotional tensions this PT shared, when working with children with special needs for more than 20 years:

Because sometimes you feel that a child will need that type of therapy or... a follow-up at home and the family is not doing. […] It's not your reality, it's their reality. You do your part, you push at a certain limit, but then it's not your responsibility, you don't have to feel bad. If you do, then it's going to be hard. I can understand. Then you may want to quit because of that. [Retention, PT6]

Other factors pertained to the characteristics of the position itself in a practice setting (e.g., acute care), the work environment and the workload (especially with administrative tasks). Experiences of being harmed (e.g., bullying) were especially strong factors in prompting several participants to decide to leave their profession, especially when these situations were recurrent. Examples included working in an environment without support or where interprofessional conflict was frequent. A participant with 30 years of experience described how working in a conflictual environment led her to reflect on continuing in the OT profession:

[…] you're afraid of being fired, you're afraid of being reported to the [professional] order. At

that point, I had a young family, I needed to work to support my family [...] By the time I left [NAME], I realized I had so much post-traumatic stress disorder, I'd been so traumatized by the toxic environment. I did a year on unemployment just healing basically and re-evaluating my career. [Attrition, OT22]

Participants' experiences emphasize the extent of the *heaviness* they felt and how their feeling of being harmed shaped their decisions about their future in their profession. Weighing the negative experiences of their daily work against positive aspects of work (Themes 1 and 2) suggests that there is a delicate balance between these. When negative experiences weigh more heavily, a rehabilitation professional may feel compelled to consider a more drastic course of action to address their current work situation.

3.5 Theme 4: What factors contribute to my capacity to manage work satisfactorily?

Half of the participants discussed factors that influenced their ability to manage their daily work. *Work factors* consisted of characteristics of the nature of work (e.g., workload, working conditions) and individual gains (e.g., opportunity, schedule flexibility, value, recognition).

An OT with over 30 years of experience described how her relationship with her manager resulted in work schedule flexibility which helped her to manage other life roles:

So I've worked out with my boss […] so I'm allowed to do 70 hours in two weeks, working 4 days a week because I still want to have one day off because I have other things going on in my life. My parents are aging. […] I want to have time to be there for the people that I love. [Retention, OT4]

A supportive work environment comprised of other individuals with similar life experiences, also helped a SLP working for over 15 years in a hospital, to manage other life roles:

…my work environment has been very supportive... over the years, maybe because the majority of... S-LPs are women who get it, who have been moms, and who have had sick children, and who understand what it is to juggle those things, so, I... find that's kind of well-supported, but yes, it's a challenge. [Retention, S-LP6]

On the other hand, four participants from all three professions described how flexibility in their workday are shaped by policies and rules that apply to everyone, such as practice standards (regulatory bodies) and union collective agreements. An OT with less than five years of experience in long term care, reported that she will be forced to work full-time because of a change in the union collective agreement, and therefore, would likely leave her job:

… apparently with the latest agreement with the [union], I will only have the right to apply for a part-time leave without pay once every three years. So, … if I stay in my position, I am required to do five days a week and for me it will not be that, for sure I would not stay working five days per week. [Retention, OT15]

In the participants' narratives, relationships with their managers, institutions and professional regulators, influenced how participants managed *work factors*. These factors were moderated by the amount, type and effectiveness of support offered. Participants also shared that when managers and institutions valued their work, it helped them to better manage their tasks and/or workload.

In addition to *work factors*, participants described *personal factors* (e.g., support from family and friends) that helped them cope with aspects of work. They also described engaging in activities to foster well-being, such as physical activity, or talking less to others after work (to refrain from hearing others' problems). A PT with more than 10 years of experience who worked in the community, described how she takes care of herself so that she could work optimally: *"So I think that how I take care of myself does influence my day to day work so I have to make sure that I do that well." [Retention, PT3]*

Participants described how other commitments and roles (e.g., parental responsibilities) may cause tension with *work factors*. An OT with over 30 years of experience who worked in long term care described how taking on additional work responsibilities left her unable to engage in other personal roles and activities:

I gave up all the other things that I loved to do. I wasn't going to the gym anymore, I wasn't painting anymore, you know once in a while I would go out for lunch with friends of mine I wasn't doing that anymore, so because of this work situation, some of my roles, life roles, were sacrificed. [Retention, OT4]

Availability of support from regulatory bodies, and access to various work opportunities related to the profession (e.g., research, teaching) also affected participants' decisions to stay in their profession. These factors were particularly important for participants who had temporarily left their profession (e.g., parental leave). For example, a former PT described that in order to manage her family responsibilities, she sought out part-time work as a clinician. She could not identify this sort of work and ultimately, her lack of access to part-time PT opportunities led her

to leave the profession altogether and pursue another career [Attrition, PT9].

Work and *personal factors* affected how participants managed their work. As participants described these factors, the fluid boundaries between their personal and professional lives were evident.

3.6 Theme 5: How do relationships with different stakeholders shape my daily work?

All participants spoke about their relationships with different people (clients, peers, managers) and organizations (e.g., professional regulatory bodies and associations) in their daily work.

Many foregrounded their relationships with clients and peers in their everyday work. This is reflected in how a PT characterised her workplace as "very human" and how she placed emphasis on people in her description: "*I loved to be... to work with people. […] I'm talking about the clients, but also the... staff, I think it's a very human environment and very... fun, very… I don't know how to say it… like, we thrive, you know? We are… like, you have real... connections." [Attrition, PT11]*

Half of the participants raised the importance of their relationships with other health care workers. Participants expressed how other workers' perceptions of the role of rehabilitation professionals influenced their involvement in patient care. A hospital-based S-LP with less than five years of experience described this:

[…]a few weeks ago, there was a patient in the ICU that had a stroke. Nobody told me about it, I didn't know about it until in rounds one day, […]this OT said "it's very hard to talk with him, he's totally aphasic". I was like "how do I not know about that?" and then she went like "oh yeah

right you are the S-LP, maybe you could help" but like she's been working with him for two weeks now. [Retention, S-LP2]

Relationships with managers, regulatory bodies, and unions were less common, and therefore, in the background of participants' everyday work. However, it was clear from one participant how these relationships remained present in her mind. An OT participant with less than 10 years of experience shared her perceived relationship with her regulatory body:

We always feel like we are working with a sword over our heads when we all agree that usually by studying occupational therapy, we want the best for others. […] So, it's a lot the perception that the [professional] order gives us of ourselves and then it's hard, it makes everyday life difficult. [Retention, OT3]

These experiences underscore the diverse relationships in participants' daily work, and the emotions that they felt in those relationships. Participants also described relationships that were in the background of their everyday work (e.g., regulatory bodies, unions), which were uncommon. However, the impact of these relationships on participants remained significant despite the low frequency of interactions with these organizations.

3.7 Theme 6: What are the perceptions of the profession as a whole?

Participants shared positive aspects of their profession, its future and the stakeholders who should be involved in fostering retention; all of which were intimately tied to how they view their profession. One positive aspect was how many OT participants' perspectives towards lifestyle were shaped by their profession's core philosophies and unique theoretical models. For

example, one participant with ten years of experience described how the occupation-based philosophy in OT influenced how she approached life and how she defined herself. [Retention, OT21]

Participants also shared their reflections about the future of their profession, namely, the changes in scope of practice. For instance, a S-LP with less than five years of experience who worked in a hospital, described how a conflict amongst the regulatory bodies in OT, S-LP and dietetics created uncertainty on her profession's scope-of-practice:

So this whole conflict […] it does scare me that we could lose dysphagia altogether […] I have no problem doing it with other professionals, but I don't want it taken over from me. If it is taken away from me, then I mean, it is something I love about my job. [Retention, SLP2]

Several participants also described their observations about the passivity among some members of their profession, which they felt threatened their profession's evolution. An OT with less than 10 years of experience and who worked in a private clinic, expressed this:

I find that there are really many occupational therapists who adapt too much and who do not advocate enough for their profession and then they feel persecuted on the other hand, while concretely when they have the opportunity to take action and use their voice, they do not do it. [Retention, OT20]

Participants shared many reflections about their profession, including how being part of that profession has changed their perspectives towards living well and influenced their personal lives.

4. Discussion

This study explored the perspectives of 51 rehabilitation professionals regarding their decision to stay in, or leave their profession. We used CHAT to shed light on the phenomena of attrition and retention, to reflect on health care and educational systems, and to consider how the daily work of rehabilitation professionals is shaped by the components of such systems and their connections with other systems.

Many participants described aspects of their work that they found meaningful, others that acted as barriers to their engagement in their work and spoke about the factors that affected their ability to manage their work. Though these factors played a pivotal role in whether they stayed in or left their profession, participants were influenced by more distal factors such as relationships with stakeholders outside the clinical environment and their perceptions of the profession as a whole. It seems based on these factors and relationships, that rehabilitation professionals' decision-making process to stay in or leave their profession is dynamic and evolves over time.

Participants' narratives revealed the importance of seeing their own values reflected in their work. One's values are not only core to how one defines oneself but also to how one identifies with others from the same profession. [43-45] Therefore, it is not surprising that an individual's personal values need to be reflected in their roles and responsibilities if they are to find their work meaningful. Our data suggest that specific work tasks, responsibilities and/or roles in certain practice areas may impinge on one's values. In a study of professional resilience in OTs, Ashby et al. found that OTs working in mental health often face challenges related to their

values and their professional identity. [46] In these settings, OTs frequently encountered other professionals who did not value occupation-based approaches and imposed biomedical or psychological ones. Therefore, Ashby et al. proposed self-care strategies to foster professional resilience and career longevity in OTs practicing in mental health. [46] Better alignment between a professional's values and their work and/or work environment may compel one to stay in their profession.

The ways in which values are reflected in one's work are also influenced by factors beyond the work environment. Both-Nwabuwe et al.'s integrative review about professional autonomy in nursing reveal how a professional's autonomy may be limited by local laws, regulations and workplace practices. [47] This observation underscores the influence of broader systemic factors (health care policies, legal frameworks) on the extent to which one's values are embodied in one's work. [47] Thus, it would be worthwhile to study how contextual factors influence the actualization of a professional's values in their work. [48]

The participants' narratives highlight the prominent relational aspect in the work of rehabilitation professionals. Rehabilitation professionals engage in multiple relationships in the foreground (e.g., clients, other health care workers) and in the background (e.g., higher level administrators, regulatory bodies). A relationship in the foreground or background of one's working life relates to the concept of proximity: proximity in relationships may influence the trust between a rehabilitation professional, their manager/organization, and even organizations with which they interact less frequently (e.g., regulatory bodies, unions, associations). [49] Proximity may be characterised by communication and shared physical spaces which can

facilitate teamwork between different health care providers, such as dieticians and nurses in diabetes education. [49] Thus, a lack of proximity between health care providers may lead to difficulties in building connections with one another. [49]

CHAT can help to explain the influence of these relationships. Managers and other health care professionals are part of the community which contribute to patient care delivery (object); they can influence rehabilitation professionals' experiences of work by making decisions about the nature of the work, the workload and the support received; all these factors can ultimately influence patient care delivery. However, the decision-making power exerted by managers and institutions can conflict with rehabilitation professionals' professional autonomy. For instance, when health care systems measure productivity based on the number of patients seen, managers use this metric to expect larger caseloads at the detriment of other activities such as research and teaching, both of which have been shown to foster professional growth and greater job satisfaction. [50] Consequently, managers', institutions' and health care systems' influence leads us to question whether health care professionals can truly possess the professional autonomy and self-regulation that is expected of them as professionals. [51, 52]

The lack of proximity is relevant to rehabilitation professionals' relationships with external organizations, such as professional regulatory bodies. While a rehabilitation professional may have a relationship with an individual in such an organization, it may be difficult to establish a connection with leaders of these organizations. Managing one's expectations about a fruitful connection with those who lead these organizations can be a step towards seeking support elsewhere.

CHAT highlights the interactions with, and influences from other systems, such as the professional system, where regulatory bodies reside. Regulatory bodies exert a prominent, undeniable force on the practices of rehabilitation professionals, despite the backgrounding of their relationships with their members. With the legal mandate of protecting the public, regulatory bodies set standards and conditions for practice, and implement processes to monitor the members of a profession, in order to abide by the laws surrounding professions. [53] Our participants reported both positive and negative influences from regulatory bodies. These experiences highlight the depth of the influences of the regulatory bodies, to a point where some participants with negative experiences gave up their membership with their regulatory bodies.

Our participants' experiences resonate with a growing body of literature on moral distress and injury. Moral distress occurs when an individual makes a moral judgment about a clinical situation but cannot act accordingly. [54] Continued or sustained distress may result in moral injury, [55] defined as an emotional wound from carrying out/seeing actions that violate one's core beliefs and values, or being betrayed by a trusted authority. [56] Some participants shared that they were afraid of their regulatory body's inspection process while others spoke about feeling harassed or threatened. They contrasted these emotions with having to pay membership fees, and therefore, stated in disbelief that these fees were directed towards policing them and their colleagues. They spoke of betrayal which may relate to moral injury; it is possible that this was the case for several of those who left their profession. Further investigation of the role of professional regulatory bodies in supporting or hindering health care delivery (e.g., impact of chart audits on quality of patient care), is needed to better understand

these impacts.

Participants described how unions, a body that aims to protect workers' rights in health care, advocate for better working conditions and benefits for health care professionals and therefore, impact positively on the working lives of health care professionals. However, others also described how unions pose obstacles to their working lives by implementing changes in collective agreements and procedures that may not reflect the practitioners' realities. This aligns with a small body of literature on the social costs related to unionization: the presence of unions may lead to a more contentious relationship with the employer, a more rigid approach to work organization, and less individual choice. [57] It may be worthwhile to examine how health care professionals perceive the benefits and social costs of unionization, and how a union's actions contribute to the work experiences of rehabilitation professionals.

Amongst participants who left their profession, several discussed the possibility of a return. The movement between staying in and leaving a profession speaks to the dynamism between the phenomena of attrition and retention. For several participants, leaving their profession was a highly emotional decision associated with a loss of both professional identity and sense of belonging that is felt when giving up their membership. [58] The loss of professional identity has been discussed previously when health care professionals decide to retire, leading individuals to feel a disruption in, or loss of their professional identity. [59, 60] To be mindful of the dynamism between attrition and retention, professional regulatory bodies should consider developing mechanisms to help those who wish to return to their profession at a later time. [61] For instance, the use of simulation in retraining rehabilitation professionals who have been

away from professional practice, may be an avenue worthwhile of study. [62, 63]

4.1 Strengths and limitations

There were three main strengths to this study. Using CHAT provided theoretical scaffolding of the project and offered a lens through which we viewed our data. Consistent with ID, we also went beyond CHAT in our data analysis, in order to contribute new knowledge to the topic of attrition and retention. Another strength was the overall number of participants (n=51), which provided an abundance of rich data for analysis across three professions. We also recruited participants from different sectors (private and public health care; health care versus educational sectors) contributing to the diversity of our participants (maximum variation sampling).

In terms of limitations, our purposive sampling goals were not fully achieved. Recruitment of rehabilitation professionals who had left their profession was challenging. We employed different strategies to advertise our study, including email, social media platforms, and word-of-mouth (snowball sampling). Despite these efforts, we only recruited 14 participants for this group, compared to 37 for the retention group. Another limitation was that of the total number of participants (n = 51), we recruited fewer PTs (n = 11, 22%) and S-LPs (n = 8; 16%). The lower number of PTs and S-LPs limited our ability to make comparisons or draw conclusions for the purposes of transferability.

5. Conclusion

Attrition and retention are important issues for a health care system's capacity to offer sufficient services to those who need them. Through a study of 51 rehabilitation professionals and using a robust theory, we have investigated rehabilitation professionals' perceptions and experiences of attrition and retention, and how these are influenced by multiple systems, including professional regulation. We hope that these findings will help to inform the development of targeted retention strategies for rehabilitation professionals and the ways in which different stakeholders may be involved in its implementation. Attending to factors that contribute to attrition – and to retention – are crucial for ensuring that the workforce in OT, PT and SLP meets societal needs for rehabilitation now and in the future.

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Conflict of interest

The authors declare that they have no conflicts of interest.

6. References

1. World Health Organization. Rehabilitation 2030 Initiative 2023 [Available from: https://www.who.int/initiatives/rehabilitation-2030#:~:text=The%20Rehabilitation%202030%20initiative%20draws,health%20systems%20to%20provide%20rehabilitation.

2. Lizarondo L, Turnbull C, Kroon T, Grimmer K, Bell A, Kumar S, et al. Allied health: integral to transforming health. Aust Health Rev. 2016;40(2):194-204.

3. Steultjens EM, Dekker J, Bouter LM, Leemrijse CJ, Ende CHvd. Evidence of the efficacy of occupational therapy in different conditions: an overview of systematic reviews. Clin Rehabil. 2005;19(3):247-54.

4. Harding KE, Camden C, Lewis AK, Perreault K, Taylor NF. Service redesign interventions to reduce waiting time for paediatric rehabilitation and therapy services: A systematic review of the literature. Health Soc Care Community. 2022;30:2057– 70.

5. Leclair LL, Zawaly K, Korall AMB, Edwards J, Katz A, Sibley KM. Exploring the delivery of community rehabilitation services for older people in an urban Canadian setting: Perspectives of service providers, managers and health system administrators. Health Soc Care Community. 2022;30(5):e2245-e54.

6. Deslauriers S, Raymond MH, Laliberté M, Lavoie A, Desmeules F, Feldman DE, et al. Variations in demand and provision for publicly funded outpatient musculoskeletal physiotherapy services across Quebec, Canada. J Eval Clin Pract. 2017;23(6):1489-97.

7. Raymond MH, Demers L, Feldman DE. Waiting list management practices for home-care occupational therapy in the province of Quebec, Canada. Health Soc Care Community. 2016;24(2):154-64.

8. Pefoyo AJ, Bronskill SE, Gruneir A, Calzavara A, Thavorn K, Petrosyan Y, et al. The increasing burden and complexity of multimorbidity. BMC Public Health. 2015;15:415.

9. Steffler M, Li Y, Weir S, Shaikh S, Murtada F, Wright JG, et al. Trends in prevalence of chronic disease and multimorbidity in Ontario, Canada. CMAJ. 2021;193(8):E270-e7.

10. Canadian Association of Occupational Therapists. CAOT position statement: Occupational therapy and home and community care. OT Now. 2008;10(6):20-2.

11. Ordre des ergothérapeutes du Québec. Participation du personnel non-ergothérapeute à la prestation des services d'ergothérapie: lignes directrices. Montréal: Ordre des ergothérapeutes du Québec. 2005:34.

12. Egan M, Restall G. Promoting Occupational Participation: Collaborative Relationship-Focused Occupational Therapy. Ottawa: Canadian Association of Occupational Therapists; 2022.

13. Royal College of Speech Language Therapists. Reports recognise shortage of SLTs and inadequate workforce planning 2022 [Available from: https://www.rcslt.org/news/reports-recognise-shortage-of-slts-and-inadequate-workforce-planning/.

14. World Federation of Occupational Therapists. WFOT Human Resources Project 2022. 2022.

15. Denis JL, Côté N, Fleury C, Currie G, Spyridonidis D. Global health and innovation: A panoramic view on health human resources in the COVID-19 pandemic context. The International Journal of Health Planning and Management. 2021;36(S1):58-70.

16. Bourgeault IL. A path to improved health workforce planning, policy and management in Canada: The critical co-ordinating and convening roles for the federal government to play in addressing eight percent of its GDP. The School of Public Policy Publications 2021;14(1).

17. Canadian Physiotherapy Association. Responding to the Study of Labour Shortages, Working conditions, and the Care Economy 2023 [Available from: https://physiotherapy.ca/responding-to-the-study-of-labour-shortages-working-conditions-and-the-care-economy/.

18. Government of Canada. Canadian Occupational Projection System (COPS): Audiologists and speech-Language Pathologists. 2021 [Available from: https://occupations.esdc.gc.ca/sppc-cops/.4cc.5p.1t.3.4ns.5mm.1ryd.2t.1.3l@-eng.jsp?tid=111.

19. Martin CA, Medisauskaite A, Gogoi M, Teece L, Nazareth J, Pan D, et al. Discrimination, feeling undervalued, and health-care workforce attrition: an analysis from the UK-REACH study. The Lancet. 2023;402(10405):845-8.

20. Castro Lopes S, Guerra-Arias M, Buchan J, Pozo-Martin F, Nove A. A rapid review of the rate of attrition from the health workforce. Hum Resour Health. 2017;15(1):21.

21. McLaughlin EG, Adamson BJ, Lincoln MA, Pallant JF, Cooper CL. Turnover and intent to leave among speech pathologists. Aust Health Rev. 2010;34(2):227-33.

22. Statistics Canada. Table 17-10-0009-01 Population estimates, quarterly 2023

23. Ministère de la Santé et des Services Sociaux. Portrait de la main d'oeuvre: secteur de réadaptation. Quebec City, Canada; 2014. Contract No.: October 2, 2016.

24. Mulcahy AJ, Jones S, Strauss G, Cooper I. The impact of recent physiotherapy graduates in the workforce: a study of Curtin University entry-level physiotherapists 2000-2004. Aust Health Rev. 2010;34(2):252-9.

25. Bailey DM. Reasons for attrition from occupational therapy. Am J Occup Ther. 1990;44(1):23-9.

26. Freda M. Retaining Occupational Therapists in Rehabilitation Settings: Influential Factors. Am J Occup Ther. 1992;46(3):240-5.

27. Mak S, Hunt, M., Riccio, S.S., Razack, S., Root, K., Thomas, A.,. Attrition and Retention of Rehabilitation Professionals: A Scoping Review. J Contin Educ Health Prof. 2023.

28. Heinen MM, van Achterberg T, Schwendimann R, Zander B, Matthews A, Kózka M, et al. Nurses' intention to leave their profession: A cross sectional observational study in 10 European countries. Int J Nurs Stud. 2013;50(2):174-84.

29. Itzick M, Kagan M. Intention to Leave the Profession: Welfare Social Workers Compared to Health Care and Community Social Workers in Israel. J Soc Serv Res. 2017;43(3):346-57.

30. Martin D, Miller AP, Quesnel-Vallée A, Caron NR, Vissandjée B, Marchildon GP. Canada's universal health-care system: achieving its potential. Lancet. 2018;391(10131):1718-35.

31. Canadian Institute for Health Information. HCRS Profile of Clients in Home Care 2016-2017 Ottawa, Ontario.2017 [Available from: https://www.cihi.ca/sites/default/files/document/hcrs-quickstats-2016-2017-en.xlsx.

32. Engeström Y. Activity theory and individual and social transformation. In: Punamäki R-L, Miettinen R, Engeström Y, editors. Perspectives on Activity Theory. Learning in Doing: Social,

Cognitive and Computational Perspectives. Cambridge: Cambridge University Press; 1999. p. 19-38.

33. Engeström Y. Expansive Learning at Work: Toward an activity theoretical reconceptualization. Journal of Education and Work. 2001;14(1):133-56.

34. Vygotsky LS. Mind in Society: The Development of Higher Psychological Processes. Cambridge, MA: Harvard University Press; 1978.

35. Thorne S. Interpretative Description: Qualitative Research for Applied Practice (2nd editiion). New York, NY: Routledge; 2016.

36. Thompson Burdine J, Thorne S, Sandhu G. Interpretive description: A flexible qualitative methodology for medical education research. Med Educ. 2021;55(3):336-43.

37. Association of Canadian Occupational Therapy Regulatory Organizations. Substantial Equivalency Assessment System 2023 [Available from: https://acotro-acore.org/seas/.

38. Canadian Alliance of Physiotherapy Regulators. Licensure 2019 [Available from: https://alliancept.org/licensure/.

39. Speech-Language & Audiology Canada. Internationally Educated: Information for internationally educated Speech-Language Pathologists and Audiologists 2023 [Available from: https://www.sac-oac.ca/membership/internationally-educated/.

40. Malterud K, Siersma VD, Guassora AD. Sample Size in Qualitative Interview Studies: Guided by Information Power. Qual Health Res. 2016;26(13):1753-60.

41. Hennink M, Kaiser BN. Sample sizes for saturation in qualitative research: A systematic review of empirical tests. Soc Sci Med. 2022;292:114523.

42. Australian Physiotherapy Association. InPractice 2025: Final Report. Australia; 2013.

43. McGinnis PQ, Guenther LA, Wainwright SF. Development and Integration of Professional Core Values Among Practicing Clinicians. Phys Ther. 2016;96(9):1417-29.

44. Drolet M-J, Désormeaux-Moreau M. The values of occupational therapy: Perceptions of occupational therapists in Quebec. Scand J Occup Ther. 2016;23(4):272-85.

45. Boyczuk AM, Deloyer JJ, Ferrigan KF, Muncaster KM, Dal Bello-Haas V, Miller PA. Professional Values: Results of a Scoping Review and Preliminary Canadian Survey. Physiother Can. 2019;71(2):134-43.

46. Ashby SE, Ryan S, Gray M, James C. Factors that influence the professional resilience of occupational therapists in mental health practice. Aust Occup Ther J. 2013;60(2):110-9.

47. Both-Nwabuwe JMC, Lips-Wiersma M, Dijkstra MTM, Beersma B. Understanding the autonomy–meaningful work relationship in nursing: A theoretical framework. Nursing Outlook. 2020;68(1):104-13.

48. Thomas A, Rochette, A., George, C., Iqbal, M.Z., Ataman, R., St-Onge, C., Renaud, J-S.,. Definitions and Conceptualizations of the Practice Context in the Health Professions: A Scoping Review. J Contin Educ Health Prof. 2023.

49. Sutherland BL, Pecanac K, LaBorde TM, Bartels CM, Brennan MB. Good working relationships: how healthcare system proximity influences trust between healthcare workers. J Interprof Care. 2022;36(3):331-9.

50. Khammissa RA, Nemutandani S, Shangase SL, Feller G, Lemmer J, Feller L. The burnout construct with reference to healthcare providers: A narrative review. SAGE Open Med. 2022;10.

51. Drolet M-J, Goulet M. Les barrières et facilitateurs à l'actualisation des valeurs professionnelles: perceptions d'ergothérapeutes du Québec. Recueil annuel belge francophone d'ergothérapie. 2017;9:7-42.

52. Pursio K, Kankkunen P, Sanner-Stiehr E, Kvist T. Professional autonomy in nursing: An integrative review. J Nurs Manag. 2021;29(6):1565-77.

53. Canadian Patient Safety Institute. Professional Regulation 2022 [Available from: https://www.patientsafetyinstitute.ca/en/toolsResources/PolicyFrameworkforPatientSafetyCanada/PolicyLeversforPatientSafety/Pages/Professional-Regulation.aspx.

54. Fry ST, Harvey RM, Hurley AC, Foley BJ. Development of a Model of Moral Distress in Military Nursing. Nurs Ethics. 2002;9(4):373-87.

55. Williams RD, Brundage JA, Williams EB. Moral Injury in Times of COVID-19. J Health Serv Psychol. 2020;46(2):65-9.

56. Čartolovni A, Stolt M, Scott PA, Suhonen R. Moral injury in healthcare professionals: A scoping review and discussion. Nurs Ethics. 2021;28(5):590-602.

57. Hammer TH, Avgar A. The impact of unions on job satisfaction, organizational commitment, and turnover. J Labor Res. 2005;26(2):241-66.

58. Mak S, Hunt, M., Boruff, J., Zaccagnini, M., Thomas, A.,. Exploring professional identity in rehabilitation professions: a scoping review. Adv Health Sci Educ Theory Pract. 2022.

59. Osborne JW. Psychological Effects of the Transition to Retirement. Can J Couns. 2011;46(1).

60. Shatsky P. Everything ends: identity and the therapist's retirement. Clin Soc Work J. 2016;44(2):143-9.

61. Sheppard L, Crowe M, Jones A, Adams R. Returning to physiotherapy practice: the perspective of returners, potential returners and clinical supervisors. Aust Health Rev. 2010;34(3):304-11.

62. Yeung E, Dubrowski A, Carnahan H. Simulation-augmented education in the rehabilitation professions: a scoping review. Int J Ther Rehabil. 2013;20(5):228-36.

63. Lucas Molitor W, Nissen R. Correlation between simulation and fieldwork performance in adult physical rehabilitation. J Occup Ther Educ. 2020;4(2):9.

BRIDGING CHAPTER FROM CHAPTERS 4 TO 5

Chapter 4 presented the factors that contributed to professionals' decisions to stay in, or leave their profession, based on individual interviews with 51 rehabilitation professionals from Quebec, Canada.

Chapter 5 is a second manuscript presenting empirical findings. It also draws on the 51 interviews with rehabilitation professionals, as well as four focus groups I conducted from January to June 2022 with members of three stakeholder groups (employers, professional associations and regulatory bodies, and professional education programs) from Quebec, Canada. Based on the analysis of these data sources, I identify five sets of retention strategies. The strategies underscore the diverse priorities among rehabilitation professionals and stakeholder groups. I discuss my findings in relation to the literature on the public awareness of OT, PT and S-LP (presented in Chapter 3) and the literature on organizational and systemic retention strategies in other professional contexts. Taken together, the findings from Chapters 4 and 5 highlight multi-level, contributing factors to attrition and retention (individual, work, systemic) and the need for multi-level retention strategies created through partnerships spanning health care, professional regulation, and professional education.

CHAPTER 5: MANUSCRIPT 3

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Stakeholder perspectives on retention strategies for rehabilitation professionals

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Contribution List

All authors contributed substantially to the design, implementation and analysis of the research described in this article, as well as to the writing of this article. All authors have approved this article for journal submission.

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Ethical statement

Both studies were reviewed and approved by the McGill Faculty of Medicine and Health Sciences Institutional Review Board (A02-E12-19A). All interview and focus group participants provided written, informed consent to participate in the study (including the audio-recording of the interview or focus group).

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Conflict of interest

The authors declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Abstract

There is a scarcity of health human resources worldwide. In occupational therapy (OT), physical therapy (PT), and speech-language pathology (S-LP), attrition and retention issues amplify this situation and contribute to the precarity of health systems. Therefore, we aimed to investigate retention strategies for rehabilitation professionals in Quebec.

We present an analysis from individual interviews with rehabilitation professionals and focus groups with stakeholders. We used purposeful sampling (maximum variation approach) to recruit participants from Quebec, Canada. We conducted interviews with 51 OTs, PTs, and S-LPs (2019-2020) and four focus groups with managers, professional education programs, professional associations, and regulatory bodies (2022). Cultural-historical activity theory provided the theoretical scaffolding for these interpretive description studies. Inductive and deductive approaches, and constant comparative techniques were used for data analysis.

Five sets of retention strategies were developed: 1) ensuring that work aligns with values; 2) improving alignment of work parameters with needs and interests of rehabilitation professionals; 3) modifying physical, social, cultural, and structural aspects of a workplace; 4) addressing how the profession is governed; and 5) offering informal and formal benefits. Multi-systemic retention strategies with intersectoral partnerships were deemed essential to effectively change rehabilitation professionals' work and work environments, and to increase public awareness of the added value of rehabilitation professionals.

Our findings emphasize a critical need to design targeted, multi-systemic retention strategies to influence the work experiences of rehabilitation professionals and to ensure the availability of OTs, PTs and SLPs for present and future rehabilitation needs.

Keywords: occupational therapy, physical therapy, speech-language pathology, retention, rehabilitation, qualitative research, health workforce.

Introduction

Attrition is an important concern across health care professions (Heinen et al., 2013; Itzick & Kagan, 2017), including those in rehabilitation (occupational therapy (OT), physical therapy (PT) and speech-language pathology (S-LP)) (World Health Organization, 2023). Defined as a permanent departure from one's profession, or from the workforce (McLaughlin et al., 2010), attrition can substantially compromise a health care workforce and, in turn, undermine a health care system's capacity to deliver patient care (Kroezen et al., 2015).

Attrition from rehabilitation professions has been reported in countries such as Canada, Australia, and the United Kingdom, but the proportions vary across countries and professions. For example, in 2014, 10-15% of Canadian OTs, PTs, and S-LPs were reported to have left their profession within two years of graduation (Ministère de la Santé et des Services Sociaux, 2014). In a 4-year (2000-2004) study in Australia, 65% of surveyed PT graduates from Curtin University planned to leave their profession in the next ten years (Mulcahy et al., 2010). In a 2023 report from the Royal College of Occupational Therapists (United Kingdom), 25% of surveyed OTs intended to stop working as an OT practitioner in the next five years, and less than half anticipated to stop working as an OT after 10 years of practice (Royal College of Occupational Therapists, 2023).

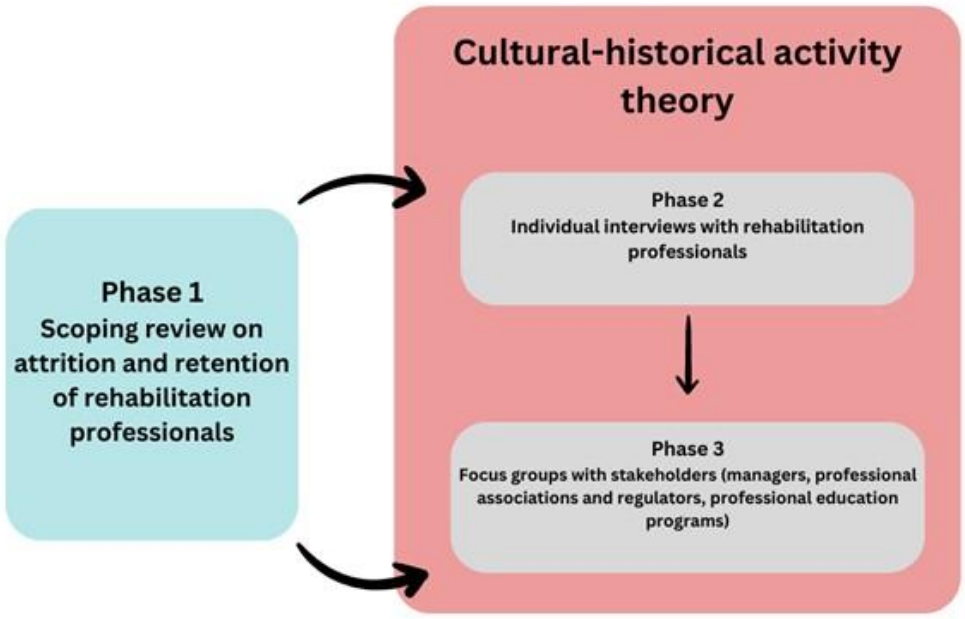
To date, very few studies have investigated the factors that contribute to attrition. In the early 1990s, two survey studies of American OTs identified four main factors that influenced clinicians' decision to leave the profession: heavy caseloads of patients with multiple comorbidities; experiences of stress and burnout; desire for increased salary and promotional opportunities; and discrepancies between clinician expectations of practice versus actual OT

practice (Bailey, 1990; Freda, 1992). Similar findings were identified in a 2010 survey of Australian S-LPs (McLaughlin et al., 2010). Respondents described family commitments and a desire for increased pay and career advancement opportunities as the main reasons for leaving their profession (McLaughlin et al., 2010). In a more recent study, Huddler and Kimmel (2020) interviewed 15 former PTs in the United States and identified several elements that contributed to professional attrition. First, participants expressed frustration with high caseloads and poor quality of care along with poor working conditions. Participants also described how working with managers who were insensitive to their needs and had narrow perspectives on patient care led them to consider leaving their profession, as did negative relationships with colleagues (e.g., lack of respect for them and their work). Finally, a lack of funding for continuing professional development was reported to be especially problematic for PTs who are required to pursue professional development for professional licensure (Huddler & Kimmel, 2020).

Notwithstanding these four studies, the available evidence on attrition and retention of rehabilitation professionals is limited in scope and specificity. Therefore, we conducted a large 3-phase program of research to investigate why OTs, PTs and S-LPs choose to stay in, or leave their profession, and the factors that influence their choices. Figure 1 presents the study phases and how they relate together. The current paper reports on the findings from phases 2 and 3.

Figure 1

Study phases of project



In phase 1, we conducted a scoping review (Mak, 2023a) to synthesize the literature on attrition and retention in OT, PT and S-LP. The question guiding the review was: "What is known about attrition and retention in rehabilitation professions?" We retained 59 of the 2588 papers (published from 2010 to 2021) screened for full-text review and extraction. We organised our findings into three themes: 1) descriptions of attrition and retention; 2) experiences of being a professional; and 3) experiences in institutions where rehabilitation professionals work. We identified push, pull, and stay factors at the level of the individual, work and environment which shaped attrition and retention. *Push* factors propel a rehabilitation professional out of their profession (e.g., negative work experiences) (Mak, 2023a). Factors that *pull* a rehabilitation professional away from the profession include personal circumstances or a desire to pursue

other interests. Finally, *stay* factors, such as positive work relationships and environments, contribute to rehabilitation professionals remaining in their profession (Mak et al., 2023a). Our review of this literature suggested that there is a need to closely examine *push* factors (Mak et al., 2023a). Recent increased work demands due to the COVID-19 pandemic and the general decline in health worker well-being have intensified the urgency to address these factors (Teoh et al., 2023). Given the current human resource shortages in rehabilitation professions globally (World Health Organization, 2023), it is crucial to investigate how attrition contributes to these shortages, and how this situation influences health care systems' capacity to deliver high quality care to patients, their families, and communities.

In phase 2, we conducted a qualitative study to further explore the role of push factors in professional attrition and strategies that target such factors. We conducted individual interviews with 51 rehabilitation professionals in Quebec, Canada. We identified six factors that influenced our participants' experiences of work and their decisions to stay in, or leave their profession. These findings are reported elsewhere (Mak et al., 2023b).

In the third and final phase of our research program, we aimed to explore retention strategies for rehabilitation professionals in Quebec through focus groups with stakeholders. We sought stakeholder (managers, professional education programs, professional associations, and regulatory bodies) perspectives to 1) develop an understanding of their views and experiences related to attrition and retention; and 2) generate potential retention strategies for Quebec OTs, PTs, and S-LPs. Retention strategies are interventions aimed at reducing an individual's intent to leave their profession and can target any level of an organization or system (e.g., individual/leader, group, organizational) (Teoh et al., 2023).

In this paper, we present an analysis related to retention strategies drawing on individual interviews with rehabilitation professionals (phase 2) and focus groups with stakeholders (phase 3).

Methods

Quebec context

Our empirical investigation focused on OTs, PTs and S-LPs in Quebec, the province with the second largest population in Canada (Statistics Canada, 2023). Human resource shortages and resource deficiencies have been longstanding issues in Quebec (Denis et al., 2021). These challenges have been so widespread that they have compromised the Quebec health care system's capacity to deliver adequate care to the population (Gabet et al., 2023). A striking example is the more than 8000 deaths in long-term care facilities during the COVID-19 pandemic, partly due to human resource shortages (Gabet et al., 2023). Unfortunately, Quebec is not alone in experiencing health human resources challenges; its situation is representative of many high-income regions (e.g., United States, UK) and other Canadian provinces (Casey, 2023).

The Institute of Fiscal Studies and Democracy (2017) reported that successive Quebec governments had under-invested in health care, falling below fundamental health care cost drivers, such as population growth and inflation. While the report highlighted reduced health care spending from 2010-2014, there has been a pattern of underspending in health care since the 1990s in Quebec (Institute of Fiscal Studies and Democracy, 2017).

For these reasons, Quebec's health care context provided an opportune testing ground to conduct our study.

Design

We used interpretive description (ID) methodology to explore participant perceptions of possible retention strategies. ID is a qualitative research methodology with a naturalistic approach to inquiry. Researchers who use ID aim to examine a phenomenon by identifying common patterns in human experiences while attending to individual differences (Thorne, 2016). Nursing researchers developed ID as an alternate approach to traditional qualitative approaches and as a means for responding to practice-oriented questions in applied health professions (Thorne, 2016). Thus, when using ID, researchers may draw from qualitative traditions (e.g., phenomenology, ethnography, grounded theory) based on the methodological needs of their research question and typically use clinical and empirical knowledge as a starting point to their empirical inquiry (Thompson Burdine et al., 2021; Thorne, 2016). For these reasons, ID aligned well with our empirical inquiry: we were able to draw from existing literature and our experiences as clinicians and scholars interested in professional practice. Our goal of developing findings with application potential for practice environments was also supported by the theoretical underpinnings of ID, and our inquiry of rehabilitation professionals aligns with ID's emphasis on disciplinary relevance (Thorne, 2016).

Theoretical underpinning

Our study was informed by cultural-historical activity theory (CHAT). CHAT offers a framework to describe a system where several components interact, leading to the implementation of activities which allows the system to reach its intended objective (object) (Engeström, 2001). These components include: 1) the main person(s) involved in the activity (subject); 2) the values, norms, guidelines and expectations that the person must follow to

engage in the activity (rules); 3) others whom the person engages with or who contribute to the activity (community); 4) how the activity is shared among the subject and the community (division of labour); and 5) the physical and symbolic objects that influence the activity and are used to complete the activity (tools) (Engeström, 2001). In its earliest form, CHAT was described as an interaction between the subject and the object, mediated by artefacts (tools) (Engeström, 2001). The most recent iteration of CHAT presents two activity systems that share an object; this change shifted the unit of analysis from the person to the activity system (Larsen et al., 2019).

We selected CHAT because it offers a broad perspective on systems rather than focusing only on the actors of each system and considers the connections between systems. Specifically, we framed the health care and educational systems as activity systems that shape practitioner experience, and ultimately, a practitioner's decision to stay in, or leave their profession. We defined the delivery of health care services as the object. We also identified other systems, such as the private health sector and professional regulation, as activity systems and considered how they might interact with health care and educational systems to achieve the shared object of health care delivery. These possible interconnections between activity systems underpinned our decision to seek the perspectives of stakeholders from various sectors within and beyond health care (educational system, professional regulation).

Participants and recruitment

We used purposive sampling with a maximum variation approach (Suri, 2011) to recruit members from four groups: 1) rehabilitation professionals; 2) managers (public and private health sectors); 3) professional education programs; and 4) professional associations and regulatory bodies.

Interviews with rehabilitation professionals

We recruited individuals who were previously or currently licensed as OTs, PTs and S-LPs. More details on the study eligibility criteria are presented in Table 1 and in Mak et al. (2023b).

Table 1

Inclusion criteria for phase 2 interviews with rehabilitation professionals

Attrition group	▪ Past member of one of the professional regulatory bodies (*Order of Occupational Therapists of Quebec*, *Professional order of Physiotherapy of Quebec* or *Order of Speech-Language Pathologists and Audiologists of Quebec);* ▪ Worked for a minimum of one year as an OT, PT or S-LP in Canada; ▪ Completed their professional degree in OT, PT, or S-LP in Canada.
Retention group	▪ Current member of one of the professional regulatory bodies (*Order of Occupational Therapists of Quebec*, *Professional order of Physiotherapy of Quebec* or *Order of Speech-Language Pathologists and Audiologists of Quebec);* ▪ Worked for a minimum of one year as an OT, PT or S-LP in Canada; ▪ Completed their professional degree in OT, PT, or S-LP in Canada.

Participants were divided into two groups: attrition and retention. The attrition group was composed of past members of their professional regulatory body, as licensure is required for practice in Canada (Association of Canadian Occupational Therapy Regulatory Organizations, 2023; Canadian Alliance of Physiotherapy Regulators, 2019; Speech-Language & Audiology Canada, 2023). The retention group included those who were still members of their regulatory body. We aimed for approximately 15 participants in each group based on existing literature on sample sizes for this type of qualitative inquiry (Hennink & Kaiser, 2022).

One participant was still a member of their regulatory body but because they intended to not renew their membership, they were subsequently placed in the attrition group.

Focus groups with managers, professional associations and regulatory bodies, professional education programs

We recruited: 1) managers of rehabilitation professionals from public and private health care sectors, and school settings; 2) representatives from Quebec OT, PT, S-LP professional education programs; and 3) representatives from professional associations and regulatory bodies. To participate in the study, participants had to meet the inclusion criteria provided in Table 2.

Table 2

Inclusion criteria for phase 3 stakeholder focus groups

Managers	▪ Be a manager, for a minimum of one year, of a program/service that currently employs rehabilitation professionals (OT, PT and/or S-LP)
Professional education programs	▪ Be the program or associate program director, for a minimum of one year, of one of the following university programs: ▪ OT: McGill, University of Montréal, Laval University, University of Québec at Trois-Rivières, University of Sherbrooke ▪ PT: McGill, University of Montréal, Laval University, University of Sherbrooke ▪ S-LP: McGill, University of Montréal, Laval University, University of Québec at Trois-Rivières
Professional associations and regulatory bodies	▪ Be an employee and a registered member of at least one of the following organizations: ▪ Order of Occupational Therapists of Quebec ▪ Professional Order of Physiotherapy of Quebec ▪ Order of Speech-Language Pathologists and Audiologists of Quebec ▪ Canadian Association of Occupational Therapists – Quebec chapter

	▪ Quebec Physiotherapy Association ▪ Quebec Association of Speech-Language Pathologists and Audiologists ▪ Be knowledgeable about current professional practice issues in their profession

Data collection procedures

Interviews with rehabilitation professionals

We carried out semi-structured, in-depth interviews in person, by phone or via Zoom/Facetime from December 2019 to August 2020 (Mak et al., 2023b). Interviews consisted of open-ended questions (e.g., "Tell me about a typical day at work") and were based on an interview guide. Separate interview guides were developed for each group and were based on existing literature on attrition and retention and concepts from CHAT. For example, interview probes about their managers and team members were derived from CHAT concepts (i.e., community). To ensure that the questions were clear and not overly leading, we gathered feedback from a group of graduate students (many of whom are rehabilitation professionals) and pilot-tested the interview guides with two OTs. As interviews progressed, we also modified certain questions based on our experiences of earlier interviews and ongoing data analysis.

All interviews were recorded and transcribed verbatim. Each transcript was verified by the principal investigator (SM), or a research assistant (BM, TO, NK). More details on the data collection procedures are provided in Mak et al. (2023b).

Focus groups with managers, representatives of professional associations and regulatory bodies, representatives of professional education programs

We conducted focus groups from January to June 2022 by Zoom. Each focus group included 3-6 participants. Focus groups were favoured to facilitate reflection and discussion amongst participants.

Our research team developed the preliminary version of the focus group guides. There were separate focus group guides for each group based on existing literature on attrition and retention, interview findings, and CHAT. Examples of focus group questions were: "How often do you hire a new OT, PT or S-LP in your facilities?" and "What do you think positively influences the reasons why OTs, PTs, S-LPs stay?" The questions were aligned with CHAT. For instance, when we asked focus group participants about what positively influences retention of rehabilitation professionals, our probes included questions about relationships with colleagues *(community)* and institutional processes *(rules)*. We then presented the focus group guides to a group of graduate students (many of whom are rehabilitation professionals), whose feedback was integrated into the final versions.

As focus groups progressed, we modified certain questions. For example, following the first focus group with managers, we realized that two questions elicited similar responses, and therefore, we removed one question for the second focus group of managers.

All focus group sessions were recorded and transcribed verbatim. Each transcript was verified by the first author (SM).

Ethics

These studies were reviewed and approved by the McGill University Faculty of Medicine and Health Sciences Review Board (A02-E12-19A). All interview and focus group participants provided written, informed consent to participate in the study (including the audio-recording of the interview or focus group).

Data analysis

For the interviews and focus groups, we began data analysis as soon as recordings were transcribed and reviewed for accuracy. We created a synopsis of each interview and referred to focus group notes to facilitate recall of the interview and focus group content during data analysis, such as how a portion of text related to a participant's narrative. For French transcripts, SM re-read selected interview and focus group quotes to confirm that they aligned with the codes and consulted with a native Quebec French speaker to ensure accurate interpretation of the participant's narrative.

We used deductive and inductive approaches, and constant comparative techniques (Thorne, 2016). Our inductive approach for the interviews and focus groups included asking questions such as, *"What is this about? What is going on here?"* while we assigned labels to sections of text. After coding one transcript, MH and AT (qualitative researchers and content experts) reviewed the codes from that transcript and provided feedback. The codes were subsequently modified, and a provisional codebook was created. This step was completed separately for the interview and focus group data. We applied the provisional codebooks to two more transcripts and added several new codes. MH and AT then reviewed the updated codebooks and provided additional feedback. The revised codebooks were subsequently

presented to the same group of graduate students who reviewed the interview and focus group guides for feedback and were revised again.

Attention to existing literature contributed to our deductive approach. For instance, an important finding from the scoping review on attrition and retention was the unmet needs of PTs in later career stages (Australian Physiotherapy Association, 2013). Awareness of this finding helped us attend to specific codes for the interviews (e.g., *life stage*) and focus groups (e.g., *career longevity*). While both codes were used less frequently (*life stage* - four times, *career longevity* - twice) than other codes, we examined the data to identify how the unmet needs of PTs in late career stages were discussed in the later stages of data analysis, given the importance of this finding.

CHAT also supported the deductive approach. Drawing from the concepts of CHAT helped to identify areas of convergence and divergence across data sources. For example, when we reflected on *institutional culture* from the focus group data, we considered how it could shape institutional procedures (*rules*), the different professional roles (*division of labour*) and teamwork (*community*). However, to avoid overreliance on the theoretical scaffolding from CHAT and to align with ID methodology, we began with a more inductive approach in the earlier stages of data analysis and sought feedback from our wider research team.

Using this analytical structure and drawing upon CHAT, we developed interpretive themes which we articulated as sets of retention strategies. We used concept maps to lay out the themes visually; this process allowed us to identify relationships between themes and to further develop the analytical structure. We then gathered additional feedback from the research team and refined the analytical structure.

Reflexivity

The positionalities of our research team members informed our entire research process. Our research team is composed of two OTs, one PT, one SLP, and one physician. The first author, SM, is an OT with over 15 years of clinical and academic experience in a Canadian OT educational program. Her experiences helped to shape the interview and focus group questions and how she interpreted her findings. AT (OT) is an experienced qualitative researcher in health professions education and knowledge translation. During data analysis, she noted the parallels between her work on the role of context on professional competencies and professional agency, and this study. Her reflections made her aware of how her work influenced the way she viewed the study's findings. MH is an expert qualitative researcher whose research foci include ethics, health policy, and rehabilitation. His research experiences attuned him to the realities of working with systems and the challenges faced by rehabilitation workers in general which shaped how he viewed the findings. KR is a S-LP who practices in the public health care system and teaches in a Canadian S-LP educational program; her clinical and academic experiences brought a particular attention to the S-LP profession and helped to highlight the commonalities and differences between S-LP and other rehabilitation professions. Finally, SR is a physician, an academic and researcher in equity and diversity issues in health professions education. His experiences helped us to attend to the structural aspects of health care systems and their impact on health care practices during data analysis.

In addition to reflecting on our positionalities, we used reflexive practices such as memoing throughout the study. Hence, our reflections, findings from our scoping review, and

insights drawn from the existing literature, contributed to our research processes (e.g., decisions related to participant recruitment).

Results

Interviews with rehabilitation professionals

Fifty-one individuals were interviewed, divided between two groups: 1) attrition (n = 14); and 2) retention (n = 37). Almost two thirds were OTs (n = 32, 63%), 22% (n = 11) were PTs and 16% (n= 8) were S-LPs. Participants' socio-demographic characteristics are summarized in Table 3.

Table 3

Interview participant characteristics

Gender	**OT**	**PT**	**S-LP**
Male	2	2	1
Female	30	9	7
Other	0	0	0
Geographical location			
Urban	24	7	7
Suburban	8	3	1
Rural	0	1	0
Years of experience			
1-5 years	8	1	5
6-10 years	9	1	0

11-15 years	4	5	2
16+ years	11	4	1
Practice Sector			
Public	19	4	2
Private	9	4	1
Other (e.g., schools)	4	2	5
Practice Settings			
Hospital-based	15	4	3
Community-based	3	1	0
School settings	0	1	5
Private practice	1	4	0
Other (academic, corporate)	3	1	0
Practice Area			
Adults, physical medicine	13	7	2
Adults, mental health	0	0	0
Adults, all	3	0	0
Children, physical medicine	1	1	1
Children, mental health	1	0	1
Children, all	8	1	4

Other (management, corporate, academia, all clientele)	6	2	0

Focus groups with managers, professional associations and regulatory bodies, professional education programs

Sixteen people participated in four focus groups: 1) four managers from the private health care sector; 2) three managers from the public health care sector; 3) three representatives from professional associations and regulatory bodies; and 4) six representatives from professional education programs. Table 4 presents the focus group participants' characteristics.

Table 4: Focus group participant characteristics

FOCUS GROUP	Total number of participants	Physical Therapy	Occupational Therapy	Speech-Language Pathology
Professional education programs	6	3	2	1
Professional associations and regulatory bodies	3	1	1	1
Private sector managers	4	2	1*	1
Public sector managers	3	1*	1	1
Total	16	7	5	4

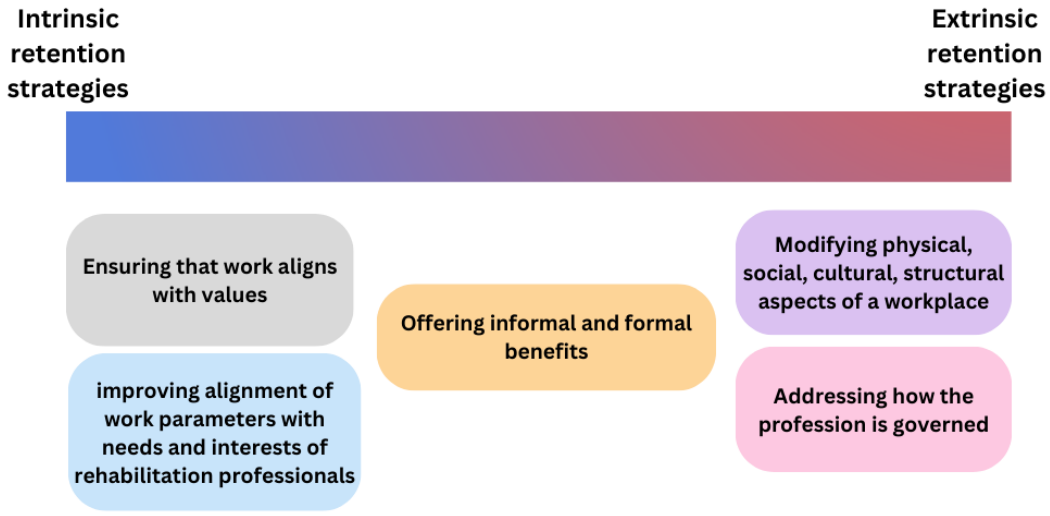
*represents other professionals as well

Qualitative analysis

Figure 2 presents five sets of retention strategies discussed by interview and focus group participants. They represent a spectrum of intrinsic to extrinsic retention strategies. We defined intrinsic retention strategies as those which respond to a rehabilitation professional's needs and desires, while extrinsic ones target the environments/systems which a rehabilitation professional may be part of.

Figure 2

Spectrum of retention strategies



Below, we describe two sets of intrinsic strategies, *ensuring that work aligns with values* and *improving alignment of work parameters with needs and interests of rehabilitation professionals*, and two extrinsic strategies, *modifying physical, social, cultural and structural aspects of a workplace* and *targeting how the profession is governed*. We then discuss a final set

of strategies, *offering informal and formal benefits,* that are at the intersection of intrinsic and extrinsic retention strategies.

Verbatim excerpts in French have been translated into English.

Intrinsic retention strategies

Ensuring that work aligns with values. This strategy underscores the importance of ensuring that the attributes of a rehabilitation professional's work match their values. For example, a S-LP with over 15 years of hospital-based experience described how she values professional growth. Thus, having occasional challenges in her work stimulates her to acquire new knowledge, and to fulfill this value: *"every now and then you have a case that just surprises you and that makes you go and research things, and... allows you to... continue to grow." [Retention, S-LP6]*

Participants in the professional associations and regulatory bodies focus group added how they value growth in the profession. They described that clinical challenges help clinicians to innovate, explore new clienteles and practice areas, seek new knowledge and ultimately, use their skills to their fullest. Therefore, these clinician-driven initiatives contribute to advancing their professions.

Having an impact on one's team and on clients was valued by half of interview participants and discussed in all focus groups. However, participants in the professional education programs focus group reported that a rehabilitation professional's perceived impact of their work is validated when their clients and their employer recognize and appreciate their work [U2]. For instance, an OT with less than 10 years of experience in private practice identified career advancement opportunities as one way to provide this recognition:

We hear stories of people who have been in companies for a long time and then ask for advancements, ask to be recognized for certain extra tasks they do and then they never have this recognition. Well, it should come as no surprise that at some point these professionals leave because this is basic. [Retention, OT3]

To reinforce their professional identity, participants valued regular interaction with their profession-specific community. This was raised by eight interview participants (mostly OTs), and by the professional education program focus group. A participant with over 30 years of experience who worked in long term care described:

I had a bit of an identity crisis because I guess I felt like I was living in the shadow of the physios. […] Once I was in rehab and I was working in a huge OT department with a lot of really strong OTs that knew who they were, ahh, I felt so strong as a member of the interdisciplinary team more so than I had felt at the [NAME]. [Retention, OT4]

Overall, participants discussed the importance of having opportunities to grow professionally, to connect with others from their profession, and to receive validation for the impact of their work. Identifying what a rehabilitation professional values and ensuring alignment between those values and what the work offers may foster more positive work experiences.

Improving alignment of work parameters with needs and interests of rehabilitation professionals. This set of intrinsic retention strategies focused on practical and structural features of the work and how they align with the needs and interests of rehabilitation professionals. Elements included: 1) the intensity (e.g., urgency of one's role) and amount of work (number of clients); 2) diversity of work tasks and responsibilities; and 3) availability of resources. These aspects were deemed essential by interview participants for managing their well-being and their personal and work responsibilities. Though half of the focus groups also discussed these particular work characteristics, there was greater emphasis on the diversity of work tasks.

The importance of such alignment is highlighted by this PT (licensed for 15 years, private sector). She identified a selected number of patients per hour to characterize a high workload (e.g., 15 patients): "*Yes, the ratio [of three patients in an hour], and whether you want it or not, the higher the ratio, the more your quality of treatment decreases. So, that's what I find very demanding about our job." [Retention, PT2]* The participant used a ratio to illustrate that the expected number of patients seen per hour was unmanageable for her and compromised the quality of care when she worked in the public sector.

Thus, the focus of this intrinsic retention strategy is to ensure that work characteristics align with a rehabilitation professional's abilities and that the work characteristics (e.g., workload) remain manageable so that they do not negatively impact quality of patient care.

Extrinsic retention strategies

Modifying physical, social, cultural, and structural aspects of a workplace. Focus group participants (managers from private and public health sectors) discussed how retention

strategies should target the attributes of a workplace. Private sector managers discussed organization size as an important consideration insofar as the nature and type of supports offered to their staff are concerned: *"I think [it] makes a huge difference because we can take that time, you know. And we're not so huge yet." [Managers – private sector, PRIM3]*

In contrast, managers in the public sector identified the management structure and institutional culture as critical for fostering retention. One participant described how as a rehabilitation professional herself, she understands other professionals' daily realities but struggles to support other groups of professionals whose realities are different from her own (e.g., social workers):

> *I think one of the key points would be having a structure of management of people who understand them, can help them, and support them in the right way. […] I'm doing a pretty good job with my OTs and my PTs, but everybody else, I know that I just can't support them the right way. [Managers – public sector, PUM2]*

Nearly all interview participants reported that a supportive work environment was key to retention. In particular, participants emphasized access to mentorship and communities of practice in order to develop new knowledge and skills in an unfamiliar clinical environment (e.g., new graduates) and to maintain one's abilities to practice in an existing one. A PT with 15 years of experience gave the following example:

We just hired a new grad […] he just needs a lot of nurturing at the beginning so he feels comfortable in this environment and so he can pull out his ortho knowledge too, because the last placements he was working at, he was in a pediatric setting and a geriatric setting […] I want him to feel comfortable basically and not worry about his expertise. That, we will just work on those and grow those. [Retention, PT7]

A third of interview participants described a need for managers to reduce rather than contribute to barriers to their practice. Examples of barriers included delays in obtaining equipment or a change in physical space. A PT with over 15 years of experience in private practice explained how a change in physical location added challenges to collaborating with referring physicians:

He [manager] has moved us from one location to another within the same building and without really understanding how that can either impact our practice, how that can impact the patient care […] it can decrease our interactions with the doctors, which is important. [Retention, PT1]

Interview and focus group participants emphasized how the elements of a workplace can shape a rehabilitation professional's experience of work, both positively and negatively. In turn, the nature of such experiences can influence their desire to stay in or leave their profession.

Addressing how the profession is governed. This set of extrinsic retention strategies target the organizations and laws that govern the practice of the profession. This was mainly discussed among professional associations and regulatory body participants. They underscored how salaries of rehabilitation professionals need to be better calibrated with the level of scolarity required for entry to practice. For example, one participant expressed that some PTs are paid as if they have an undergraduate professional degree, rather than a master's degree [Professional associations and regulatory bodies, POA1]. Expanding roles and responsibilities of rehabilitation professionals was also identified as an important strategy to optimize a profession's field of expertise and to offer career advancement and professional growth opportunities (Nelson et al., 2014).

> *It is to seek out our entire field of expertise as much as possible. It may be pursuing advanced practice. Lately, we've obtained the right to prescribe x-rays; it's been 2 years. Maybe it will encourage people to stay in their profession. [Professional associations and regulatory bodies, POA1]*

Participants in this focus group also drew attention to the need for professional regulatory bodies to provide direct, clear, and concise communication to their members, and to offer opportunities for their members to connect with one another [Professional associations and regulatory bodies POA2].

Contrary to professional association and regulatory body participants, interview participants identified different priorities related to governance. Approximately half of the

interview participants viewed the public's lack of awareness of their profession as a key priority; increasing public awareness of their added value could, in their view, improve retention. Participants also voiced a need for greater involvement from professional education programs in partnership with professional associations and regulatory bodies, to address this lack of awareness. For example, an OT working in pediatrics for 20 years spoke about the need to advocate to the government for greater involvement of OTs in schools for early child development [Retention, OT8].

The creation of assistant positions for the rehabilitation professions (e.g., OT assistant) was raised by participants during interviews and one focus group (managers – public sector). A few participants discussed how daily clinical work can be repetitive and filled with mundane tasks that do not require a high level of expertise. A participant expressed that:

> *[…], from a very pragmatic level, and very down to earth would be getting OT assistants, so that we can separate... [tasks] that we were trained to do the things that could be done by others. (long pause) So... to me that would target more the skills of the OTs and probably challenge them more and... increase motivation, in the workplace. [Retention, OT25]*

This view was also shared by public sector managers [Managers – public sector, PUM2]. The inclusion of assistants was viewed as a viable strategy to support retention and to lessen the impact of the human resource shortages in the rehabilitation professions.

Strategies that encompass intrinsic and extrinsic approaches

Offering Informal and formal benefits. Most interview and focus group participants identified several formal and informal benefits offered by health care institutions that support

professional retention. Formal benefits are offered publicly by employers, such as social benefits and funding for professional development. In contrast, informal benefits are negotiated privately between a rehabilitation professional and their manager. Formal and informal benefits simultaneously target two levels of a system: 1) individual, such as a rehabilitation professional's needs (intrinsic); and 2) broader, systemic levels, such as a health care institution or network (extrinsic).

Participants provided examples of informal benefits including access to mentorship, flexibility in one's schedule, and other professional growth opportunities (e.g., involvement in special projects). A PT with 15 years of experience explained how a trusting relationship with her manager creates an implicit understanding that she will make up time if she has to leave early (informal benefit):

> *But also in terms of flexibility, say I need to go to the dentist at 4 o'clock, I can leave work at 3:30 and I don't even have to tell my boss. I just do it and make up the hours another day. And that's because they trust me. [Retention, PT3]*

The professional-manager relationship was also discussed in the private sector managers' focus group. A PT clinic owner talked about how knowing her employees' goals helped her to support their career growth: *"It's being aware of each person's career development plan. It goes hand-in-hand with the close relationship between managers and professionals. […] We can better accompany them by having a closer relationship and following through with this person's plan." [Managers – private sector, PRIM4]*

In summary, participants described how informal and formal benefits contributed to retention. A close and trusting professional-manager relationship was critical to accessing informal benefits.

Discussion

This paper presented the perspectives of 51 rehabilitation professionals and 16 representatives from four stakeholder groups, namely managers, professional education programs, professional associations and regulatory bodies, about potential retention strategies. We used CHAT to reflect on health care and educational systems and their relationships with other systems (e.g., professional regulation). Thus, our use of CHAT helped to identify different sets of retention strategies and their targeted level of intervention.

There were five sets of retention strategies targeting rehabilitation professionals' needs and desires, and the environments and systems that rehabilitation professionals engage with. However, when reflecting on CHAT, it became evident that all strategies involve to varying degrees, rehabilitation professionals' managers and institutions (*community*), and more broadly, the health care, educational and professional systems (*activity system*). The involvement of these parties reflects the levels of intervention described in the retention literature (individual/leader, group and organizational) (Fox et al., 2022). Below, we draw on the literature pertaining to individual-level retention strategies to explore their relevance to our study findings.

Individual-level retention strategies are aimed at making changes at the level of the professional or leader, such as a manager learning new ways to organize their team (Fox et al., 2022). In our study, many interview and focus group participants underscored how a close and

trusting professional-manager relationship supports retention (Mak et al., 2023b). An overemphasis on individual/leader-focused interventions may, however, be problematic in cases where a manager has limited decision-making power due to broader organizational or systemic factors (Elliott et al., 2016). This dynamic is especially evident in the public health sector where managers may be constrained in their ability to nurture such relationships given prevailing institutional cultures that prioritize institutional needs over the needs of health workers. Regulatory bodies' decisions about assistants can broaden or restrict the pool of human resources available for managers to hire. Therefore, these examples demonstrate a need for retention strategies targeting the systemic barriers that substantially undermine managers' and rehabilitation professionals' desire for change in the health care system (Kroezen et al., 2015).

A limited sense of professional agency was also evident in the interviews with rehabilitation professionals, many of whom felt far removed from decisions about retention strategies. The impact of systemic factors on professionals' sense of agency has been discussed in the literature (Thomas et al., 2023). A recent scoping review by Thomas et al. (2023) on the influence of contextual characteristics on professional competencies, identified six factors including leadership and agency. Agency contained six dimensions which potentially influence a health professional's practice: 1) opportunity for autonomy about work/clinical decisions; 2) opportunity for autonomy about scope of practice; 3) opportunity for empowerment; 4) control of work duties; 5) control of time; and 6) participation in decision-making (Thomas et al., 2023). Though dimensions of agency resonate with our participants' desires to seek alignment between their priorities and their work characteristics, there are few opportunities to participate in decision-making regarding their work needs. One may ask why this is so, and how

this may change. Denis et al. (2021) argued that multiple health system reforms and budget cutbacks have hindered the integration of participatory and inclusive decision-making practices in Quebec's health care system. The authors also added that it is time for these practices to be implemented to adequately address workforce shortages (Denis et al., 2021). Thus, a first step can be at an institutional level, where institutions create opportunities whereby managers and administrators seek feedback from rehabilitation professionals on resources and programs for their work (Saks, 2022).

Opportunities for dialogue between clinicians and managers have been suggested to foster work engagement among nurses and help them feel that their perspectives matter (Holland et al., 2017). However, a plausible obstacle to such opportunities is the limited participation of rehabilitation professionals, in part due to their limited agency (Walton, 2020). In Mak et al. (2023b), a participant shared her frustrations about the passivity among some OTs. Therefore, before involving rehabilitation professionals at broader levels of decision-making, managers and administrators need to identify the conditions (e.g., liberation of clinical duties) to enable rehabilitation professionals to rediscover their sense of agency. In turn, having optimal conditions for engagement in activities outside of clinical work may be key to fostering active participation from rehabilitation professionals.

Work redesign is an example of an organizational intervention which aims to change systemic practices and policies by influencing the work environment. This approach can challenge structural aspects of workplaces by reorganizing work tasks and changing work conditions and environments to support rehabilitation professionals' well-being (Fox et al., 2022). Organizational interventions have been shown to be more effective than individual or

group ones (Teoh et al., 2023). In our study, organizational interventions were reflected in this set of extrinsic strategies, *modifying structural aspects of workplaces,* and aligned with the structure of CHAT. From this perspective, adapting an activity system to influence its components (i.e., subjects) is likely more effective to influence the activity system rather than changing one of its components. Implementing flex work, self-scheduling, and Lean management practices (optimizing value for patients) would be concrete ways for institutional or systemic changes, instead of making changes at the level of the professional (Fox et al., 2022). However, changing an institutional culture is a difficult undertaking and could be facilitated with governmental and/or institutional buy-in over an extended period of time (Kroezen et al., 2015). Given the positive outcomes derived from organizational interventions (e.g., increased job satisfaction, improvement in attrition) (Linzer et al., 2015), they may be a worthwhile avenue to explore to address professional attrition in the rehabilitation professions.

Interview participants emphasized the need to address public awareness of their profession, through partnerships across different systems. However, intersectoral partnerships that extend across health care (clinical sites), education (professional education programs), and the professional system (professional associations and regulatory bodies) can be challenging to operationalize, requiring authentic collaborative decision-making processes, shared goals and mutual understanding from all (Anaf et al., 2014; Lown et al., 2019). Using CHAT in this instance can be key to identifying commonalities between systems as a way to move towards a concerted effort: a close examination of how the rules of a system impact positively on their partnerships could be a possible starting point. CHAT can also highlight how the systems themselves pose challenges to intersectoral collaboration; organizational culture and rigidities,

contested planning priorities, and professional attitudes are some of the many barriers to the successful implementation of intersectoral partnerships (Anaf et al., 2014). However, the actors of these systems need to learn about each other's realities and be willing to compromise their own priorities if they hope to improve current health workforce shortages (Kim et al., 2023), otherwise, these actors will continue to work in silos and perpetuate retention issues in the rehabilitation workforce.

There were notable differences in the retention strategies reported by focus group participants, in terms of their priorities, and the level of interventions (individual versus systemic). Participants from the professional education programs described systemic interventions to improve fieldwork opportunities to optimize graduates' preparedness for entry to practice (educational system), while managers directed their efforts to individualized supports and resources for clinical practice. Reflecting on these differences using the structure of CHAT draws attention to how professional education programs and managers are situated differently within their own system. A professional education program can be viewed as an activity system, as compared to managers who are situated within the community of a different system (i.e., health care). Therefore, it makes sense that being a component within a system versus a system itself entails different levels of intervention. An intervention aimed at changing a component of a system will need to consider how other components of that system may be affected by that intervention and vice versa. On the other hand, an intervention that targets changing a system will likely bring change to all components of that system, creating a greater impact.

Drawing from CHAT, we noted that participants from the professional associations and regulatory bodies focus group identified systemic interventions aimed at multiple systems (health care and professional systems). Examples of such interventions were aligning salaries to the educational degree obtained by rehabilitation professionals and expanding roles of rehabilitation professionals; both of which were identified as contributors to retention in our scoping review (Mak et al., 2023b). This finding underscores the substantial impact that multi-systemic interventions can have on professional retention, in contrast to interventions focused on a single system or an individual (Teoh et al., 2023).

Participants from the private sector focus group appeared confident about their capacity to address their employees' needs. In fact, these participants described ways they supported their employees (e.g., one-on-one involvement with rehabilitation professionals). These findings point to differences in management structures in private and public health sectors, where managers' decision-making power in the public sector is more limited by systemic influences, a point raised earlier in the discussion. It may also reflect these participants' limited time to interact with their employees in the public sector. However, we also acknowledge that private sector managers are influenced by their clinic's profitability (Hudon, Feldman and Hunt, 2019) and thus, are driven to support employee retention so that clients can be seen. Nonetheless, these findings are important contextual differences as they have implications for the design of retention strategies (Mak et al., 2023b), but also for the possible movement of rehabilitation professionals from the public system to the private sector. This migration across health sectors has already been observed in physicians due to financial incentives and better working conditions (El Koussa et al., 2016). To improve the workforce capacity of the public health care

system, better incentives will be needed to foster the professional retention of rehabilitation professionals.

Strengths and limitations

This study had three main strengths. Using CHAT as the theoretical basis of our study helped to guide study decisions and data analysis for the interviews and focus groups. However, to remain consistent with ID and provide novel insights on the topic of attrition and retention, we also moved our data analysis beyond CHAT. A second strength was that the interview and focus group participants were recruited from various sectors (private and public health sectors, professional associations and regulatory bodies, educational sector), which diversified the participants in our study. Finally, we also recruited participants from all three professions which ensured that profession-specific perspectives were present.

We had aimed for 4-6 participants for each focus group, but two of our focus groups (professional associations and regulatory bodies, and public sector managers) had fewer than our targeted group size (three participants). Focus group participants were difficult to recruit due to the high workload associated with the COVID-19 pandemic. Therefore, the smaller group size may have led to less productive discussions and did not allow us to achieve purposeful sampling. For the interviews, we also had difficulty recruiting rehabilitation professionals who left their profession (n = 14) compared to the retention group (n = 37), as they were difficult to locate. For both interviews and focus groups, we used multiple strategies to advertise our study, including email, social media platforms, and word-of-mouth (snowball sampling), however, despite our efforts, participant enrolment was limited. The lower number of participants in the

attrition group (interviews) and the focus groups may limit our ability to make comparisons and conclusions due to the imbalances within the sampling.

Conclusion

Attrition and retention are key factors for a health care system's capacity to offer services to a population. We have presented key retention strategies, which range from individual-focused to organizational/systemic interventions, obtained from interviews with 51 rehabilitation professionals and focus groups with 16 members of four stakeholders. We have also highlighted how multi-systemic interventions may exert a stronger influence than those directed at one system or an individual. We hope that these findings will help to orient stakeholders in developing targeted retention strategies for rehabilitation professionals. Directing efforts towards interventions to reduce attrition and support retention will be key to ensuring that health care systems have the workforce capacity to respond to current and future rehabilitation needs.

References

Anaf, J., Baum, F., Freeman, T., Labonte, R., Javanparast, S., Jolley, G., Lawless, A., & Bentley, M. (2014). Factors shaping intersectoral action in primary health care services. *Australian and New Zealand Journal of Public Health*, *38*(6), 553-559. https://doi.org/https://doi.org/10.1111/1753-6405.12284

Association of Canadian Occupational Therapy Regulatory Organizations. (2023). *Substantial Equivalency Assessment System*. Retrieved March 22, 2023 from https://acotro-acore.org/seas/

Australian Physiotherapy Association. (2013). *InPractice 2025: Final Report*. A. P. Association. https://australian.physio/sites/default/files/tools/InPractice_2025.pdf

Bailey, D. M. (1990). Reasons for Attrition From Occupational Therapy. *The American Journal of Occupational Therapy*, *44*(1), 23-29. https://doi.org/10.5014/ajot.44.1.23

Canadian Alliance of Physiotherapy Regulators. (2019). *Licensure*. Retrieved March 22, 2023 from https://alliancept.org/licensure/

Casey, S. (2023). *Addressing Canada's Health Workforce Crisis: Report of the Standing Committee on Health*. https://www.ourcommons.ca/Content/Committee/441/HESA/Reports/RP12260300/hesarp10/hesarp10-e.pdf

Denis, J. L., Côté, N., Fleury, C., Currie, G., & Spyridonidis, D. (2021). Global health and innovation: A panoramic view on health human resources in the COVID-19 pandemic context. *The International Journal of Health Planning and Management*, *36*(S1), 58-70. https://doi.org/https://doi.org/10.1002/hpm.3129

El Koussa, M., Atun, R., Bowser, D., & Kruk, M. E. (2016). Factors influencing physicians' choice of workplace: systematic review of drivers of attrition and policy interventions to address them. *Journal of global health*, *6*(2), 020403. https://doi.org/10.7189/jogh.06.020403

Elliott, N., Begley, C., Sheaf, G., & Higgins, A. (2016). Barriers and enablers to advanced practitioners' ability to enact their leadership role: A scoping review. *International Journal of Nursing Studies*, *60*, 24-45. https://doi.org/https://doi.org/10.1016/j.ijnurstu.2016.03.001

Engeström, Y. (2001). Expansive Learning at Work: Toward an activity theoretical reconceptualization. *Journal of Education and Work*, *14*(1), 133-156. https://doi.org/10.1080/13639080020028747

Fox, K. E., Johnson, S. T., Berkman, L. F., Sianoja, M., Soh, Y., Kubzansky, L. D., & Kelly, E. L. (2022). Organisational- and group-level workplace interventions and their effect on multiple domains of worker well-being: A systematic review. *Work & Stress*, *36*(1), 30-59. https://doi.org/10.1080/02678373.2021.1969476

Freda, M. (1992). Retaining Occupational Therapists in Rehabilitation Settings: Influential Factors. *The American Journal of Occupational Therapy*, *46*(3), 240-245. https://doi.org/10.5014/ajot.46.3.240

Gabet, M., Duhoux, A., Ridde, V., Zinszer, K., Gautier, L., & David, P.-M. (2023). How Did an Integrated Health and Social Services Center in the Quebec Province Respond to the COVID-19 Pandemic? A Qualitative Case Study. *Health Systems & Reform*, *9*(2), 2186824. https://doi.org/10.1080/23288604.2023.2186824

Heinen, M. M., van Achterberg, T., Schwendimann, R., Zander, B., Matthews, A., Kózka, M., Ensio, A., Sjetne, I. S., Casbas, T. M., Ball, J., & Schoonhoven, L. (2013). Nurses' intention to leave their profession: A cross sectional observational study in 10 European countries. *International Journal of Nursing Studies 50*(2), 174-184. https://doi.org/10.1016/j.ijnurstu.2012.09.019

Hennink, M., & Kaiser, B. N. (2022). Sample sizes for saturation in qualitative research: A systematic review of empirical tests. *Social science & medicine*, *292*, 114523. https://doi.org/10.1016/j.socscimed.2021.114523

Holland, P., Cooper, B., & Sheehan, C. (2017). Employee Voice, Supervisor Support, and Engagement: The Mediating Role of Trust. *Human Resource Management*, *56*(6), 915-929. https://doi.org/https://doi.org/10.1002/hrm.21809

Huddler, R. L., Jr., & Kimmel, S. (2020). *Qualitative Inquiry of the Root Cause for High US Physical Therapy Attrition Rate: A Phenomenological Study* (Publication Number 28091752) Northcentral University]. Ann Arbor. https://proxy.library.mcgill.ca/login?url=https://www.proquest.com/dissertations-theses/qualitative-inquiry-root-cause-high-us-physical/docview/2457567266/se-2

Hudon, A., Ehrmann Feldman, D., Hunt M. (2019). Tensions Living Out Professional Values for Physical Therapists Treating Injured Workers. *Qualitative Health Research*, *29*(6), 876-888. https://doi.org/10.1177/1049732318803589

Institute of Fiscal Studies and Democracy. (2017). *Past, Present, and Future: Health Care Costs in Quebec*.

https://www.ifsd.ca/web/default/files/Presentations/Reports/Quebec%20EN%2017009.pdf

Itzick, M., & Kagan, M. (2017). Intention to Leave the Profession: Welfare Social Workers Compared to Health Care and Community Social Workers in Israel. *Journal of Social Service Research*, *43*(3), 346-357. https://doi.org/10.1080/01488376.2016.1246402

Kim, S., Rochette, A., Ahmed, S., Archambault, P. S., Auger, C., Battaglini, A., Freeman, A. R., Kehayia, E., Kinsella, E. A., Larney, E., Letts, L., Nugus, P., Raymond, M. H., Salbach, N. M., Sinnige, D., Snider, L., Swaine, B., Tousignant-Laflamme, Y., & Thomas, A. (2023). Creating synergies among education/research, practice, and policy environments to build capacity for the scholar role in occupational therapy and physiotherapy in the Canadian context. *Adv Health Sci Educ Theory Pract*. https://doi.org/10.1007/s10459-023-10298-9

Kroezen, M., Dussault, G., Craveiro, I., Dieleman, M., Jansen, C., Buchan, J., Barriball, L., Rafferty, A. M., Bremner, J., & Sermeus, W. (2015). Recruitment and retention of health professionals across Europe: A literature review and multiple case study research. *Health Policy*, *119*(12), 1517-1528. https://doi.org/https://doi.org/10.1016/j.healthpol.2015.08.003

Larsen, D. P., Nimmon, L., & Varpio, L. (2019). Cultural Historical Activity Theory: The Role of Tools and Tensions in Medical Education. *Academic Medicine*, *94*(8), 1255. https://doi.org/10.1097/acm.0000000000002736

Linzer, M., Poplau, S., Grossman, E., Varkey, A., Yale, S., Williams, E., Hicks, L., Brown, R. L., Wallock, J., Kohnhorst, D., & Barbouche, M. (2015). A Cluster Randomized Trial of

Interventions to Improve Work Conditions and Clinician Burnout in Primary Care: Results from the Healthy Work Place (HWP) Study. *Journal of General Internal Medicine*, *30*(8), 1105-1111. https://doi.org/10.1007/s11606-015-3235-4

Lown, B. A., Shin, A., & Jones, R. N. (2019). Can Organizational Leaders Sustain Compassionate, Patient-Centered Care and Mitigate Burnout? *Journal of Healthcare Management*, *64*(6), 398-412. https://doi.org/10.1097/jhm-d-18-00023

Mak, S., Hunt, M., Riccio, S. S., Razack, S., Root, K., & Thomas, A. . (2023a). Attrition and Retention of Rehabilitation Professionals: A Scoping Review. *J Contin Educ Health Prof*. https://doi.org/10.1097/ceh.0000000000000492

Mak, S., Thomas, A., Razack, S., Root, K., & Hunt, M. . (2023b). Unraveling attrition and retention: a qualitative study with rehabilitation professionals. *WORK: A Journal of Prevention, Assessment & Rehabilitation*, *Under review*.

McLaughlin, E. G., Adamson, B. J., Lincoln, M. A., Pallant, J. F., & Cooper, C. L. (2010). Turnover and intent to leave among speech pathologists. *Australian Health Review*, *34*(2), 227-233. https://doi.org/10.1071/ah08659

Ministère de la Santé et des Services Sociaux. (2014). *Portrait de la main d'oeuvre: secteur de réadaptation*.

Mulcahy, A. J., Jones, S., Strauss, G., & Cooper, I. (2010). The impact of recent physiotherapy graduates in the workforce: a study of Curtin University entry-level physiotherapists 2000-2004. *Australian Health Review*, *34*(2), 252-259. https://doi.org/10.1071/ah08700

Nelson, S., Turnbull, J., Bainbridge, L., Caulfield, T., Hudon, G., Kendel, D., Mowat, D., Nasmith, L., Postl, B., Shamian, J., & Sketris, I. (2014). *Optimisation des champs d'exercice : de nouveaux modèles de soins pour un nouveau système de soins de santé*.

Royal College of Occupational Therapists. (2023). *Occupational therapy under pressure: workforce survey findings 2022-2023*. https://www.rcot.co.uk/sites/default/files/Workforce%20survey%202023%20-%20Demands%20and%20impacts.pdf

Saks, A. M. (2022). Caring human resources management and employee engagement. *Human Resource Management Review*, *32*(3), 100835. https://doi.org/https://doi.org/10.1016/j.hrmr.2021.100835

Speech-Language & Audiology Canada. (2023). *Internationally Educated: Information for internationally educated Speech-Language Pathologists and Audiologists*. Retrieved March 22, 2023 from https://www.sac-oac.ca/membership/internationally-educated/

Statistics Canada. (2023). *Table 17-10-0009-01 Population estimates, quarterly*. https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1710000901

Suri, H. (2011). Purposeful Sampling in Qualitative Research Synthesis. *Qualitative Research Journal*, *11*(2), 63-75. https://doi.org/10.3316/QRJ1102063

Teoh, K., Dhensa-Kahlon, R., Christensen, M., Frost, F., Hatton, E., & Nielsen, K. (2023). *Organisational wellbeing interventions: case studies from the NHS*. https://www.som.org.uk/sites/som.org.uk/files/Organisational_Interventions_to_Support_Staff_Wellbeing_in_the_NHS.pdf

Thomas, A., Rochette, A., George, C., Iqbal, M. Z., Ataman, R., St-Onge, C., Boruff, J., & Renaud, J. S. (2023). Definitions and Conceptualizations of the Practice Context in the Health Professions: A Scoping Review. *J Contin Educ Health Prof*. https://doi.org/10.1097/ceh.0000000000000490

Thompson Burdine, J., Thorne, S., & Sandhu, G. (2021). Interpretive description: A flexible qualitative methodology for medical education research. *Medical Education*, *55*(3), 336-343. https://doi.org/10.1111/medu.14380

Thorne, S. (2016). *Interpretative Description: Qualitative Research for Applied Practice (2nd editiion)*. Routledge.

Walton, D. M. (2020). Physiotherapists' Perspectives on the Threats Facing Their Profession in the Areas of Leadership, Burnout, and Branding: A Pan-Canadian Perspective from the Physio Moves Canada Project, Part 3. *Physiotherapy Canada*, *72*(1), 43-51. https://doi.org/10.3138/ptc-2018-0061

World Health Organization. (2023). *Rehabilitation 2030 Initiative*. Retrieved March 15, 2023 from https://www.who.int/initiatives/rehabilitation-2030#:~:text=The%20Rehabilitation%202030%20initiative%20draws,health%20systems%20to%20provide%20rehabilitation.

CHAPTER 6: DISCUSSION

The overall aim of my dissertation was to investigate the phenomena of attrition and retention in OT, PT and S-LP. From this overall aim, I developed four specific aims which were to: 1) better understand how educational and health care environments influence professionals' decisions to stay in, or leave their profession; 2) investigate the similarities and differences across professions in the reasons for attrition, and the factors that influence professionals' choices; 3) explore rehabilitation stakeholder perspectives (employers, professional associations, regulatory bodies, professional education programs) on attrition and retention; and 4) explore stakeholder-supported strategies that may promote retention for Quebec OTs, PTs and S-LPs.

To address these aims, I conducted three studies consisting of a scoping review (phase 1) and two qualitative inquiries (interviews with rehabilitation professionals (phase 2) and focus groups with rehabilitation stakeholders (phase 3)). In this chapter, I summarize the findings and the implications for rehabilitation in relation to each aim. I then discuss the theoretical and methodological contributions of my doctoral work, and present future avenues for research.

6.1 Summary of findings and implications for rehabilitation

6.1.1 Specific aim 1: To better understand how educational and health care environments influence professionals' decisions to stay in or leave their profession.

I achieved this aim via the findings from the scoping review (phase 1) and the interviews with rehabilitation professionals (phase 2). Below, I present push, pull and stay factors, and how

system factors, as part of push, pull and stay factors, can influence rehabilitation professionals' decision to stay in, or leave their profession.

6.1.1.1 Push, pull and stay factors

From the scoping review, I identified push, pull, and stay factors that contributed to rehabilitation professionals' decisions to stay in, or leave their profession. *Push factors* were defined as negative aspects of work that drove professionals out of their profession (e.g., barriers to practice, conflictual relationships with colleagues). *Pull factors* on the other hand, drew professionals away from their profession (e.g., desire for career change). S*tay factors* helped to keep professionals in their profession (e.g., positive work relationships and environments). Many of the push and stay factors identified from the scoping review, such as barriers to practice, corresponded to aspects of work (e.g., nature of the work) and work environments (e.g., institutional culture); these factors highlight how health care environments play a pivotal role in professional attrition among rehabilitation professionals.

The analysis of the interviews with 51 rehabilitation professionals aligns with many of the scoping review findings. Specifically, participants described how health care environments influenced their work experiences both negatively and positively. They identified barriers to their practice, such as lengthy and inefficient systemic processes, as important push factors. These experiences in health care environments led participants to feel frustrated with their work. Other push factors were focused on features of the way work was organized (such as the

workload of professionals) and the work environments in which they practiced (e.g., working conditions, lack of clinical challenges and continuing education opportunities).

Aspects of participants' immediate (e.g., their program, unit) and broader (e.g., health network, professional regulatory bodies) environments affected the alignment between their values and their work. Characteristics of the nature of their practice (e.g., clientele, role within team) is an example of the immediate environment and a regulatory body's expectations for practice is an example of the broader environment. Collectively, these aspects shaped the impact participants had on clients and teams and influenced the meaning they derived from their work. Other push factors such as negative relationships with colleagues and managers, also led some participants to feel unvalued and frustrated. For several attrition group participants, such negative experiences were recurrent and drove them to withdraw their membership from their regulatory body.

While participants discussed more push factors during the interviews, they also identified stay factors, most of which were associated with health care environments. These included meaningful and beneficial relationships with colleagues, clients and managers, and opportunities for learning and professional growth. For instance, some mentioned opportunities to move into managerial roles, or to participate in teaching or research. Participants also reported work factors (e.g., individual gains, work characteristics) that helped them to manage their daily work. These factors were moderated by their relationships with their managers and institutions. In particular, they noted that when their work was valued and they received

adequate clinical and administrative support, they were able to better cope with challenging aspects of their work, such as their heavy workload; this finding is also reflected in the literature on support for health care workers. [89]

There is ample literature documenting how support for health care professionals facilitates their daily work, [89-92] and yet the evidence on barriers and facilitators to implementing such support is sparse. [89] For example, the results of a recent systematic review on support interventions pointed to health care workers' overwhelmingly positive feedback on the provision of support and their lack of critique. [89] Härkänen et al. hypothesized that this lack of critique stemmed from health care workers' satisfaction with their organization's recognition of their needs for support, even if they may not use the support offered. [89] Unfortunately, these findings do not provide evidence on whether the implemented support actually met health care workers' needs nor do they indicate how the support should be offered. [89] Findings from a 2022 systematic review on health care workers' turnover intentions during the COVID-19 pandemic however, does shed some light on characteristics of organizational support. [90] Poon et al. suggested that to show support for their workers, organizations should empower their workers to adapt to work demands, and encourage managers to be physically on-site with their health care workers. [90] While Poon et al.'s paper focused on a crisis, the authors offer valuable examples of how administrators and managers of an institution can address their workers' needs (i.e., offering of support); [90] it is therefore, a step towards gathering the necessary evidence to further understand forms of support, their effectiveness and how they can best be implemented. However, based on my findings and these reviews, more evidence is needed so that institutions

can make informed decisions about implementing organizational support that better targets rehabilitation professionals' needs.

6.1.1.2 System factors

Findings from both the scoping review and the interviews also pointed to system factors that influenced participants' desires to stay in their profession. The scoping review highlighted economic factors that influenced the availability of job opportunities. [93] Rehabilitation professionals appear to weigh multiple factors when deciding to leave their profession, including whether other job opportunities are available. A downturn in a regional economy could also destabilize an organization and reduce its financial resources, causing it to hire fewer workers. [94] Such circumstances might also lead to workers being required by their employer to work longer hours, leading to less favorable working conditions and possible attrition. In a paper about public agencies in the US, Ali (2018) underscores the importance of considering the relationships between an organization and its organizational and political climates. [95] The author argues that these climates can affect an organization's form and structure and can cause changes in routinization and stability of work, influencing job turnover. [95] While political climates were not highlighted in the scoping review, it is not surprising that they shape public policy, health care funding and structural reform. [96] Therefore, this literature suggests the potential impact of system factors on the timing of rehabilitation professionals' decision-making to move from one job or region to another.

Many interview participants shared negative experiences with the professional regulation system. Participants focused on the feasibility of meeting their professional regulatory body's expectations for patient documentation, describing these as unrealistic. They also questioned the burden of these expectations relative to the minimal potential for harm from their clinical interventions. One participant compared their profession to surgeons, stating that she is expected to write longer reports than surgeons even though her interventions were much lower in risk [Retention, OT3]. This participant's comparison of professional regulation with the level of risk relates to principles of right-touch regulation. [97,98] 'Right-touch regulation' is an approach to professional regulation which aims to identify and understand the problem before solving it. [98] It focuses on interventions based on need which are proportionate to the risks of a situation, and supports the need for transparency, accountability and flexibility in the actions and decisions taken by regulatory bodies. [98] Interview participants expressed concerns with some of the practices of their professional regulatory body including professional inspection and disciplinary inquiries. In a few cases, recurrent negative experiences with the regulatory body led the participant to withdraw their membership. Unfortunately, the finding that some professionals experience negative emotions towards regulatory bodies is neither new nor is it specific to a particular health care profession. In 2020, a review of the literature on health care professional regulation which mainly included nurses, midwives, physicians, social workers and osteopaths, reported that members distrust their regulatory body and perceive it to be unsupportive and punitive. [99] Bullock et al. argue that such negative perceptions result in defensive attitudes in practice (e.g., making decisions perceived to be less risky) due to fear of losing one's license. [99,100] In my research, the fear of losing one's license was common among

participants in both attrition and retention groups. A few attrition group participants who had multiple negative interactions with their regulatory bodies expressed that their fear that resulted was so great, that it prompted them to leave their profession. Thus, the findings from my research support the importance of dialogue between a regulatory body and its members, and underscore the need for regulatory bodies to consult with their members and with employers to create realistic professional expectations that reflect rehabilitation professionals' and employers' realities. [99] Regulatory bodies may argue that consulting with other stakeholders for determining professional expectations is beyond the scope of their mandate. However, I contend that this consultation is crucial to obtaining the necessary buy-in from professionals and will aid in fostering their compliance with professional expectations. [101] Undoubtedly, this dialogue will be difficult to achieve for the reasons I identified in my third manuscript, such as competing priorities and limited understanding across stakeholders of each other's perspectives, and that it will likely require political or governmental buy-in for this dialogue to occur.

Interview participants also highlighted two ways in which professional education programs contributed to decision-making to stay in, or leave their profession. First, nearly all participants described how professional education programs are responsible for preparing graduates for practice. For instance, participants noted knowledge gaps between what is taught in academic settings and what actually occurs in clinical ones. These differences left some participants feeling inadequately prepared for practice when they entered the workforce. Participants believed that professional education programs ought to identify and address these gaps to

improve graduates' readiness to meet the demands of clinical environments. Bridging these gaps, however, is a challenge for professional education programs as they strive to remain current with clinical realities. [102-104] Integration of simulation has become one pedagogical strategy increasingly used within health professional education programs that aims to improve the authenticity of such learning experiences. [105,106] Mannequins, simulated patients and virtual reality are some of the ways in which student learning opportunities can be created to closely resemble clinical realities. Simulation, however, is resource-intensive, requiring physical space, human resources, technical equipment and faculty development, in order to make these learning opportunities possible. [105] Moreover, simulation will not address the system factors that shape professionals' experiences of work. Hence, it is imperative to acknowledge that while these gaps exist, the efforts being made to address them are substantial.

Second, a few interview participants felt that professional education programs should be involved in promoting awareness of their profession and its added value to patient care; however, participants gave few suggestions of how this could be done, other than speaking to high school students (i.e., prospective students) about the profession. Given the critical role that social media plays in communication, networking and real-time collaboration, [107] social media could be a way to increase public awareness of the rehabilitation professions. [108,109] Though there is little discussion in the literature about who should contribute to promoting awareness, it is problematic to assume that professional education programs are solely responsible for increasing the visibility of a profession. Increasing the visibility of a profession is not necessarily part of a professional education program's mandate; rather, their aim is to train individuals so

that they are eligible for licensure. [110-112] In addition, professional education programs have already directed substantial efforts to interprofessional education which seeks to improve students' understanding of different health care professions, including OT, PT and S-LP. [70,71,109,113] These efforts are notably resource-intensive [114] and will require governmental financial resources to continue. Given that each professional association advocates for the profession it serves (e.g., representation to policymakers), in addition to providing support and resources to its members, they are likely better positioned to enhance a profession's visibility. [115] In contrast, professional regulatory bodies, also known as colleges, are responsible for protecting the public by setting practice standards, monitoring the competence of their members and registering members for licensure. [115] Through their specific mandates, professional associations can develop marketing campaigns to increase public awareness if these align with their members' interests. Further, a professional regulatory body can meet its aim of protecting the public if it can facilitate public awareness of the types of professional services available. Therefore, improving public awareness of a profession need not reside solely with professional education programs. Rather, it should be a collective responsibility that includes professional associations and regulatory bodies. This finding of a collective responsibility is emphasized in my third manuscript, supporting the need for intersectoral collaboration to effectively address issues at the level of the profession.

6.1.2 Specific aim 2: To investigate the similarities and differences across professions in the reasons for attrition, and the factors that influence professionals' choices.

To achieve this aim, I conducted a scoping review and interviews from which I identified commonalities across the professions in terms of the characteristics of attrition and retention (e.g., multiple contributing factors, dynamic phenomena), as well as differences in the factors that influence decisions made by members of these professions. I presented the commonalities earlier in this chapter. I will discuss the differences between professions next.

6.1.2.1 Occupational therapy

As described earlier, public awareness of a profession was an important facilitator for retention. For the OT profession specifically, it was paramount. Public awareness as a facilitating factor was not only identified in the first two phases of my research, it was also raised in two of the focus groups (professional associations and regulatory bodies, professional education programs) in the third phase. As I described in all three manuscripts, the limited awareness of OT is a longstanding problem [57] that affects OTs' self-perception as legitimate health care professionals and their ability to clearly articulate what they do and how they contribute to patient care (e.g., impact on patient care, other professionals relying on them for decision-making). However, the OT participants strongly believed in the added value of their profession, and felt that if others better understood their role, they would come to realize the importance and the contributions of OT. However, tensions between the public's limited awareness of OT and the OTs' perceived value of what they do, led to frustration [57] and an increased desire to leave their profession.

6.1.2.2 Physical therapy

Unlike in OT and SLP, PT participants were concerned with their physical abilities as they aged and the impact of these changes on their ability to fulfill their responsibilities. One PT participant shared how she continues to work clinically because her body is still able and she enjoys it; however, she emphasized that she knows of other PTs who have reduced their clinical work because they no longer have the physical capabilities [Retention, PT4]. This concern was reflected in the findings from the scoping review and the interviews, and that I highlighted as an area that warrants further research. Based on survey results from PTs in Australia, McPhail and Waite described the need to develop and evaluate physical activity conditioning interventions tailored for PT roles. [116]

The need to address the impact of aging on PTs' physical abilities is also supported by literature about retaining older workers in an organization. A clear benefit of having older professionals is the mentoring and support they provide to more novice colleagues, enhancing the performance of novice professionals which, in turn, adds to an organization's productivity. [117,118] Yet, while an employer may see the value of retaining older professionals, barriers may exist in sustaining their employment. The results of a scoping review aimed at identifying facilitators and barriers to continued employment of health care workers (50 years and older) in the US, pointed to issues such as limited access to training, age discrimination and a lack of physical and organizational workplace adaptations (e.g., scheduling, workstation, lighting, and task demands). Dickson et al. present changes to work stations, shorter shifts and longer breaks as examples of positive measures to adapt to the needs of workers of 50 years and older. [119]

However, for workers above the age of 70, there is little evidence on best practices to support their continued employment and points to a gap for further investigation. [119] Indeed, in Canada and the United States, there has been a greater number of older adults in the workforce as a result of the large cohort of baby boomers entering their retirement years. [120,121] In addition, older adults may choose to work, or continue to do so out of financial necessity. [121] Given the existing evidence with older health care workers, it is critical that employers identify and address the needs of this subset of the workforce by offering measures, such as targeted continuing education, disability management and restructuring the work environment to meet their needs. [118,119,121] Employers will need to foresee possible future challenges of aging PTs and determine how they can adapt the nature of the work and their work environment to promote these professionals' well-being and employment in later career stages.

6.1.2.3 Speech-Language pathology

Based on the scoping review and interviews, S-LPs working in school settings appeared to face several barriers in their practice. Participants provided numerous examples of barriers such as a lack of space, limited material resources for interventions, and few opportunities to engage with other professionals. They specifically emphasized high caseloads and characterized these as unmanageable, affecting their capacity to provide adequate S-LP services to children in school settings. The challenge in resolving this issue stems in part from how S-LP work is represented by the term 'caseload'. [122] Caseload, a term originally derived from medicine, refers to the clinical role of a health care professional and the number of individuals they see in a set period of time. [123] The definition of caseload is problematic in many instances as it does not encompass

health care professionals' other responsibilities. For instance, like OTs and PTs, S-LPs are expected to carry out indirect/administrative responsibilities, provide consultation to other colleagues, engage in research and, possibly, teach future S-LPs. [122] Thus, a more comprehensive term could be 'workload', which would include all aspects of a S-LP's school-based work. The concept of workload is already reflected in the 3:1 service delivery model proposed by Garfinkel and Seruya, whereby professionals are expected to provide direct intervention to students three weeks out of a month, reserving the fourth week to carry out indirect responsibilities. [122] In a qualitative study with school-based OTs and S-LPs, Garfinkel and Seruya reported that participants described benefits of this model, such as flexible scheduling, opportunities to expand the scope of services and improved job satisfaction. [122] Alternate approaches to service delivery (e.g., 3:1 model) that better reflect the multiple daily work realities of S-LPs offer a promising avenue to retain S-LP services for their students.

I have described differences across OT, PT and S-LP in terms of their experiences of attrition and retention. These differences pertain to the distinctive issues of each profession (e.g., need for physical abilities in PT) and the realities of their members' work experiences and environments. However, due to rehabilitation professionals' unique experiences, it will be critical to attend to individual needs: accommodating a professional's parental responsibilities by modifying their work schedule is an example of this concern. Attention to both individual and profession-specific needs will be necessary when designing tailored strategies to foster retention.

6.1.3 Specific aim 3: To explore stakeholder perspectives (employers, professional associations, regulatory bodies, professional education programs) on attrition and retention.

I conducted focus groups with rehabilitation stakeholders to achieve this aim. Overall, stakeholders shared their priorities from their unique positionalities (e.g., organizational mandates, roles, profession-specific realities). During the respective focus groups, employers described realities within their institutional contexts, professional regulatory bodies and associations addressed governance issues, and professional education programs focused on issues at broader levels and affecting their professions as a whole.

With the goal of fostering retention, employers in private and public sectors were concerned with responding to rehabilitation professionals' needs. They described multiple ways in which they did this, such as providing a flexible schedule, offering learning opportunities in the form of continuing professional development, and providing administrative or clinical support. They also discussed aspects of an organization (e.g., management structure, organizational size) which could influence an employer's capacity to address their professionals' needs. One participant from the private sector described how, as a manager, the small size of her clinic allows her to quickly respond to a need for support (e.g., rescheduling clients to offer support). Interestingly, there is some evidence to suggest that in small organizations (10-25 employees), when compared to larger ones (more than 500 employees), managers are more likely to regularly seek feedback from their employees; an action which conveys their interest in their employees' perspectives. [124] Regular dialogue with managers may help employees feel valued and develop a sense of commitment to their organization. [124,125]

Participants from the public sector managers group described management structure as influencing health care professionals' access to support. One participant expressed that having oversight of professionals from many professions meant that she had little time to learn about the work of each profession, particularly those that she was less familiar with. She explained that as her professional background was in rehabilitation, she could appreciate the realities of other rehabilitation professionals despite profession-specific differences. However, when she was faced with a professional outside of rehabilitation, she was more challenged to understand their realities in order to identify their needs, and the appropriate supports and resources. This finding is reflected in the theory of Sense of Coherence, where comprehensibility, manageability and meaningfulness are tied to a professional's perception of their work. [126] Therefore, a manager's ability to understand a professional's situation and to offer appropriate solutions supports a professional's manageability – that is, their perceived capacity to meet their work demands. [126] The relationship between a manager and a professional's work also helps to elucidate how in CHAT, the connection between a professional (*subject*) and a manager (*community*) can be made more explicit within an activity system. The close connection between a manager's knowledge of a professional's work and their ability to offer support emphasizes the need for opportunities for managers to learn about their professionals' work and to further develop their relationships with their employees. To build such relationships, managers will need to display openness, value their professionals' perspectives and be physically present on a daily basis. [126]

Participants from the professional associations and regulatory bodies focus group prioritized the governance of their professions, focusing on optimizing their respective profession's scope of practice, aligning salaries to educational degree, and improving communication with their members, as ways to promote professional retention. They spoke at length about how some employers do not recognize the Master's degree of some OTs and PTs, and refuse to pay them higher salaries compared to their peers. Participants from the same focus group spoke about the negative perceptions of some professional regulatory bodies and the efforts needed to improve communication with their members to change these perceptions.

Participants from the professional education programs focus group shared concerns for newly licensed practitioners and their limited access to professional resources (e.g., mentorship) to support their transition to the workforce. Indeed, newly licensed practitioners merit particular attention from employers and regulatory bodies: there is evidence to suggest that the transition from student to professional is challenging, [127-130] possibly leading to attrition in early career stages if support is lacking. [131] Access to professional resources like mentorship can help to mitigate such challenges in the early stages of one's career, [128,129] and help novice professionals to grow professionally. [132] While the benefits of mentorship are well-known, [133] [132,134,135] implementation of mentorship programs can be difficult for institutions, in part due to time constraints [136] and limited human resources [132] (e.g., availability of mentors [137]). In addition to mentorship, orientation programs, clinical supervision, continuing education, and peer support groups are some of the other ways that institutions can facilitate newly licensed practitioners' transition to the workforce. [104]

My research findings underscore the need for an intersectoral approach to designing retention strategies so that they better respond to the varied perspectives of rehabilitation professionals, and those of all stakeholders (employers, professional associations, regulatory bodies, professional education programs). The importance of an intersectoral approach has been foregrounded in literature related to health care reforms [51] and scholarly practice in the health professions. [138] Working collaboratively across sectors can, in turn, support buy-in from all stakeholders to facilitate the implementation of such strategies. Multi-system interventions and intersectoral partnerships will be discussed in greater depth in the next section.

6.1.4 Specific aim 4: To explore stakeholder-supported strategies that may promote retention for Quebec OTs, PTs and S-LPs.

This aim was fulfilled through a combined analysis of data from phases 2 and 3. Specifically, I examined the data from the interviews (phase 2) and focus groups (phase 3) together. After coding and categorizing the data separately, I compared the analytic structures that I had developed for these data sets. The categories, which represent patterns and linkages among the codes, provided a basis for interpreting the data in relation to the overarching study purpose while attending to the different data sources across the two phases. It was also at this level of data analysis that I reflected on the constructs of CHAT and used reflective questions suggested by Thorne, as part of ID.[55] Examples of such reflective questions were: "What pieces of the puzzle am I beginning to see? What do they tell me about the puzzle as a whole?" [55] Integrating these reflective questions in my analysis enabled me to take a step back from being immersed in my data, and to see the analysis in the context of the overall aim of the research. [55] I then

examined the data to identify commonalities and differences in order to develop interpretive themes. Once I developed the themes, I created a table where I described the scope of each theme, with the corresponding categories and illustrative participant quotes.

Following these steps, I developed five sets of retention strategies drawing on the perspectives and experiences of rehabilitation professionals and stakeholders: 1) ensuring that work aligns with values; 2) improving alignment of work parameters with needs and interests of rehabilitation professionals; 3) modifying physical, social, cultural, and structural aspects of a workplace; 4) addressing how the profession is governed; and 5) offering informal and formal benefits. Taken together, these retention strategies appear to correspond to all levels of intervention that could be addressed to promote retention, from individual to organizations and systems. [139,140] The strategies addressing the systemic level are more numerous, a finding that aligns with evidence that interventions at this level are more effective than individual-focused ones. [139-142] In the next paragraph, I will discuss system-level retention strategies in greater depth.

System-level (singular or multi-system) retention strategies such as changes in processes and requirements related to documentation practices, while more effective, are challenging to implement. As discussed earlier, political or organizational buy-in (e.g., from governments or senior administrators) is critical for change to truly occur in a system. [139-142] Typically, political or organizational buy-in helps to generate support from those at lower organizational levels, if the governmental or organizational perspective aligns with their workers' interests. [142] However, the

question remains: how is political or organizational buy-in achieved to address retention issues in the rehabilitation professions? The Multiple Streams Framework (MSF) sheds some light on this question. The MSF is an approach for analyzing policymaking, initially developed by John Kingdon in 1984 and updated in 2010. [96] The framework consists of three streams: 1) policy problem, or the identification of a situation as a problem needing resolution; 2) policy solution, or the options available to resolve the problem where the costs and benefits of each option are weighed; and 3) political stream which captures a government's or organization's agenda, influenced by values, ideology, interests and public opinion. [96,143] Applying MSF to attrition and retention requires evidence to highlight the severity of attrition in rehabilitation professionals and its impacts on health care delivery (*policy problem*). The findings from the scoping reviews and interviews help to underscore this policy problem by drawing attention to attrition as a contributor to workforce capacity. Using a robust theoretical framework such as CHAT for the interviews and focus groups helped to pinpoint the specific aspects of the health care system that need attention (e.g., managers' capacity to offer support). Therefore, using a theory-informed approach to empirically investigate attrition and retention helps to provide a comprehensive portrait of the evidence on these phenomena.

To align with MSF's second stream, promising solutions and corresponding benefits need to be identified to determine the feasibility of implementation (*policy solution*). [143] Indeed, findings from my qualitative inquiries with rehabilitation professionals and stakeholder groups generated several foci of retention strategies which can be operationalized into actions to address attrition. Nevertheless, interest from decision-makers is critical to bringing such actions

to fruition; this is the MSF's third stream (*political stream*) where a window of opportunity is needed. [143]

In the context of this research, the general population's demand for adequate staffing of the health care system may drive governments to develop retention strategies. For Quebec, this window of opportunity is now, as the Quebec and Canadian governments are mindful of health care workforce shortages and are examining solutions to remedy this problem. [35,50,51] Possible policy changes could include improved funding for rehabilitation workforce training, in order to support rehabilitation professionals to remain in their profession and to be better equipped to work with their patients. [34] Therefore, using MSF can shed light on the process to achieving political or organizational buy-in, to create policy changes informed by the findings of this research. The development of these policy changes can then be translated into concrete actions which employers, professional regulators and associations, professional education programs can implement to address attrition and retention issues in the rehabilitation professions.

6.2 Theoretical contributions

Across my dissertation research, the structure of CHAT offered a way to conceptualize an activity system, its components, and its relationships. I used the concepts of CHAT to inform the development of my interview and focus group questions. CHAT also provided a starting point from which I gradually added analytical content and gave me a theoretical language to articulate my findings. For instance, CHAT helped to identify components of an activity system that influenced a work experience. It highlighted the impact of systems outside of a system on a

work experience, even from external systems, such as professional regulation, that are further removed from rehabilitation professionals' daily clinical practice. Using CHAT enabled me to conceptualize the impact of such systems on professional attrition, and to illustrate how a retention strategy aimed at level of systems has greater potential for change than an individually focused one.

While CHAT provided some initial scaffolding in my doctoral research, its usefulness within my project was less extensive than I had initially expected. I encountered the limits of CHAT when I analyzed the components of an activity system, their interactions with one another, and how each component contributed to the object of the system. For example, it was difficult to determine the extent of a rehabilitation professional's (subject) contributions to patient care delivery (object) compared to those from other members of a community (e.g., manager and other health care workers). I reflected on whether these contributions were theorized to be equal, or different depending on the activity system. Beyond a definition of each component, there was also little information on how a component influences or mediates another, even though CHAT describes the existence of the mediation between components. [84] For instance, Engeström explored the relationships between an institution's policies (rules) and the roles of different professionals (division of labor) superficially; [80] a more in-depth explanation of whether the mediation between these components is bi-directional, could have been given. Thus, my experiences of working with this theory sheds light on the limits of CHAT for a phenomenon like attrition due to its multi-faceted nature, and underscores that CHAT is better suited for examining system or multi-system issues.

The third generation of CHAT provides a visual representation of a shared object between multiple systems. However, the relationships between systems and the impact of such relationships on the activities of an activity system are not detailed. This lack of detail presented challenges due to the absence of conceptualization underlying the relationships between systems. In this instance, reflexivity was once again vital to my analytical process. I considered my academic experiences of collaborating across systems, such as partnering with clinical sites to create student learning opportunities. I realized that these collaborations afforded clinical sites opportunities to offer feedback which changed aspects of my OT program (curriculum content and delivery). Drawing on my professional experiences working in this domain helped me to better understand how partnerships between systems shape the activities of a system. For example, I have observed that having opportunities for individuals from partnering systems to collaborate and communicate can help partners to better understand each other's perspectives, and can aid in aligning activities of each system towards a shared goal. These insights that I drew from my professional experiences, therefore, helped me to explore the patterns and interconnections in my data in ways that were not captured by CHAT.

As noted above, CHAT had limited explanatory power within my doctoral work, insofar as an examination of multiple systems was concerned. One way that could have expanded CHAT's usability to my work was if I had considered the impact of time on activity systems. [144] The timing of when activity systems are being studied can highlight the political factors of that timeframe that are concurrently influencing health care and professional regulation systems, for

example. Without a theory to explore different systems and their interactions with one another in greater depth, it is difficult to develop actionable conclusions, such as the operationalization of retention strategies. Delving into the retention literature in health care, as well as other fields such as business, allowed me to identify possible retention strategies and how they could be applied to rehabilitation professionals and their realities. Beyond my doctoral work, if CHAT is to be used in multi-system empirical research, expansion of the theory in terms of articulating relationships between systems will be needed to ensure that it fulfills its aim of conceptualizing more than one activity system. To my knowledge, Engeström and Sannino are currently developing a fourth generation of CHAT which acknowledges that activities within a system are occurring in more fluid and less bounded environments, possibly involving stakeholders at local, regional, national and even global levels. [145] Additional changes to expand CHAT's usability in multi-system empirical investigations could include an in-depth analysis of the connections between these environments and an identification of the dimensions of these connections to further interpret the impact of such relationships on activity systems.

6.3 Methodological contributions

The use of ID required developing an organizing logic for the design of the qualitative inquiries. [55] In my work, this organizing logic was informed by my professional orientations as a former OT practitioner and a university teacher in a Canadian OT program, both of which are experiences that are recognized by Thorne, as important to using ID. [55] An example of applying my professional experiences to the organizing logic was how I selected the stakeholders relevant to the research and focus groups as a means to identify stakeholder-informed priorities for

retention. However, creating an organizing logic entailed identifying ways that my research topic and my professional experiences intertwined, and the methods to better understand these interrelationships; this learning process was challenging. My role as a researcher was also critically important for the outcome of my research due to the lack of an outlined process to draw on my professional orientations for the logic of the qualitative inquiries. [146,147] The need to craft a robust design logic can be especially difficult for a novice researcher in qualitative research, such as myself. Thompson Burdine, Thorne and Sandhu reinforce the importance of the researcher as an expert, collecting and analyzing data with a specific focus to optimize the pertinence of the findings for the profession or field under study. [148] In a novice researcher, skills required for data collection and analysis are still rudimentary and need time to develop. Therefore, it can be challenging to develop these skills and the logic of the study at once.

Thorne provides three elements to consider in developing a study's design logic: situating oneself in a discipline, the relationships of the researcher with their ideas, and the theoretical perspectives the researcher aligns with for a study. [55] I found it useful to return to the foundational elements underpinning my research process. [147] Reflecting on the relationships between ontology, epistemology, theoretical perspective, methodology and methods, [149] can help to ensure that a study's organizing logic is coherent. I found this to be true at multiple points in my research journey. During the phases of data collection and data analysis, I reminded myself of the interpretivist paradigm that served as the foundation for ID in my qualitative inquiries. The interpretivist paradigm lies in a subjectivist epistemology where individuals co-construct their understanding of reality based on their interactions with others

and their environment. [150] Being mindful of the paradigm in which ID is situated helped me to reflect on how to ask questions during the interviews without being overly leading, and to consider the meaning behind participants' narratives and the circumstances in which these narratives took place. This underscored the critical role of the researcher and their influence in shaping the findings through their specific interpretive lenses.

The interpretive lenses I used to view the data were based in my profession as an OT, and in my clinical and academic experiences. My attentiveness to my positionality and my understanding of the complex and evolving nature of health care environments enabled me to co-create my findings through my interactions with my participants and through reflections with my thesis committee. This experience highlights how important it is for a researcher who uses ID (especially those using it for the first time) to critically reflect on their positionality and how this will influence their role as a researcher. These actions will help build a robust logic for their empirical investigation.

I used theory (i.e. CHAT) within my ID inquiries in three ways. First, I considered theory in the early stages of data analysis and questioned the alignment of my data with theory, and the ways in which the data and the theory did not align. For instance, I observed that Engestrom's representation of a "shared object" between activity systems does not offer any insights about their relationships. Second, I read about other theoretical frameworks like Bronfenbrenner's Ecological Systems Theory. [151] Learning about this theory helped me to examine the data while reflecting on different levels of an environment (microsystem, mesosystem, exosystem,

macrosystem, chronosystem). Finally, during data analysis, I sought feedback from my thesis committee and peers to uncover other points of alignment between CHAT and my findings. These different actions helped me to use CHAT thoughtfully to inform my own data, without being bound to it.

Thorne describes how a theory can inform the conceptualization of the findings by "illuminating relevant insights". [55,148] However, she cautions against using theory in a way that will develop ideas prematurely and hinder the possibility of the researcher identifying emergent novel conceptualizations. [55,148] For example, she suggests that letting go of theories as the study progresses may be difficult but helpful in identifying other ways to frame the data. [55,152] She also recommends that those who are unable to do this should be explicit about how they used theory to shed light on their findings. [55] This guidance had limited usefulness for me, however, as I struggled to determine how to best analyze my data (e.g., identify new ways of thinking about attrition and retention) and I found it challenging to implement the actions proposed by Thorne to use theory within my inquiry. This is a common critique of ID, that the guidelines to advance the initial analytical framework are too general, and lack sufficient detail to make design decisions. [153] Thompson Burdine, Thorne and Sandhu state that on the contrary, the approach to data analysis in ID offers flexibility and is noted to be a strength because it is highly amenable to diverse empirical inquiries. [148] However, researchers new to ID would benefit from access to more accounts of how researchers engage with theory; additional methodological papers explicitly describing processes for using theory in ID would be an important contribution to the literature.

A professional (or disciplinary) orientation is also critical to applying ID in a qualitative study. Indeed, a researcher without an in-depth understanding of a practice field may struggle to develop findings that will present a logic relatable to others in the same field. [154] On the other hand, a researcher who is highly knowledgeable about a field and deeply immersed in it, may be challenged to find novel ways of interpreting data from their inquiry. In my case, my professional orientation is occupational therapy. As OT, PT and S-LP are all rehabilitation professions, they share commonalities in rehabilitation practices and philosophies. Consequently, my professional orientation in OT helps me to understand some of the perspectives in PT and S-LP. I also have members of my thesis committee who are from those professions which created opportunities for multiple professional orientations (OT, PT, S-LP and medicine). However, Thorne does not discuss how to navigate the possible tensions between these orientations and to ensure that one orientation does not dominate over another. In my studies, I sought to include these different orientations by asking for feedback regularly from my committee members and by ensuring representation from the three professions. These strategies were useful to maintain my accountability to the PT and S-LP professions in the research. As a result, I ensured that there was representation from OT, PT and S-LP in my interviews and focus groups, and that the findings reflected the participant perspectives from all three professions. As interprofessional research advances and gains momentum, further discussion on how to use ID in an interprofessional context will be crucial to fostering diversity and inclusivity in research. [155]

6.4 Strengths and limitations

There were three main strengths to my dissertation research. First, I made my professional orientations in OT and rehabilitation explicit and used this to develop a coherent design logic for my data. This orientation focused my data collection methods and analysis for my qualitative studies so that my research decisions aligned with the evolution of these professions (e.g., previously there had been a combined professional degree for OT and PT, but the professions were later separated), as well as contemporary issues in rehabilitation (e.g., systemic barriers to practice, workforce capacity). As a result, my professional orientation helped to ensure that my findings remained relevant to OT and rehabilitation.

A second strength was using a theory for my qualitative studies. Incorporating CHAT helped to guide my decisions surrounding data analysis, providing a theoretical scaffolding and a basis from which to begin data analysis. However, to remain consistent with ID and provide novel insights to the topic of attrition and retention, I intentionally sought to analyze my data beyond theory by reflecting on my clinical and academic experiences and my professional orientation.

A third strength of my research was the recruitment of interview participants from three rehabilitation professions, and of focus group participants from different sectors (professional education programs, public and private health care managers, professional associations, and regulatory bodies). Having participants from multiple professions and sectors diversified the sample of participants in my research, which optimized the relevance of the study findings for these three rehabilitation professions.

These strengths notwithstanding, there were also limitations; these were mainly related to recruitment and sampling challenges for the interviews and two focus groups, despite using multiple strategies to advertise my studies (e.g., email, social media platforms, and word-of-mouth). First, the attrition group consisted of 14 rehabilitation professionals who had left their profession. This group was smaller than the retention group (n = 37), though I had aimed for parity between the groups. This misalignment resulted from difficulties with identifying and recruiting rehabilitation professionals who had left their professions. Second, despite the overall robust number of participants (n = 51) for the interviews, I recruited fewer PTs (n = 11, 22%) and S-LPs (n = 8; 16%). While the number of participants from PT and S-LP are consistent with the typical construction of an ID inquiry, [156] the smaller number of PTs and S-LPs relative to OTs limited the cross-profession comparisons I could make for the purposes of transferability.

Third, for two of my four focus groups (professional associations and regulatory bodies, and public sector managers), I had fewer (three participants) than the targeted group size (4-6 participants per group). Focus group participants were difficult to recruit due to the high workload associated with the COVID-19 pandemic. It is possible that due to the smaller group size, there were fewer perspectives shared. There were some stakeholder perspectives that we did not capture, including professional associations for OT and S-LP.

6.5 Future avenues for research

I have identified five lines of inquiry warranting further empirical investigations: 1) factors contributing to attrition and retention; 2) interventions related to retention; 3) singular and

multi-systemic influences on health care delivery and attrition and retention; 4) unionization of rehabilitation professionals; and 5) theory and methodology. Further detail on these five lines of inquiry appear in Appendix VI. Below, I provide three examples from these lines of inquiry that require particular attention.

First, more empirical work is needed to investigate the ways in which specific components of health care and professional regulation systems influence rehabilitation professionals' work (Appendix VI, line of inquiry 3). An example of a health care system component that warrants further inquiry is how managers can play an important role in reducing practice barriers and help to mitigate the effects of health care reforms (Chapters 4 and 5). A more in-depth, empirical study of the effects of a system's components on a rehabilitation professional's work could contribute to developing timely strategies to address specific issues and mitigate the potential for professional attrition.

Second, a better understanding of the impact of the limited public awareness of the rehabilitation professions merits further empirical exploration (line of inquiry 2). In Chapters 2 and 5, I discussed how limited public awareness of rehabilitation professions can influence the professional identity of individual rehabilitation professionals and the collective identity of a rehabilitation profession. [56,57,62] Some of this empirical work has already been undertaken in OT and PT. However, for S-LP, this topic remains an area that requires more empirical work in order to develop an understanding of how public awareness influences attrition and retention for this profession. [63,64]

Third, intersectoral relationships are necessary to make multi-system changes to influence the work experiences of rehabilitation professionals. However, organizational or political buy-in is an important driver for effective multi-system change. [142] Investigating the potential impacts of intersectoral relationships for health care may demonstrate potential positive outcomes which will contribute to advancing organizational and political buy-in.

These three lines of inquiry, along with the priority research questions listed in Appendix IV, illustrate a need for more empirical investigation, in order to develop an extensive body of literature to inform decisions on attrition and retention of OTs, PTs and S-LPs.

CHAPTER 7: CONCLUSION

As I reflect on my doctoral journey, I recall the moment that sparked my interest to study this topic. A newly licensed OT who had graduated from our professional education program shared with me their frustrations with their clinical work. They felt disillusioned due to the lack of resources, gaps in the health care continuum, and difficulty accessing support from colleagues and managers. They recounted a story of how they helped a patient who lived at home alone and could not access any help from their local community centre. The patient had reached out to them and they responded to their need, despite the fact that it was outside of their professional scope. While the OT responded to this patient's need, they felt tensions when they stepped outside of their role. They described how this experience, and others like it, made them feel unsure if they would quit the profession and look for another career. Their contemplation of leaving the OT profession after working less than a year triggered my own memories and feelings of frustration and questioning that I experienced during the first few years of my own clinical career. I recalled the tensions I felt, torn between my desire to carry out the interventions I felt were appropriate, and the available resources and time that hindered the feasibility of those interventions. It was at that moment of listening to this OT's experiences, that I realized their challenges were likely related to the institution and health care system in which they practiced, and not the profession itself. This OT's feelings of helplessness, frustration and disillusionment were in response to the tensions they experienced because of the systemic barriers to their practice. That was seven years ago. This OT's experiences are not uncommon. Narratives from other graduates and rehabilitation professionals, including my own, propelled

me to pursue doctoral work on attrition and retention, with the aims to uncover the factors that influence attrition and retention, and to identify interventions to address professional attrition.

During this journey, I have learned a great deal about how to conduct qualitative research. More specifically, I have developed knowledge and experience applying ID to empirical inquiries, and how to use a theoretical framework like CHAT to guide my empirical work. Due to my previous academic experiences based in a post-positivist paradigm, the lessons surrounding qualitative research were challenging. My pursuit of this mode of inquiry demanded a critical reflection upon what I previously deemed to be reality (ontology) and knowledge (epistemology). With coursework and a great deal of guidance from my doctoral supervisors, a shift in ontological and epistemological positioning slowly took place as I adopted a constructivist orientation to my doctoral research. With the use of ID and CHAT, I delved into the concepts of attrition and retention. Through my empirical investigations on these topics, I developed a deeper understanding of these phenomena as a result. Initially, I considered the decision to leave a profession to be a binary one: staying in, or leaving a profession. As I engaged in the empirical investigation of these phenomena, I came to appreciate their complexity. I was surprised to learn about the dynamism between attrition and retention, that rehabilitation professionals may continue to feel tensions regarding their decision even several years later, and that some even consider returning to their profession. I was amazed to discover the many facets that contribute to rehabilitation professionals' decision to stay in, or leave their profession including diverse personal, professional, work and systemic contributing factors, to name a few. At times, I also found aspects of this empirical work to be emotionally troubling, especially when listening

to participants describe the distress they felt following repeatedly difficult interactions in their work environment, or with their regulatory body.

These revelations and experiences underlined for me the importance of developing robust retention strategies. They drove me to question how I could gather data to support such an endeavour. During my questioning, I reflected on CHAT and how it could be used with ID. This led me to integrate CHAT in my data collection methods, specifically in my line of questioning for the focus groups. I developed my questions drawing from CHAT concepts, and then sought feedback from others (e.g., fellow graduate students) to refine them. Once I had conducted one focus group, I drew from that experience to further revise the questions for the subsequent focus groups. As the focus group transcripts became available, I began to reflect on CHAT while examining my data. I identified possible areas of foci to promote retention and the stakeholders who should be involved. These reflections were critical steps in my learning about organizational commitment, retention in other fields (e.g., business) and intersectoral relationships. Through the findings of my research and this literature, I proposed possible ways to influence change to health care systems and potential barriers to these changes.

I hope that the findings of my research will help to draw attention to the impact of attrition and retention on the health care workforce and the health care system's capacity to deliver high quality patient care. More importantly, my desire is that stakeholders will use these findings to inform their own understanding of retention issues, and to design targeted interventions to support the professional retention of rehabilitation professionals. Directing their efforts towards

the multi-level, systemic factors that contribute to attrition and retention will be essential to ensuring the availability of rehabilitation professionals for present and future rehabilitation needs.

Most of all, it is my wish that rehabilitation professionals like the OT I spoke to seven years ago, will feel better supported and grounded in their professions. I hope to hear rehabilitation professionals share the many positive facets of their daily work, that they derive meaning from what they do, and that they are staying in their profession. It is in part through the retention of OT, PT and S-LPs, that these professions will continue to grow and move the field of rehabilitation forward. In turn, this will enhance health care systems' capacity to meet the increasing population needs for rehabilitation services.

REFERENCES

1. World Health Organization. Rehabilitation 2030 Initiative. Accessed March 15, 2023, https://www.who.int/initiatives/rehabilitation-2030#:~:text=The%20Rehabilitation%202030%20initiative%20draws,health%20systems%20to%20provide%20rehabilitation.

2. Cieza A, Causey K, Kamenov K, Hanson SW, Chatterji S, Vos T. Global estimates of the need for rehabilitation based on the Global Burden of Disease study 2019: a systematic analysis for the Global Burden of Disease Study 2019. *The Lancet*. 2020/12/19/ 2020;396(10267):2006-2017. doi:https://doi.org/10.1016/S0140-6736(20)32340-0

3. Statistics Canada. Measuring Disability in Canada. Accessed June 7, 2023, https://www150.statcan.gc.ca/n1/pub/11-627-m/11-627-m2022062-eng.htm

4. Shikako-Thomas K, Shevell M, Schmitz N, et al. Determinants of participation in leisure activities among adolescents with cerebral palsy. *Res Dev Disabil*. Sep 2013;34(9):2621-34. doi:10.1016/j.ridd.2013.05.013

5. Arnaud C, Duffaut C, Fauconnier J, et al. Determinants of participation and quality of life of young adults with cerebral palsy: longitudinal approach and comparison with the general population – SPARCLE 3 study protocol. *BMC Neurology*. 2021/06/30 2021;21(1):254. doi:10.1186/s12883-021-02263-z

6. Xie J, Wu EQ, Zheng Z-J, et al. Impact of Stroke on Health-Related Quality of Life in the Noninstitutionalized Population in the United States. *Stroke*. 2006;37(10):2567-2572. doi:doi:10.1161/01.STR.0000240506.34616.10

7. Goh H-T, Tan M-P, Mazlan M, Abdul-Latif L, Subramaniam P. Social Participation Determines Quality of Life Among Urban-Dwelling Older Adults With Stroke in a Developing Country. *Journal of Geriatric Physical Therapy*. 2019;42(4):E77-E84. doi:10.1519/jpt.0000000000000196

8. Steultjens EM, Dekker J, Bouter LM, Leemrijse CJ, Ende CHvd. Evidence of the efficacy of occupational therapy in different conditions: an overview of systematic reviews. *Clin Rehabil*. 2005;19(3):247-254. doi:10.1191/0269215505cr870oa

9. Lizarondo L, Turnbull C, Kroon T, et al. Allied health: integral to transforming health. *Aust Health Rev*. Apr 2016;40(2):194-204. doi:10.1071/ah15044

10. Stucki G, Bickenbach J, Gutenbrunner C, Melvin J. Rehabilitation: The health strategy of the 21st century. *Journal of Rehabilitation Medicine*. 01/27 2017;50(4):309-316. doi:10.2340/16501977-2200

11. Chippendale TL, Bear-Lehman J. Enabling "Aging in Place" for Urban Dwelling Seniors: An Adaptive or Remedial Approach? *Physical & Occupational Therapy In Geriatrics*. 2010/02/23 2010;28(1):57-62. doi:10.3109/02703180903381078

12. Obembe AO, Eng JJ. Rehabilitation Interventions for Improving Social Participation After Stroke: A Systematic Review and Meta-analysis. *Neurorehabil Neural Repair*. May 2016;30(4):384-92. doi:10.1177/1545968315597072

13. Pollock A, Baer G, Campbell P, et al. Physical rehabilitation approaches for the recovery of function and mobility following stroke. *Cochrane Database Syst Rev*. Apr 22 2014;(4):Cd001920. doi:10.1002/14651858.CD001920.pub3

14. Spruit MA, Singh SJ, Garvey C, et al. An official American Thoracic Society/European Respiratory Society statement: key concepts and advances in pulmonary rehabilitation. *Am J Respir Crit Care Med*. Oct 15 2013;188(8):e13-64. doi:10.1164/rccm.201309-1634ST

15. Martinsen U, Bentzen H, Holter MK, et al. The effect of occupational therapy in patients with chronic obstructive pulmonary disease: A randomized controlled trial. *Scand J Occup Ther*. Mar 2017;24(2):89-97. doi:10.3109/11038128.2016.1158316

16. Starmer HM, Quon H, Simpson M, et al. Speech-language pathology care and short- and long-term outcomes of laryngeal cancer treatment in the elderly. *Laryngoscope*. Dec 2015;125(12):2756-63. doi:10.1002/lary.25454

17. Reedman S, Boyd RN, Sakzewski L. The efficacy of interventions to increase physical activity participation of children with cerebral palsy: a systematic review and meta-analysis. *Developmental Medicine & Child Neurology*. 2017;59(10):1011-1018. doi:https://doi.org/10.1111/dmcn.13413

18. Schwab SM, Dugan S, Riley MA. Reciprocal Influence of Mobility and Speech-Language: Advancing Physical Therapy and Speech Therapy Cotreatment and Collaboration for Adults With Neurological Conditions. *Physical Therapy*. 2021;101(11)doi:10.1093/ptj/pzab196

19. Homer EM. An Interdisciplinary Team Approach to Providing Dysphagia Treatment in the Schools. *Semin Speech Lang*. 2003/10/08 2003;24(03):215-234. doi:10.1055/s-2003-42829

20. Lorang E, Maltman N, Venker C, Eith A, Sterling A. Speech-language pathologists' practices in augmentative and alternative communication during early intervention. *Augment Altern Commun*. Mar 2022;38(1):41-52. doi:10.1080/07434618.2022.2046853

21. Sylvester L, Ogletree BT, Lunnen K. Cotreatment as a Vehicle for Interprofessional Collaborative Practice: Physical Therapists and Speech-Language Pathologists Collaborating in the Care of Children With Severe Disabilities. *Am J Speech Lang Pathol*. May 17 2017;26(2):206-216. doi:10.1044/2017_ajslp-15-0179

22. Wallace SE, Farquharson K, Berdik M, Foote LT, Manspeaker SA, Hankemeier DA. Speech-language pathologists' perspectives of interprofessional collaboration. *Journal of Interprofessional Care*. 2022/11/02 2022;36(6):801-809. doi:10.1080/13561820.2022.2039106

23. Raymond MH, Demers L, Feldman DE. Differences in Waiting List Prioritization Preferences of Occupational Therapists, Elderly People, and Persons With Disabilities: A Discrete Choice Experiment. *Arch Phys Med Rehabil*. Jan 2018;99(1):35-42.e1. doi:10.1016/j.apmr.2017.06.031

24. Deslauriers S, Raymond M-H, Laliberté M, et al. Prioritization of Referrals in Outpatient Physiotherapy Departments in Québec and Implications for Equity in Access. *Canadian Journal of Bioethics / Revue canadienne de bioéthique*. 2018;1(3):49-60. doi:10.7202/1058251ar

25. Passalent LA, Landry MD, Cott CA. Wait Times for Publicly Funded Outpatient and Community Physiotherapy and Occupational Therapy Services: Implications for the Increasing Number of Persons with Chronic Conditions in Ontario, Canada. *Physiotherapy Canada*. 2009;61(1):5-14. doi:10.3138/physio.61.1.5

26. Leclair LL, Zawaly K, Korall AMB, Edwards J, Katz A, Sibley KM. Exploring the delivery of community rehabilitation services for older people in an urban Canadian setting: Perspectives of service providers, managers and health system administrators. *Health Soc Care Community*. 2022;30(5):e2245-e2254. doi:10.1111/hsc.13662

27. Hamilton S, Mills B, McRae S, Thompson S. Evidence to service gap: cardiac rehabilitation and secondary prevention in rural and remote Western Australia. *BMC Health Services Research*. 2018/01/30 2018;18(1):64. doi:10.1186/s12913-018-2873-8

28. Egan M, Restall G. *Promoting Occupational Participation: Collaborative Relationship-Focused Occupational Therapy*. Canadian Association of Occupational Therapists; 2022:347.

29. Royal College of Occupational Therapists. *Occupational therapy under pressure: workforce survey findings 2022-2023*. 2023. https://www.rcot.co.uk/sites/default/files/Workforce%20survey%202023%20-%20Demands%20and%20impacts.pdf

30. Royal College of Speech Language Therapists. Reports recognise shortage of SLTs and inadequate workforce planning. Accessed June 23, 2023, https://www.rcslt.org/news/reports-recognise-shortage-of-slts-and-inadequate-workforce-planning/

31. Landry M, Hack L, Coulson E, et al. Workforce projections 2010-2020: Annual supply and demand forecasting models for physical therapists across the United States. *Phys Ther*. 2016;96(1):71-80. doi:10.2522/ptj.20150010

32. World Health Organization. *The need to scale up rehabilitation*. 2017.

33. World Federation of Occupational Therapists. *WFOT Human Resources Project 2022*. 2022. Accessed January 25, 2023. https://wfot.org/resources/occupational-therapy-human-resources-project-2022-numerical

34. World Health Organization. *Rehabilitation in health systems*. 2017. https://www.who.int/publications/i/item/9789241549974

35. Bourgeault IL. A path to improved health workforce planning, policy and management in Canada: The critical co-ordinating and convening roles for the federal government to play in addressing eight percent of its GDP. *The School of Public Policy Publications* 2021-12-17 2021;14(1)doi:10.11575/sppp.v14i1.74064

36. Canadian Physiotherapy Association. Responding to the Study of Labour Shortages, Working conditions, and the Care Economy. Accessed January 25, 2023, https://physiotherapy.ca/responding-to-the-study-of-labour-shortages-working-conditions-and-the-care-economy/

37. Government of Canada. Canadian Occupational Projection System (COPS): Audiologists and speech-Language Pathologists. https://occupations.esdc.gc.ca/sppc-cops/.4cc.5p.1t.3.4ns.5mm.1ryd.2t.1.3l@-eng.jsp?tid=111

38. McLaughlin EG, Adamson BJ, Lincoln MA, Pallant JF, Cooper CL. Turnover and intent to leave among speech pathologists. *Aust Health Rev*. May 2010;34(2):227-33. doi:10.1071/ah08659

39. Mulcahy AJ, Jones S, Strauss G, Cooper I. The impact of recent physiotherapy graduates in the workforce: a study of Curtin University entry-level physiotherapists 2000-2004. *Aust Health Rev*. May 2010;34(2):252-9. doi:10.1071/ah08700

40. Huddler RL, Jr., Kimmel S. *Qualitative Inquiry of the Root Cause for High US Physical Therapy Attrition Rate: A Phenomenological Study*. Northcentral University; 2020. https://proxy.library.mcgill.ca/login?url=https://www.proquest.com/dissertations-theses/qualitative-inquiry-root-cause-high-us-physical/docview/2457567266/se-2

41. Ministère de la Santé et des Services Sociaux. *Portrait de la main d'oeuvre: secteur de réadaptation*. 2014.

42. Statistics Canada. Table 17-10-0009-01 Population estimates, quarterly. Accessed May 24, 2023,

43. Office des personnes handicapées du Québec. Aperçu statistique des personnes handicapées au Québec. Accessed June 23, 2023, https://www.ophq.gouv.qc.ca/publications/statistiques/personnes-handicapees-au-quebec-en-chiffres/apercu-statistique-des-personnes-handicapees-au-quebec.html#c28364

44. Ministère de la Santé et des Services Sociaux. Health and Social Services System in Brief Accessed June 23, 2023, https://www.msss.gouv.qc.ca/en/reseau/systeme-de-sante-et-de-services-sociaux-en-bref/contexte/

45. Ministère de la Santé et des Services Sociaux. Health and Social Services Institutions. Accessed June 23, 2023, https://www.msss.gouv.qc.ca/en/reseau/etablissements-de-sante-et-de-services-sociaux/

46. Deslauriers S, Raymond M-H, Laliberté M, et al. Access to publicly funded outpatient physiotherapy services in Quebec: waiting lists and management strategies. *Disability and Rehabilitation*. 2017/12/18 2017;39(26):2648-2656. doi:10.1080/09638288.2016.1238967

47. Wankah P, Guillette M, Dumas S, et al. Reorganising health and social care in Québec: a journey towards integrating care through mergers. *London Journal of Primary Care*. 2018/05/04 2018;10(3):48-53. doi:10.1080/17571472.2018.1453957

48. Commission des normes dlé, de la santé et de la sécurité du travail,. Réadaptation de la travailleuse ou du travailleur Accessed October 4, 2023, https://www.cnesst.gouv.qc.ca/fr/prevention-securite/milieu-travail-sain/retour-travail/readaptation-travailleuse-travailleur

49. Labrie Y. Lessons from the Public-Private Partnerships in Surgical Care in Quebec.

50. Casey S. *Addressing Canada's Health Workforce Crisis: Report of the Standing Committee on Health*. 2023. Accessed September 11, 2023. https://www.ourcommons.ca/Content/Committee/441/HESA/Reports/RP12260300/hesarp10/hesarp10-e.pdf

51. Denis JL, Côté N, Fleury C, Currie G, Spyridonidis D. Global health and innovation: A panoramic view on health human resources in the COVID-19 pandemic context. *The International Journal of Health Planning and Management*. 2021;36(S1):58-70. doi:https://doi.org/10.1002/hpm.3129

52. Gabet M, Duhoux A, Ridde V, Zinszer K, Gautier L, David P-M. How Did an Integrated Health and Social Services Center in the Quebec Province Respond to the COVID-19 Pandemic? A Qualitative Case Study. *Health Systems & Reform*. 2023/06/15 2023;9(2):2186824. doi:10.1080/23288604.2023.2186824

53. Kuhlmann E, Denis J-L, Côté N, Lotta G, Neri S. Comparing Health Workforce Policy during a Major Global Health Crisis: A Critical Conceptual Debate and International Empirical Investigation. *International Journal of Environmental Research and Public Health*. 2023;20(6):5035.

54. Mak S, Hunt, M., Riccio, S. S., Razack, S., Root, K., & Thomas, A. Attrition and Retention of Rehabilitation Professionals: A Scoping Review. *J Contin Educ Health Prof*. Mar 7 2023a;doi:10.1097/ceh.0000000000000492

55. Thorne S. *Interpretative Description: Qualitative Research for Applied Practice (2nd editiion)*. Routledge; 2016.

56. Mak S, Hunt, M., Boruff, J., Zaccagnini, M., Thomas, A.,. Exploring professional identity in rehabilitation professions: a scoping review. *Adv Health Sci Educ Theory Pract*. Apr 25 2022;doi:10.1007/s10459-022-10103-z

57. Turner A, Knight J. A debate on the professional identity of occupational therapists. *British Journal of Occupational Therapy*. October 21, 2015 2015;doi:10.1177/0308022615601439

58. Hammond R. *The construction of physiotherapists' identities through collective memory work*. Doctoral dissertation. University of Brighton; 2013.

59. Houtrow A, Murphy N, DISABILITIES COCW, et al. Prescribing Physical, Occupational, and Speech Therapy Services for Children With Disabilities. *Pediatrics*. 2019;143(4)doi:10.1542/peds.2019-0285

60. Wan Yunus F, Ahmad Ridhuwan NF, Romli MH. The Perception of Allied Health Professionals on Occupational Therapy. *Occup Ther Int*. 2022;2022:2588902. doi:10.1155/2022/2588902

61. Rahja M, Laver K. What does the Australian public know about occupational therapy for older people? A population survey. *Australian Occupational Therapy Journal*. 2019;66(4):511-518. doi:https://doi.org/10.1111/1440-1630.12578

62. Walton DM. Physiotherapists' Perspectives on the Threats Facing Their Profession in the Areas of Leadership, Burnout, and Branding: A Pan-Canadian Perspective from the Physio Moves Canada Project, Part 3. *Physiother Can*. Winter 2020;72(1):43-51. doi:10.3138/ptc-2018-0061

63. Janes TL, Zupan B, Signal T. Community awareness of speech pathology: A regional perspective. *Aust J Rural Health*. Feb 2021;29(1):61-70. doi:10.1111/ajr.12680

64. Volkmer A, Spector A, Warren JD, Beeke S. Speech and language therapy for primary progressive aphasia: Referral patterns and barriers to service provision across the UK. *Dementia*. 2020;19(5):1349-1363. doi:10.1177/1471301218797240

65. Smith E, Mackenzie L. How occupational therapists are perceived within inpatient mental health settings: The perceptions of seven Australian nurses. *Australian Occupational Therapy Journal*. 2011;58(4):251-260. doi:https://doi.org/10.1111/j.1440-1630.2011.00944.x

66. Tariah HSA, Abulfeilat K, Khawaldeh A. Health Professionals' Knowledge of Occupational Therapy in Jordan. *Occupational Therapy In Health Care*. 2012/01/01 2012;26(1):74-87. doi:10.3109/07380577.2011.635184

67. Sarsak HI. Arab healthcare professionals' knowledge and perception of occupational therapy. *Bulletin of Faculty of Physical Therapy*. 2022/10/05 2022;27(1):40. doi:10.1186/s43161-022-00098-4

68. Olaoye OA, Emechete AAI, Onigbinde AT, Mbada CE. Awareness and Knowledge of Occupational Therapy among Nigerian Medical and Health Sciences Undergraduates. *Hong Kong Journal of Occupational Therapy*. 2016;27(1):1-6. doi:10.1016/j.hkjot.2016.02.001

69. Wan Yunus F, Ahmad Ridhuwan NF, Romli MH. The Perception of Allied Health Professionals on Occupational Therapy. *Occupational Therapy International*. 2022/03/09 2022;2022:2588902. doi:10.1155/2022/2588902

70. Homeyer S, Hoffmann W, Hingst P, Oppermann RF, Dreier-Wolfgramm A. Effects of interprofessional education for medical and nursing students: enablers, barriers and expectations for optimizing future interprofessional collaboration – a qualitative study. *BMC Nursing*. 2018/04/10 2018;17(1):13. doi:10.1186/s12912-018-0279-x

71. Gilbert JHV. The Status of Interprofessional Education in Canada. *Journal of Allied Health*. 2010;39(3):216-223.

72. Azzam M, Puvirajah A, Girard M-A, Grymonpre RE. Interprofessional education-relevant accreditation standards in Canada: a comparative document analysis. *Human Resources for Health*. 2021/05/13 2021;19(1):66. doi:10.1186/s12960-021-00611-1

73. Monrouxe LV. Identity, identification and medical education: why should we care? *Medical Education*. 2010;44(1):40-49. doi:10.1111/j.1365-2923.2009.03440.x

74. Ashby SE, Ryan S, Gray M, James C. Factors that influence the professional resilience of occupational therapists in mental health practice. *Aust Occup Ther J*. Apr 2013;60(2):110-9. doi:10.1111/1440-1630.12012

75. McCann C, Beddoe L, McCormick K, et al. Resilience in the Health Professions: A Review of Recent Literature. *International Journal of Wellbeing*. 03/07 2013;3:60-81. doi:10.5502/ijw.v3i1.4

76. McAllister M, McKinnon J. The importance of teaching and learning resilience in the health disciplines: a critical review of the literature. *Nurse Educ Today*. May 2009;29(4):371-9. doi:10.1016/j.nedt.2008.10.011

77. Sahrmann SA. The Human Movement System: Our Professional Identity. *Physical Therapy*. 2014;94(7):1034-1042. doi:10.2522/ptj.20130319

78. Vygotsky LS. *Mind in Society*

Development of Higher Psychological Processes. Harvard University Press; 1978.

79. Engeström Y. Activity theory and individual and social transformation. In: Punamäki R-L, Miettinen R, Engeström Y, eds. *Perspectives on Activity Theory*. Cambridge University Press; 1999:19-38. *Learning in Doing: Social, Cognitive and Computational Perspectives*.

80. Engeström Y. Expansive Learning at Work: Toward an activity theoretical reconceptualization. *Journal of Education and Work*. 2001/02/01 2001;14(1):133-156. doi:10.1080/13639080020028747

81. Bakhurst D. Reflections on activity theory. *Educational Review*. 2009/05/01 2009;61(2):197-210. doi:10.1080/00131910902846916

82. Daniels * H. Cultural historical activity theory and professional learning. *International Journal of Disability, Development and Education*. 2004/06/01 2004;51(2):185-200. doi:10.1080/10349120410001687391

83. Vakkayil JD. Activity theory: a useful framework for analysing project-based organizations. *Vikalpa*. 2010;35(3):1-18.

84. Engestrom Y. Activity theory as a framework for analyzing and redesigning work. *Ergonomics*. 2000/07/01 2000;43(7):960-974. doi:10.1080/001401300409143

85. Restall G, Gerlach A, Valavaara K, Phenix A. The Truth and Reconciliation Commission's calls to action. *Can J Occup Ther*. Dec 2016;83(5):264-266. doi:10.1177/0008417416678850

86. Canadian Association of Occupational Therapists. Occupational therapy, truth & reconciliation and Indigenous health,. Accessed August 30, 2023, https://caot.ca/site/adv-news/advocacy/trc-indigenous?nav=sidebar&banner=5

87. ACOTRO, ACOTUP, CAOT. *Competencies for Occupational Therapists in Canada.* . 2021. Accessed August 30, 2023. https://acotro-acore.org/sites/default/files/uploads/ot_competency_document_en_web.pdf

88. Ordre des ergothérapeutes du Québec. *Babillard des dossiers.* Vol. 4. 2023. *Occupation: ergothérapeute*. Accessed September 20, 2023. https://www.oeq.org/DATA/ERGOEXPRESS/126~v~ete-2023.pdf

89. Härkänen M, Pineda AL, Tella S, et al. The impact of emotional support on healthcare workers and students coping with COVID-19, and other SARS-CoV pandemics – a mixed-methods systematic review. *BMC Health Services Research*. 2023/07/13 2023;23(1):751. doi:10.1186/s12913-023-09744-6

90. Poon Y-SR, Lin YP, Griffiths P, Yong KK, Seah B, Liaw SY. A global overview of healthcare workers' turnover intention amid COVID-19 pandemic: a systematic review with future directions. *Human Resources for Health*. 2022/09/24 2022;20(1):70. doi:10.1186/s12960-022-00764-7

91. Lown BA, Shin A, Jones RN. Can Organizational Leaders Sustain Compassionate, Patient-Centered Care and Mitigate Burnout? *Journal of Healthcare Management*. 2019;64(6):398-412. doi:10.1097/jhm-d-18-00023

92. Austen L. Increasing emotional support for healthcare workers can rebalance clinical detachment and empathy. *Br J Gen Pract*. Jul 2016;66(648):376-7. doi:10.3399/bjgp16X685957

93. Anyfantis ID, Biska A. Musculoskeletal Disorders Among Greek Physiotherapists: Traditional and Emerging Risk Factors. *Saf Health Work*. 2018;9(3):314-318. doi:10.1016/j.shaw.2017.09.003

94. Morley G, Ives J, Bradbury-Jones C. Moral Distress and Austerity: An Avoidable Ethical Challenge in Healthcare. *Health Care Analysis*. 2019/09/01 2019;27(3):185-201. doi:10.1007/s10728-019-00376-8

95. Ali SB. Is all turnover intent the same? Exploring future job preference and environmental considerations. *Public Management Review*. 2018/12/02 2018;20(12):1768-1789. doi:10.1080/14719037.2017.1417464

96. Hoefer R. The Multiple Streams Framework: Understanding and Applying the Problems, Policies, and Politics Approach. *Journal of Policy Practice and Research*. 2022/03/01 2022;3(1):1-5. doi:10.1007/s42972-022-00049-2

97. Leslie K, Moore J, Robertson C, et al. Regulating health professional scopes of practice: comparing institutional arrangements and approaches in the US, Canada, Australia and the UK. *Human Resources for Health*. 2021/01/28 2021;19(1):15. doi:10.1186/s12960-020-00550-3

98. Fletcher M IL, Robertson C. . *Right-touch regulation in practice: International perspectives.* 2018. October 26, 2023. https://www.professionalstandards.org.uk/docs/default-source/publications/thought-paper/right-touch-regulation-in-practice---international-perspectives.pdf?sfvrsn=a5b97520_8

99. Bullock A, Browne J, Poletti C, Cserző D, Russ E. A review of research into health and care professional regulation. *Cardiff: Cardiff Univ*. 2020;

100. Wier J. Protecting the Public: An Investigation of Midwives Perceptions of Regulation and the Regulator. *Midwifery*. 2017/09/01/ 2017;52:57-63. doi:https://doi.org/10.1016/j.midw.2017.06.001

101. Fixsen A, Seers H, Polley M, Robins J. Applying critical systems thinking to social prescribing: a relational model of stakeholder "buy-in". *BMC Health Services Research*. 2020/06/24 2020;20(1):580. doi:10.1186/s12913-020-05443-8

102. Judd B, Brentnall J, Scanlan JN, et al. Evaluating allied health students' readiness for placement learning. *BMC Medical Education*. 2023/01/28 2023;23(1):70. doi:10.1186/s12909-023-04005-w

103. Huston CL, Phillips B, Jeffries P, et al. The academic-practice gap: Strategies for an enduring problem. *Nursing Forum*. 2018;53(1):27-34. doi:https://doi.org/10.1111/nuf.12216

104. Opoku EN, Khuabi L-AJ-N, van Niekerk L. Exploring the factors that affect the transition from student to health professional: an Integrative review. *BMC Medical Education*. 2021;21

105. Motola I, Devine LA, Chung HS, Sullivan JE, Issenberg SB. Simulation in healthcare education: A best evidence practical guide. AMEE Guide No. 82. *Medical Teacher*. 2013/10/01 2013;35(10):e1511-e1530. doi:10.3109/0142159X.2013.818632

106. Grant T, Thomas Y, Gossman P, Berragan L. The use of simulation in occupational therapy education: A scoping review. *Australian Occupational Therapy Journal*. 2021;68(4):345-356. doi:https://doi.org/10.1111/1440-1630.12726

107. Giroux CM, Moreau KA. Nursing students' use of social media in their learning: a case study of a Canadian School of Nursing. *BMC Nursing*. 2022/07/22 2022;21(1):195. doi:10.1186/s12912-022-00977-0

108. Darawsheh WB. Awareness and Knowledge about Occupational Therapy in Jordan. *Occup Ther Int*. 2018;2018:2493584. doi:10.1155/2018/2493584

109. Mthembu TG, Nkosi-Mafutha NG, Maunye JT. South African nursing students' awareness and knowledge of the occupational therapy profession. *South African Journal of Occupational Therapy*. 2022;52:45-55.

110. School of Physical and Occupational Therapy. Occupational Therapy program. Accessed October 29, 2023, https://www.mcgill.ca/spot/programs/ot

111. School of Physical and Occupational Therapy. Physical Therapy program. Accessed October 29, 2023, https://www.mcgill.ca/spot/programs/pt

112. School of Communication Sciences and Disorders. MSc(A) in Communication Sciences and Disorders; Non-Thesis; Speech-Language Pathology Accessed October 29, 2023, https://www.mcgill.ca/scsd/programs/slp

113. Al-Eisa ES, Al-Hoqail H, Al-Rushud AS, et al. Awareness, perceptions and beliefs about physiotherapy held by physicians working in Saudi Arabia: a cross-sectional study. *J Phys Ther Sci*. Dec 2016;28(12):3435-3439. doi:10.1589/jpts.28.3435

114. Lawlis TR, Anson J, Greenfield D. Barriers and enablers that influence sustainable interprofessional education: a literature review. *Journal of Interprofessional Care*. 2014/07/01 2014;28(4):305-310. doi:10.3109/13561820.2014.895977

115. Reyes AN, Brown CA. Factors affecting occupational therapists' decision to join their regional professional association:Facteurs influençant la décision des ergothérapeutes de joindre les rangs de leur association professionnelle régionale. *Canadian Journal of Occupational Therapy*. 2018;85(3):222-231. doi:10.1177/0008417418755457

116. McPhail SM, Waite MC. Physical activity and health-related quality of life among physiotherapists: A cross sectional survey in an Australian hospital and health service. *J Occup Med Toxicol*. 2014;9(1)doi:10.1186/1745-6673-9-1

117. Rice B. Older workers and i-deals: building win-win working arrangements. *Human Resource Management International Digest*. 2018;26(1):1-3. doi:10.1108/HRMID-04-2017-0079

118. MacLeod MLP, Zimmer LV, Kosteniuk JG, Penz KL, Stewart NJ. The meaning of nursing practice for nurses who are retired yet continue to work in a rural or remote community. *BMC Nursing*. 2021/11/06 2021;20(1):220. doi:10.1186/s12912-021-00721-0

119. Dickson JJ. Supporting a Generationally Diverse Workforce Considerations for Aging Providers in the US Healthcare System. *Journal of Best Practices in Health Professions Diversity*. 2015;8(2):1071-1086.

120. National Academies of Sciences E, Medicine. Understanding the aging workforce: Defining a research Agenda. 2022;

121. Ouellet-Léveillé B, Milan A. *Insights on Canadian Society: Results from the 2016 Census: Occupations with older workers*. 2019. https://www150.statcan.gc.ca/n1/pub/75-006-x/2019001/article/00011-eng.htm

122. Garfinkel M, Seruya FM. Therapists' perceptions of the 3:1 Service Delivery Model: A workload approach to school-based practice. *Journal of Occupational Therapy, Schools, & Early Intervention*. 2018/07/03 2018;11(3):273-290. doi:10.1080/19411243.2018.1455551

123. Woltmann J, Camron SC. Use of Workload Analysis for Caseload Establishment in the Recruitment and Retention of School-Based Speech-Language Pathologists. *Journal of Disability Policy Studies*. 2009;20(3):178-183. doi:10.1177/1044207309343427

124. Tansel A, Gazîoğlu Ş. Management-employee relations, firm size and job satisfaction. *International Journal of Manpower*. 2014;35(8):1260-1275. doi:10.1108/IJM-09-2014-0179

125. Greenberg J, Baron RA. *Behavior in organizations: Understanding and managing the human side of work*. Pearson College Division; 2003.

126. Schön Persson S, Nilsson Lindström P, Pettersson P, Andersson I, Blomqvist K. Relationships between healthcare employees and managers as a resource for well-being at work. *Society, Health & Vulnerability*. 2018/01/01 2018;9(1):1547035. doi:10.1080/20021518.2018.1547035

127. Hallaran AJ, Edge DS, Almost J, Tregunno D. New Nurses' Perceptions on Transition to Practice: A Thematic Analysis. *Canadian Journal of Nursing Research*. 2023;55(1):126-136. doi:10.1177/08445621221074872

128. Smith RA, Pilling S. Allied health graduate program – supporting the transition from student to professional in an interdisciplinary program. *Journal of Interprofessional Care*. 2007/01/01 2007;21(3):265-276. doi:10.1080/13561820701259116

129. Asseraf-Pasin L. Mentoring practices in physical and occupational therapy: The experiences of Canadian mentors and mentees. Conference Abstract. *Physiotherapy (United Kingdom)*. June 2011;97:eS91-eS92. doi:http://dx.doi.org/10.1016/j.physio.2011.04.002

130. De Vries N, Lavreysen O, Boone A, et al. Retaining Healthcare Workers: A Systematic Review of Strategies for Sustaining Power in the Workplace. *Healthcare*. 2023;11(13):1887.

131. Flinkman M, Isopahkala-Bouret U, Salanterä S. Young registered nurses' intention to leave the profession and professional turnover in early career: a qualitative case study. *ISRN Nurs*. 2013;2013:916061. doi:10.1155/2013/916061

132. Ramani S, Kusurkar RA, Lyon-Maris J, et al. Mentorship in health professions education – an AMEE guide for mentors and mentees: AMEE Guide No. 167. *Medical Teacher*.1-13. doi:10.1080/0142159X.2023.2273217

133. Doyle NW, Gafni Lachter L, Jacobs K. Scoping review of mentoring research in the occupational therapy literature, 2002–2018. *Australian Occupational Therapy Journal*. 2019;66(5):541-551. doi:10.1111/1440-1630.12579

134. Hernandez-Lee J, Pieroway A. Mentorship for early career family physicians: Is there a role for the First Five Years in Family Practice Committee and the CFPC? *Can Fam Physician*. Nov 2018;64(11):861-862.

135. Dickson KS, Glass JE, Barnett ML, Graham AK, Powell BJ, Stadnick NA. Value of peer mentoring for early career professional, research, and personal development: a case study of implementation scientists. *J Clin Transl Sci*. Apr 8 2021;5(1):e112. doi:10.1017/cts.2021.776

136. McLaughlin C. Mentoring: what is it? How do we do it and how do we get more of it? *Health Serv Res*. Jun 2010;45(3):871-84. doi:10.1111/j.1475-6773.2010.01090.x

137. Burgess A, van Diggele C, Mellis C. Mentorship in the health professions: a review. *The Clinical Teacher*. 2018;15(3):197-202. doi:https://doi.org/10.1111/tct.12756

138. Kim S, Rochette, A., Ahmed, S., Archambault, P. S., Auger, C., Battaglini, A., Freeman, A. R., Kehayia, E., Kinsella, E. A., Larney, E., Letts, L., Nugus, P., Raymond, M. H., Salbach, N. M., Sinnige, D., Snider, L., Swaine, B., Tousignant-Laflamme, Y., & Thomas, A. Creating synergies among education/research, practice, and policy environments to build capacity for the scholar role in occupational therapy and physiotherapy in the Canadian context. *Adv Health Sci Educ Theory Pract*. Nov 28 2023;doi:10.1007/s10459-023-10298-9

139. Fox KE, Johnson ST, Berkman LF, et al. Organisational- and group-level workplace interventions and their effect on multiple domains of worker well-being: A systematic review. *Work & Stress*. 2022/01/02 2022;36(1):30-59. doi:10.1080/02678373.2021.1969476

140. Teoh K, Dhensa-Kahlon R, Christensen M, Frost F, Hatton E, Nielsen K. Organisational wellbeing interventions: case studies from the NHS. 2023;

141. Lovejoy M, Kelly EL, Kubzansky LD, Berkman LF. Work Redesign for the 21st Century: Promising Strategies for Enhancing Worker Well-Being. *American Journal of Public Health*. 2021;111(10):1787-1795. doi:10.2105/ajph.2021.306283

142. Kroezen M, Dussault G, Craveiro I, et al. Recruitment and retention of health professionals across Europe: A literature review and multiple case study research. *Health Policy*. 2015/12/01/ 2015;119(12):1517-1528. doi:https://doi.org/10.1016/j.healthpol.2015.08.003

143. Kuhlmann E, Blank RH, Bourgeault IL, Wendt C. *The Palgrave international handbook of healthcare policy and governance*. Springer; 2015.

144. Grimalt-Álvaro C, Ametller J. A Cultural-Historical Activity Theory Approach for the Design of a Qualitative Methodology in Science Educational Research. *International Journal of Qualitative Methods*. 2021;20:16094069211060664. doi:10.1177/16094069211060664

145. Engeström Y, Sannino A. From mediated actions to heterogenous coalitions: four generations of activity-theoretical studies of work and learning. *Mind, Culture, and Activity*. 2021/01/02 2021;28(1):4-23. doi:10.1080/10749039.2020.1806328

146. Ocean M, Montgomery R, Jamison Z, Hicks K, Thorne S. Exploring the Expansive Properties of Interpretive Description: An Invitation to Anti-oppressive Researchers. *International Journal of Qualitative Methods*. 2022;21:16094069221103665. doi:10.1177/16094069221103665

147. Kahlke RM. Generic Qualitative Approaches: Pitfalls and Benefits of Methodological Mixology. *International Journal of Qualitative Methods*. 2014;13(1):37-52. doi:10.1177/160940691401300119

148. Thompson Burdine J, Thorne S, Sandhu G. Interpretive description: A flexible qualitative methodology for medical education research. *Med Educ*. 2021;55(3):336-343. doi:10.1111/medu.14380

149. Crotty MJ. The foundations of social research: Meaning and perspective in the research process. *The foundations of social research*. 1998:1-256.

150. Green J, Thorogood N. *Qualitative methods for health research*. Third edition ed. Introducing qualitative methods. SAGE Los Angeles; 2014.

151. Bone K. The Bioecological Model: Applications in holistic workplace well-being management. *International Journal of Workplace Health Management*. 11/09 2015;8:256-271. doi:10.1108/IJWHM-04-2014-0010

152. Chiu P, Thorne S, Schick-Makaroff K, Cummings GG. Theory utilization in applied qualitative nursing research. *Journal of Advanced Nursing*. 2022;78(12):4034-4041. doi:https://doi.org/10.1111/jan.15456

153. Berterö C. Developing qualitative methods - or "same old wine in a new bottle". *Int J Qual Stud Health Well-being*. 2015;10:27679. doi:10.3402/qhw.v10.27679

154. Pringle-Nelson C. Interpretive Description. In: Okoko JM, Tunison S, Walker KD, eds. *Varieties of Qualitative Research Methods: Selected Contextual Perspectives*. Springer International Publishing; 2023:257-261.

155. Lackie K, Najjar G, El-Awaisi A, et al. Interprofessional education and collaborative practice research during the COVID-19 pandemic: Considerations to advance the field. *Journal of Interprofessional Care*. 2020/09/02 2020;34(5):583-586. doi:10.1080/13561820.2020.1807481

156. Malterud K, Siersma VD, Guassora AD. Sample Size in Qualitative Interview Studies: Guided by Information Power. *Qual Health Res*. Nov 2016;26(13):1753-1760. doi:10.1177/1049732315617444

APPENDICES

Appendix I: Ethics approval certificate for phases 2 and 3 qualitative inquiries

McGill

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CERTIFICATION OF ETHICAL ACCEPTABILITY FOR RESEARCH INVOLVING HUMAN SUBJECTS

The Faculty of Medicine Institutional Review Board (IRB) is a registered University IRB working under the published guidelines of the Tri-Council Policy Statement, in compliance with the Plan d'action ministériel en éthique de la recherche et en intégrité scientifique (MSSS, 1998), and the Food and Drugs Act (17 June 2001); and acts in accordance with the U.S. Code of Federal Regulations that govern research on human subjects. The IRB working procedures are consistent with internationally accepted principles of Good Clinical Practices.

At a full Board meeting on 11 March 2019, the Faculty of Medicine Institutional Review Board, consisting of:

John Breitner, MD	Joséane Chrétien, MJur
Kelly Davison, MD	Patricia Dobkin, PhD
Frank Elgar, PhD	Anathasios Katsarkas, MD
Catherine Lecompte	Kathleen Montpetit, M.Sc.
Roberta Palmour, PhD	Lucille Panet-Raymond, BA

Maida Sewitch, PhD

Examined the research project **A02-E12-19A** titled: *The looking glass on attrition and retention in rehabilitation professionals*

As proposed by: Aliki Thomas/Matthew Hunt (Applicant) to _____ (Granting Agency, if any)

And consider the experimental procedures to be acceptable on ethical grounds for research involving human subjects.

11 March 2019 (Date) — Chair, IRB — Dean/Associate-Dean

Institutional Review Board Assurance Number: FWA 00004545

Appendix II: Example of phase 2 consent form

School of
Physical and Occupational Therapy

Participant Consent Form

Title of the Study: The Looking Glass on Attrition and Retention in Rehabilitation Professionals

Principal Investigator
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Invitation and Purpose of the Study:
We are investigating the reasons why rehabilitation professionals (occupational therapists (OT), physical therapists (PT) and speech-language pathologists (S-LP)) decide to leave or stay in their profession, and the factors that influence their choices. We are inviting rehabilitation professionals (RP) to participate in individual interviews.

To be eligible to participate in our study, you must meet the following criteria:

1. Be a current or past member of *L'Ordre des ergothérapeutes du Québec*, *L'Ordre professionnel de la physiothérapie du Québec* or *L'Ordre des orthophonistes et audiologistes du Québec;*
2. Have worked for a minimum of one year as an OT, PT or S-LP;
3. Have completed your professional degree in OT, PT or S-LP in Canada;
4. Provide written, informed consent for the study (including the audio-recording of the interview).

Study Procedures:
If you wish to participate, you will be asked to read this form and sign at the end of the document. You will be given a copy of this form for your records.

We will select a time and location for the interview that is most convenient for you. If a face-to-face interview is not feasible, the interview can be conducted by Skype, Facetime or Zoom and the consent form can be sent back to us by email. The interview will last approximately 60 minutes and can be conducted in English or French. The interview questions will focus on your experiences and perspectives regarding your decision to stay in/leave your profession. The interview will be audio-recorded so that the contents of the interview can be transcribed and analyzed.

It is possible that I may communicate with you at a later time to clarify certain aspects of your interview. This communication will be brief (15-20 min) and will be conducted over the phone.

Voluntary Participation:
Your participation and the information you provide will be completely voluntary. You may withdraw yourself from this study up until the start of data analysis. If you decide to withdraw from this study, there will be no negative consequences for you and your data will be destroyed unless you provide permission otherwise.

Potential Risks:
It is possible that it may be uncomfortable to speak about certain difficult situations you have encountered as a RP. You do not need to speak about any situation that may make you uncomfortable or upset. You are welcome to take a break during, or leave the session if you wish.

Potential Benefits:
There will be no direct benefit to you by being part of this study. However, we anticipate that the findings of this study will provide information on the reasons for why RPs leave or stay in their professions and the factors that contribute to those decisions. This information may then serve to inform curricular revision and design of RP professional programs, and the development of professional resources and policies to address the needs of RPs who wish to stay in their profession.

Compensation:

Parking will be provided so that you may participate in this study.

Confidentiality:
Your contact information and the name of your employer will be collected. This information will be removed from the data and replaced with a number. Your information (e.g. contact information, consent forms, digital recordings) will be kept in locked cabinets or in a password-encrypted computer in a locked office (the principal investigator's office located at 3654 Promenade Sir-William-Osler (Montreal) for seven years. Only the members of this research team will have access to the de-identified files. The names of participants and institutions will be removed and anonymized using pseudonyms in transcripts. If the results of the study are published, we will remove all information that will identify you and will ask you for your specific consent to the disclosure.

For questions or concerns, please contact:

Principal Investigator
Susanne Mak, PhD candidate, OT(c), erg.
School of Physical and Occupational Therapy
McGill University
Tel: 514-398-2772
Email: Susanne.mak@mcgill.ca

Institutional Review Board:
If you have any questions about your rights as a research participant, please call the McGill University Faculty of Medicine's Institutional Review Board at 514-398-3124.

CONSENT STATEMENT

Participant:

Please sign below if you have read the above information and consent to participate in this study. Agreeing to participate in this study does not waive any of your rights or release the researchers from their responsibilities. A copy of this consent form will be given to you and the researcher will keep a copy.

Participant's Name: (please print) _____

Participant's Signature: _____ Date: _____

Researcher:

I have discussed this study in detail with the participant. I am committed to honor what has been agreed upon in this consent form.

Researcher's Name: (please print) _____

Researcher's Signature: _____ Date: _____

Appendix III: Interview guides for phase 2 inquiry

Interview guide: experiences and perspectives of rehabilitation professionals regarding attrition

Total participant time: 60 minutes

Break: as many as needed

Opening/Pre-interview Briefing

The purpose of this interview is to hear about your experiences and perspectives as an OT, PT or S-LP who has **left** your profession. In particular, we want to focus on how the educational and health care environments you have been part of, have influenced your decision to leave. We also wish to explore any differences and similarities among the three professions in terms of why rehabilitation professionals leave, and the factors that influence their choices.

Any information that you provide today which may identify you or your employer will remain confidential and anonymous. If you would like to look over the consent form, please feel free to do so and I remain available to answer any questions you may have.

General guide for leading the interview

Consent

Conduct the consent form process before beginning the interview.

Introduction

- Welcome the participant and introduce myself
- Explain the general purpose of the interview, why and how the participant was selected
- Explain the presence and purpose of recording equipment

- Outline general ground rules so that participants can end the interview at any time or refuse to answer a question, as indicated on the consent form
- Let participants know that there is no right or wrong answer, that I will take notes and why I am taking notes.
- Discuss privacy and confidentiality of the participant's information in the context of this study
- Inform the participant that the interview information from all participants will be analyzed together and that their names will not be disclosed in the analysis of the transcript
- Gather sociodemographic information:
    1. Where are you currently working?
    2. What is your current position?
    3. Where were you working before?
    4. How long have you been working at this position?

Interview overview (5 min)

This will be a semi-structured interview consisting of open-ended questions. During the interview, I may ask you additional questions to clarify or explore your response. If you choose not to answer a question, please let me know.

I will record this interview to ensure that the responses were captured and transcribed accurately. The information from the transcripts will then be used for data analysis.

With your permission, it is possible that I may wish to contact you at a later time for a brief follow-up conversation. The purpose of this conversation would be to clarify aspects of the interview or to follow up on any missing information. Would that be okay with you?

Do you have any questions before we begin?

Main research questions (45 min)

Brief sociodemographic questions:

- Are you an OT, PT or S-LP?
- How long have you been working in your profession?

Research question	**Probes**
1. To start, please tell me about your current employment.	• Where do you work? • In which field? • What does a typical day look like?
2. Tell me briefly about your past experiences working as an OT, PT or S-LP.	• Where did you work? • What type of clientele did you work with? • How long did you work in this/these position(s)? • What made it hard for you to go to work?

3. What did you love about your work?	• What aspects of your work made you want to stay in the profession? • Were there other factors outside of your job that affected your decision?
4. Tell me about how you came to your decision to leave your profession. Stopped being a member	• How were these work experiences related to your decision? - Institutional processes, rules or policies influence your decision? (health care environment) - Tools, resources, etc…(health care environment) -The actual daily work (responsibilities, tasks)? • How did your employer respond when you shared your desire to leave your profession? • What about your colleagues?
5. How did health care environments influence your decision to leave the profession?	

6. Did university programs in OT/PT/S-LP play a role in you leaving the profession? If so, how?	
7. Other than university programs and health care environments, how did professional regulatory bodies/associations influence your decision to leave?	• Expectations from professional regulatory bodies? E.g. charting, continuing education courses, etc.. • Support for professional practice?
8. What about other experiences (e.g. home) outside your work? How does those factor into your decision to leave your profession?	• How did other interests, commitments or responsibilities contribute to your decision-making? Family/personal life, etc..
9. What could have changed your mind?	• Consider the three groups/environments we spoke about: a. Health care environments b. University programs in OT/PT/S-LP c. Professional regulatory bodies/associations

Debriefing & Closing (5-10 min)

Is there anything else you would like to add to what we have discussed today?

Thank you very much for taking the time today to share your perspectives on attrition and retention with us. If you would like to reconsider your participation in our study, please do not hesitate to communicate with us.

Interview guide: experiences and perspectives of rehabilitation professionals regarding retention

Total participant time: 60 minutes

Break: as many as needed

Opening/Pre-interview Briefing

The purpose of this interview is to hear about your experiences and perspectives as an OT, PT or S-LP who has **stayed in** your profession. In particular, we hope to learn about how the educational and health care environments you have been part of may have influenced your decision to stay. As we analyze all of the interviews we conduct, we will also explore differences and similarities among the three professions in terms of why rehabilitation professionals stay, and the factors that influence their choices.

Any information that you provide today which may identify you or your employer will remain confidential and anonymous.

If you would like to look over the consent form, please feel free to do so; I remain available to answer any questions you may have.

<u>General guide for leading the interview</u>

Consent

Conduct the consent form process before beginning the interview.

Introduction

- Welcome the participant and introduce myself
- Explain the general purpose of the interview, why and how the participant was selected

- Explain the presence and purpose of recording equipment
- Outline general ground rules so that participants can end the interview at any time or refuse to answer a question, as indicated on the consent form
- Let participants know that there is no right or wrong answer, that I will take notes and why I am taking notes.
- Discuss privacy and confidentiality of the participant's information in the context of this study
- Inform the participant that the interview information from all participants will be analyzed together and that their names will not be disclosed in the analysis of the transcript
- Gather sociodemographic information

Interview overview (5 min)

This will be a semi-structured interview consisting of open-ended questions. During the interview, I may ask you additional questions to clarify or explore your response. If you prefer not to answer a question, please let me know.

Any information that you provide today which may identify you or your employer will remain confidential and anonymous.

I will record this interview to ensure that the responses were captured and transcribed accurately. The information from the transcripts will then be used for data analysis.

With your permission, it is possible that I may wish to contact you at a later time for a brief follow-up conversation. The purpose of this conversation would be to clarify aspects of the interview or to follow up on any missing information. Would that be okay with you?

Do you have any questions before we begin?

Main interview questions (45 min)

Brief sociodemographic questions:

- Are you an OT, PT or S-LP?
- How long have you been working in your profession?

Interview question	**Probes**
1. To start, please tell me about a typical day at work.	• What is your role as an OT, PT or S-LP? • Who are the other members of your team? What are their roles? • What is your role on this team? • Describe other individuals that impact your role or work, but who are not part of your team.
2. Briefly describe what it means for you to be an OT, PT, or S-LP.	• What motivates you to go to work every day? • What do you find most satisfying about being an OT/PT/SLP?

	• What makes you not want to go to work? • What other tools, resources, etc..make your job easier? • What tools, etc…do not?
3. What other environments or factors influence your practice?	• Home, university environment? • Other responsibilities or roles outside of your work?
4. Is there a university associated with your clinical site? If so, what are the university's expectations of the clinical site? And vice versa?	• How does the expectations from that relationship affect you and your daily work?
5. What do you love about your work?	• What aspects of your work makes you want to stay in the profession? • Are there other factors outside of your job that affects your decision?
6. What don't you like about your work?	• How does it (the things you don't like about your work) impact affect your decision to stay/leave? • Did you ever consider leaving your profession? If so, what made you change your mind?

7. How could health care environments help retain OTs/PTs/S-LPs?	• What strategies could be used? Role of the OT/PT/S-LP? Support or resources for the job? Work schedule? • Who would be involved? Other members of your team? Managers? Other members of the profession? • What do you foresee as potential obstacles to these retention strategies?
8. Do you think university programs (in OT/PT/SLP) play a role in retaining rehabilitation professionals in their professions? If so, how?	• What could be potential challenges to these strategies?
9. Where do you think professional regulatory bodies/associations fit into the retention of rehabilitation professionals?	• Resources to support your work, like mentoring, discussion forums, continuing education courses? • Advocating for changes in reserved acts (e.g. no MD prescription needed for mobility aids – prescribed by OT/PT)? • Promoting OT/PT/S-LP in the general public?

Debriefing & Closing (5-10 min)

Is there anything else you would like to add to what we have discussed today?

Thank you very much for taking the time today to share your perspectives on attrition and retention with us. If you would like to reconsider your participation in our study, please do not hesitate to communicate with us.

Appendix IV: Example of phase 3 consent form

School of
Physical and Occupational Therapy

Participant Consent Form

Title of the Study: The Looking Glass on Attrition and Retention in Rehabilitation Professionals

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Invitation and Purpose of the Study:
We are investigating the reasons why rehabilitation professionals (occupational therapists (OT), physical therapists and speech-language pathologists (S-LP)) decide to leave or stay in their profession, and the factors that influence their choices. We are inviting representatives from OT, PT and S-LP educational programs to participate in a focus group. As well as speaking with representatives from educational programs, the other two focus groups will consist of 1) program or service managers; and 2) representatives from regulatory bodies and professional associations. In total, we will be conducting three focus groups of 6-8 participants each.

To be eligible to participate in the focus group, you must meet all of the following criteria:

1. Be the program or associate program director of one of the following university programs:
    - OT: McGill, Université de Montréal, Université Laval, Université de Québec à Trois-Rivières, Université de Sherbrooke
    - PT: McGill, Université de Montréal, Université Laval, Université de Sherbrooke
    - S-LP: McGill, Université de Montréal, Université de Québec à Trois-Rivières, Université Laval

2. Have been in this directorship position for a minimum of one year; and

3. Provide written, informed consent for the study (including the audio-recording of the focus group).

Study Procedures:
If you wish to participate, you will be asked to read this form and sign at the end of the document. You will be given a copy of this form for your records.

We will select a time that is convenient for most focus group participants. A hidden poll on Doodle will be created to ensure that your name, comments and votes remain confidential during the focus group scheduling process. The focus group session will take place virtually by Zoom or if possible, in-person at McGill University or at another location that is agreed to by most participants. The focus group session will last approximately 90 min and will be conducted in English and in French. The focus group questions will explore participants' perspectives regarding attrition and retention of RPs. The focus group session will be audio-recorded so that the contents of the session can be transcribed and analyzed.

Voluntary Participation:
Your participation and the information you provide will be completely voluntary. You may withdraw from the study up until the start of data analysis. If you decide to withdraw from the study, there will be no negative consequences for you and your data will be destroyed unless you provide permission otherwise.

Potential Risks:
It is possible that it may be uncomfortable to speak about certain difficult situations you have encountered as a representative of a university program. You do not need to speak about any situation that may make you uncomfortable or upset. You are welcome to take a break during or leave the session if you wish.

Potential Benefits:
There will be no direct benefit to you by being part of this study. However, we anticipate that the findings of this study will provide information on the reasons for why RPs leave or stay in their professions and the factors that contribute to those decisions. This information may then serve to inform curricular revision and design of RP professional programs, and the development of professional resources and policies to address the needs of RPs who wish to stay in their profession.

Compensation:
If the focus group will be held in person, parking will be provided as needed and refreshments will be offered to all focus group participants.

Confidentiality:
All information collected during this study will be confidential.

During the focus group discussions, we will ask you and all other participants to please keep the discussion confidential (that is to say, please do not tell others what we talked about). Unfortunately, we cannot guarantee that everyone will maintain confidentiality.

Your contact information and the name of your employer will be collected. This information will be removed from the data and replaced with a number. Your information (e.g. contact information, consent forms, digital recordings) will be kept in locked cabinets or in a password-encrypted computer in a locked office (the principal investigator's office located at 3654 Promenade Sir-William-Osler (Montreal) for seven years. The names of participants and institutions will be removed and anonymized using pseudonyms in transcripts. Only the members of this research team will have access to the de-identified files. If the results of the study are published, we will remove all information that will identify you and will ask you for your specific consent to the disclosure.

For questions or concerns, please contact:

Principal Investigator
Susanne Mak, PhD candidate, OT(c), erg.
School of Physical and Occupational Therapy
McGill University
Tel: 514-398-2772
Email: Susanne.mak@mcgill.ca

Institutional Review Board
If you have any questions about your rights as a research participant, please call the McGill University Faculty of Medicine's Institutional Review Board at 514-398-3124.

CONSENT STATEMENT

Participant:

Please sign below if you have read the above information and consent to participate in this study. Agreeing to participate in this study does not waive any of your rights or release the researchers from their responsibilities. A copy of this consent form will be given to you and the researcher will keep a copy.

Participant's Name: (please print) _____

Participant's Signature: _____ Date: _____

Researcher:

I have discussed this study in detail with the participant. I am committed to honor what has been agreed upon in this consent form.

Researcher's Name: (please print) _____

Researcher's Signature: _____ Date: _____

Appendix V: Focus group guides for phase 3 inquiry

Experiences and perspectives of attrition and retention of rehabilitation professionals:

FOCUS GROUP – REPRESENTATIVES OF OT/PT/S-LP EDUCATIONAL PROGRAMS

1. Welcome

Good evening and welcome. Thanks for taking the time to join us to talk about attrition and retention of rehabilitation professionals. My name is Susanne Mak and with me is XXX. He/she will be taking notes of the session. We're both affiliated with McGill University.

2. Overview of the topic

We are investigating the reasons why Quebec rehabilitation professionals (occupational therapists (OT), physical therapists and speech-language pathologists (S-LP)) decide to stay in or leave their profession. We are inviting representatives from OT, PT and S-LP educational programs to participate in a focus group. The other two focus groups will consist of 1) program or service managers; and 2) representatives from regulatory bodies and professional associations. In total, we will be conducting three focus groups of 6-8 participants each.

The findings of this study will provide information on: 1) how educational and health care environments influence the reasons why RPs stay in or leave their professions; 2) possible differences and/or similarities among the three professions in terms of the reasons why rehabilitation professional stay/leave, and the factors that influence their choices; 3)

stakeholder perspectives on attrition and retention; and 4) potential retention strategies for Quebec rehabilitation professionals. This information may then serve to inform curricular revision and design of RP professional programs, and the development of professional resources and policies to address the needs of RPs who wish to stay in their profession.

You were invited to participate in this study because of your experiences teaching future OTs, PTs and/or S-LPs in your position as the Program or Associate Director. We would like to hear not only your experiences, but your perceptions on why OTs, PTs, and/or S-LPs stay in or leave their profession, and the types of strategies that could be implemented to facilitate retention for those who wish to stay.

3. Ground rules

There are no wrong answers, only different points of view. Please feel free to share your point of view even if it differs from what others have said. Keep in mind that we're just as interested in negative comments as positive comments.

We have a recorder in the room so that we can keep track of your comments.

To keep our discussion confidential, I ask that you do not tell others what we talked about, however I cannot guarantee that everyone will maintain confidentiality.

Once the information from the focus groups (FG) have been transcribed, your name as well as your employer will be removed and anonymized using pseudonyms. Only members of the research team will have access to the de-identified files.

In reporting these data, we will never do so in a way that could potentially identify any member of this focus group.

If you have a cell phone, please put it on silent mode. If you need to take a call, please step out and then return as quickly as possible.

I have a number of questions that I would like to ask, but my role in the FG is to listen. This will be more interesting for all of us if we treat this like a conversation. If someone says something, feel free to follow up on it or share a different point of view. Each person should speak at a time. You do not need to address all your comments to me.

Any questions on the study or the process for today?

4. Questions (note that items in italics are probes; items in blue and italics refer to Activity theory)

Let's begin. We've placed your first names on cards in front of you to help us remember each other's names. Let's find out more about each other by going around the table.

a. Tell us your name, your role and the program you represent in your institution.

b. Tell me about the connection between health professions educational programs and clinical sites (e.g. practice environments). (shared object, community)

- Are they connected?
- If so, in what ways?
- What works well in this connection between the educational programs and the clinical sites?
- What could be made better? And if so, why?

c. What are the specific expectations (obligations and benefits) from the clinical site towards the program for their engagement, and vice versa? (shared object, community, rules)
    - How are these expectations negotiated?
    - What input is gathered from front-line clinicians with respect to these expectations?
d. In your opinion, why do you think OT/PT/S-LPs leave their profession? (subject, division of labor, community, rules, etc…)
    - What influences their decision-making? Health care environment, educational environment/program, personal factors, professional factors (e.g. opportunities for promotion and growth)
    - How does career stages relate to attrition and retention? For example, a professional early in their career (1 year of practice) vs a more experienced professional (10 years of practice)?
e. Why do you think they stay in their profession? (subject, division of labor, community, rules, etc...)
    - What do you think act as facilitators or barriers to retention?
f. How do educational programs contribute to the retention of rehabilitation professionals? Or to the attrition of rehabilitation professionals? (shared object, community, rules, subject, etc…)
    - What are factors in the educational programs that could impact on attrition and retention?

- What about the way in which rehabilitation professionals are trained (educational programs)? How could that attrition and retention?

g. What are possible strategies to retain rehabilitation professionals? (shared object, community, rules, subject, etc…)

- What are possible barriers and facilitators to those strategies?

h. Are there any other comments you would like to share today?

Experiences and perspectives of attrition and retention of rehabilitation professionals:

FOCUS GROUP – MANAGERS OF REHABILITATION PROFESSIONALS

1. Welcome

Good evening and welcome. Thanks for taking the time to join us to talk about attrition and retention of rehabilitation professionals. My name is Susanne Mak and with me is Ting Wang. She will be taking notes of the session. We're both affiliated with McGill University.

2. Overview of the topic

We are investigating the reasons why Quebec rehabilitation professionals (occupational therapists (OT), physical therapists and speech-language pathologists (S-LP)) decide to leave or stay in their profession. We are inviting program or service managers who hire rehabilitation professionals (RP) to participate in a focus group. The other two focus groups will consist of 1) representatives from RP university programs; and 2) representatives from regulatory bodies and professional associations. In total, we will be conducting three focus groups of 6-8 participants each.

The findings of this study will provide information on: 1) how educational and health care environments influence the reasons why RPs leave or stay in their professions; 2) possible differences and/or similarities among the three professions in terms of the reasons why rehabilitation professional stay/leave, and the factors that influence their choices; 3) stakeholder perspectives on attrition and retention; and 4) potential retention strategies for

Quebec rehabilitation professionals. This information may then serve to inform curricular revision and design of RP professional programs, and the development of professional resources and policies to address the needs of RPs who wish to stay in their profession.

You were invited to participate in this study because of your experiences working with OTs, PTs and/or S-LPs in your position as a service or program manager. We would like to hear not only your experiences, but your perceptions on why OTs, PTs, and/or S-LPs stay in or leave their profession, and the types of strategies that could be implemented to facilitate retention for those who wish to stay.

3. Ground rules

There are no wrong answers, only different points of view. Please feel free to share your point of view even if it differs from what others have said. Keep in mind that we're just as interested in negative comments as positive comments.

We have a recorder in the room so that we can keep track of your comments.

To keep our discussion confidential, I ask that you do not tell others what we talked about, however I cannot guarantee that everyone will maintain confidentiality.

Once the information from the focus groups (FG) have been transcribed, your name as well as your employer will be removed and anonymized using pseudonyms. Only members of the research team will have access to the de-identified files.

In reporting these data, we will never do so in a way that could potentially identify any member of this focus group.

If you have a cell phone, please put it on silent mode. If you need to take a call, please step out and then return as quickly as possible.

I have a number of questions that I would like to ask, but my role in the FG is to listen. This will be more interesting for all of us if we treat this like a conversation. If someone says something, feel free to follow up on it or share a different point of view. Each person should speak at a time. You do not need to address all your comments to me.

Any questions on the study or the process for today?

Before I begin, I will ask that you complete this questionnaire:

- What proportion of your staff have been there for more than a year?
- What proportion of your staff have left in the past year?

4. Questions (note that items in italics are probes; items in blue and italics refer to Activity theory)

Let's begin. We've placed your first names on cards in front of you to help us remember each other's names. Let's find out more about each other by going around the table.

a. Tell us your name, where you work and what you do.

b. Which rehabilitation professionals do you hire in your facilities?

    - OTs, PTs, S-LPs?
    - How many do you have from each profession under your supervision?

c. How often do you hire a new OT, PT or S-LP in your facilities?

- What are the reasons for the new hires??
- Have you experienced turnover/change in staff as a problem?

d. What do you think positively influences the reasons why OTs, PTs, S-LPs stay?

- Relationships with other colleagues/team members (community)?
- Institutional processes? (rules)?
- The impact of their role on their patients/clients (division of labor)?
- Feeling valued and being recognized for their work (subject, object)?

e. On the flip side of that question, what affects those reasons in a negative way?

f. Which reasons are specific to each profession?

g. How do you make sure that your OTs, PTs, S-LPs stay? OR How can institutions positively affect retention of rehabilitation professionals? *(subject, community, rules, division of labor, object)*

h. Do you feel that your employees are satisfied with their work? *(subject, object)*

i. Outside of the workplace, what else could affect why your employees have stayed or left?

- Other roles that your employees (e.g. parent, student) have which may have affected their decision to stay/leave?

j. What are possible strategies for retention of rehabilitation professionals?

- What are possible barriers and facilitators to those strategies?

k. Are there any other comments you would like to share today?

Experiences and perspectives of attrition and retention of rehabilitation professionals:

FOCUS GROUP – REPRESENTATIVES OF OT/PT/S-LP PROFESSIONAL REGULATORY BODIES/ASSOCIATIONS

1. Welcome

Good evening and welcome. Thanks for taking the time to join us to talk about attrition and retention of rehabilitation professionals. My name is Susanne Mak and with me is XXX. He/she will be taking notes of the session. We're both affiliated with McGill University.

2. Overview of the topic

We are investigating the reasons why Quebec rehabilitation professionals (occupational therapists (OT), physical therapists and speech-language pathologists (S-LP)) decide to leave or stay in their profession. We are inviting representatives from OT, PT and S-LP regulatory bodies and professional associations to participate in a focus group. The other two focus groups will consist of 1) program or service managers; and 2) representatives from OT, PT and S-LP educational programs. In total, we will be conducting three focus groups of 6-8 participants each.

The findings of this study will provide information on: 1) how educational and health care environments influence the reasons why RPs leave or stay in their professions; 2) possible differences and/or similarities among the three professions in terms of the reasons why rehabilitation professional stay/leave, and the factors that influence their choices; 3) stakeholder perspectives on attrition and retention; and 4) potential retention strategies for

rehabilitation professionals. This information may then serve to inform curricular revision and design of RP professional programs, and the development of professional resources and policies to address the needs of RPs who wish to stay in their profession.

You were invited to participate in this study because of your work experiences at the OT, PT or S-LP professional regulatory body or association. We would like to hear not only your experiences, but your perceptions on why OTs, PTs, and/or S-LPs stay in or leave their profession, and the types of strategies that could be implemented to facilitate retention for those who wish to stay.

3. Ground rules

There are no wrong answers, only different points of view. Please feel free to share your point of view even if it differs from what others have said. Keep in mind that we're just as interested in negative comments as positive comments.

We have a recorder in the room so that we can keep track of your comments.

To keep our discussion confidential, I ask that you do not tell others what we talked about, however I cannot guarantee that everyone will maintain confidentiality.

Once the information from the focus groups (FG) have been transcribed, your name as well as your employer will be removed and anonymized using pseudonyms. Only members of the research team will have access to the de-identified files.

If you have a cell phone, please put it on silent mode. If you need to take a call, please step out and then return as quickly as possible.

I have a number of questions that I would like to ask, but my role in the FG is to listen. This will be more interesting for all of us if we treat this like a conversation. If someone says something, feel free to follow up on it or share a different point of view. Each person should speak one at a time. You do not need to address all your comments to me.

Before I begin, I will ask that you complete this questionnaire:

- How long have you been involved with the professional regulatory body/association?
- Explain the nature of your day-to-day work.

Any questions on the study or the process for today?

4. Questions (note that items in italics are probes; items in blue and italics refer to Activity theory)

Let's begin by introducing ourselves.

a. Briefly tell us your name and the professional regulatory body/association you work(ed) for, as well as your role at the professional regulatory body/association.

b. Based on your experience, what are the main concerns of OT/PT/S-LPs in professional practice right now?

c. In your opinion, why do you think OT/PT/S-LPs leave their profession? (subject, division of labor, community, rules, etc…)

- What influences their decision-making? Health care environment, educational environment/program, personal factors, professional factors (e.g. opportunities for promotion and growth)

- What about expectations and/or experiences related to being a professional? Such as documentation, the need to self-regulate, professional conduct, etc…

d. Why do you think they stay in their profession? (subject, division of labor, community, rules, etc...)
   - What do you think act as facilitators or barriers to retention?

e. How do professional associations/regulatory bodies contribute to the retention of rehabilitation professionals? Or to the attrition of rehabilitation professionals? *(shared object, community, rules, subject, etc…)*

f. What are possible strategies to retain rehabilitation professionals? *(shared object, community, rules, subject, etc…)*
   - What are possible barriers and facilitators to those strategies?

g. Are there any other comments you would like to share today?

Appendix VI: Chapter 6, Table 1: Future lines of inquiry

Research on factors contributing to attrition and retention
How do stay factors (e.g., positive work environments and relationships) influence rehabilitation professionals' decisions to stay in, or leave their profession?
How do different push factors contribute to rehabilitation professionals' decisions to leave their profession?
Research on interventions related to retention
What types of interventions foster rehabilitation professionals' individual agency and advocacy in team-based care?
How can simulation be used to support retraining rehabilitation professionals?
What supports, resources, and service delivery models could be implemented in school settings to support professional retention among S-LPs?
What interventions are effective at supporting PTs in later career stages to remain in their profession?
How do interventions aimed at improving public awareness of OT, PT and S-LP influence attrition and retention in these professions?
What organizational interventions are effective at addressing professional attrition of rehabilitation professionals?
What characteristics of support are included in organizational interventions aimed at retaining rehabilitation professionals?

How do rehabilitation professionals' sense of belonging to their profession influence their choice to stay in their profession? (example of a targeted inquiry of retention)
Research on singular and multi-systemic influences on health care delivery and attrition and retention
How do contextual factors influence the actualization of rehabilitation professionals' values in their work?
How do intersectoral relationships influence outcomes of health care delivery?
How do professional regulatory bodies' decisions regarding practice standards shape rehabilitation professionals' experiences of attrition and retention?
In what ways do components of health care and professional regulatory systems influence rehabilitation professionals' work?
What is the impact of health care system restructuring on rehabilitation professionals' experiences of work?
How do professional regulatory bodies' decisions influence processes of health care delivery?
Research on unionization of rehabilitation professionals
What are rehabilitation professionals' perceptions towards unionization?
How do unions' decisions influence rehabilitation professionals' work?
Inquiries related to theory and methodology
In CHAT, how are the connections between activity systems conceptualized? What are characteristics or components of each connection? How could these connections be strengthened, or made more explicit?

In ID, how is the use of theory operationalized in data analysis? What guidance could better support researchers to effectively integrate theory in their ID inquiries?
What are possible approaches to involving multiple professional or disciplinary orientations in ID in a coherent and productive manner, while retaining ID's emphasis on disciplinary knowledge, mandates and commitments?