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Lived Experience and Process of Engagement in Physical Exercise for Older Adults with Chronic Back Pain

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Graduate Program in Health and Rehabilitation Sciences
A thesis submitted in partial fulfillment of the requirements for the degree in Doctor of Philosophy
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Lived Experience and Process of Engagement in Physical Exercise for Older Adults with Chronic Back Pain

Abstract

For older adults, physical exercise is especially important in maintaining functional independence, extending quality of life, and optimizing personal health resources. For patients with chronic pain conditions, exercise participation can significantly improve patient-reported symptoms. Older adults are the most sedentary age group with the majority not meeting the recommended duration and intensity of weekly exercise. Although nonadherence with exercise guidelines may result for a variety of reasons, adverse health conditions including chronic pain are likely of particular concern for older adults. The aim of this research, consisting of two studies employing interpretive phenomenology and constructivist grounded theory, was to understand the meaning of exercise in the lives of ten older adults with chronic back pain and the process by which nine physiotherapists provided exercise programs in caring for older adults with chronic back pain.

The findings of this research overall gave rise to four key insights, which may inform practice for presenting exercise for older adults with chronic back pain. First, is the centrality of a holistic approach to exercise – as involving mind and body, beliefs and behaviours – for management of older adults’ chronic back pain; both older adults and physiotherapists discussed the importance of incorporating older adults’ preferences and values into specific modes of exercise. Second, is the importance of maintaining a focus on function through exercise; with the acceptance of pain as ever-present for older adults living with chronic back pain, both the older adults and physiotherapists in these studies turned their focus toward maximizing functional capacity for

maintaining independence, continuing engagement in meaningful activities, and improving quality of life. Third, is the importance of allowing time for older adults to integrate exercise into their lives; the transition to lifelong management of chronic back pain using exercise as a resource requires a lived experience and noticed benefit for older adults to their mind and body as a result of exercising. Finally, experiential learning to understand the meaning of exercise for older adults with chronic back pain may be instructive for physiotherapists and healthcare providers in the assessment and treatment of chronic back pain.

Understanding lived experiences of older adults who continue to exercise with daily pain carries important implications for clinical practice. Healthcare professionals are encouraged to reflexively consider their role in the therapeutic alliance with patients to more tactfully shape the presentation of exercise, supporting older adults to participate in exercise for maintained or improved overall health.

Keywords

Older adult, chronic back pain, exercise, physiotherapy, physical therapy, phenomenology, grounded theory

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Co-authorship Statement

This dissertation was constructed and written with the support, guidance, and supervision of Dr. Denise Connelly. Dr. Connelly will be a co-author on publications arising out of chapters four and five. Her attention to detail and insightful interpretation were integral in developing thoughtful, coherent renderings of the two studies presented herein. I am exceptionally grateful for her patience, experience, and encouragement throughout this process. In addition, each member of my Thesis Advisory Committee provided important feedback and mentorship throughout the development of this research.

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I am also very appreciative of the critical feedback and guidance of Dr. Debbie Laliberte Rudman, whose patience and transcendent knowledge helped me to navigate the philosophical foundations of qualitative research. Her committed efforts to providing timely feedback for revisions were essential to the success of this dissertation. Further, her constructive comments helped to foster my confidence in considering philosophical perspectives, and I feel my thesis is stronger for having her input. I am also grateful to Dr. Craig Hall for his encouragement of my work. I look forward to continued relationships with each of these exceptional scholars.

Finally, I express my deepest appreciation to my family for their love and support throughout this journey. The road to a doctoral degree can be unpredictable, tumultuous and can, at times, feel like an insurmountable undertaking. There were many times when my confidence in my ability to succeed was called into question, when I felt I was failing at more important things than school, and when I felt it might be easier to choose a different path. And yet, the support of my family never faltered. They are the reason this was possible. This dissertation is dedicated to them.

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Chapter One: Introduction

For older adults, physical exercise may be especially important for managing health conditions, maintaining functional independence, preserving quality of life, and extending life (Taylor, 2014). Furthermore, physical exercise may be particularly imperative for older adults with age-related increasing numbers of co-morbid health conditions (Ashe et al., 2009). In Canada, the prevalence of chronic pain among older adults aged 65 years and older may be as high as 31.5 percent and, among individuals reporting persistent pain, the back is the most frequently cited anatomical location of pain (Schopflocher, 2011). International guidelines for pain management in the elderly recommend conservative, non-medicinal management, including exercise-based therapies (Kuss, Becker, Quint, & Leonhardt, 2015). Further, it has been reported in multiple integrative reviews that physical exercise can significantly improve patient-reported pain symptoms, reduce perceived pain, and enhance functional capacity for older adults with persistent pain (Park & Hughes, 2012; Ambrose & Golightly, 2015).

While positive correlations between exercise and improvements in pain have been well established in previous literature, there remain questions surrounding why some individuals persist in exercising despite chronic back pain while others do not, as well as uncertainty about potential processes by which engagement in exercise may be successfully promoted. With this research, I aimed to offer an interpretive understanding and provide insight into the realm of exercise among older adults with chronic back pain. First, in exploring the meaning of the experience of exercise among older adults with chronic back pain, I strived to develop a thoughtful and meaningful understanding of how self-implemented, regular exercise is lived through by this cohort, as this experience may be a rarity with potentially important insights. Secondly, in turning to physiotherapists who provide exercise guidance to older adults with

chronic back pain, I aimed to interpret the process undertaken in the creation and dissemination of exercise as treatment.

Several studies have addressed potential benefits of regular physical activity and recommend at least 150 minutes per week of moderate-intensity exercise, including both aerobic and strengthening activities, to provide health benefits for adults aged 65 years and older (Paterson & Warburton, 2010; WHO, 2010; Ainsworth et al., 2011; Taylor, 2014).

Unfortunately, research suggests that many older adults do not meet the suggested minimal recommendations and are, in fact, among the most sedentary age group (Sun, Norman, & While, 2013; Statistics Canada, 2016). Although nonadherence to physical activity guidelines may result for a variety of reasons, adverse health conditions including chronic back pain are likely of particular concern for older adults (Ashe et al., 2009; Bundon, Hurd Clarke, & Miller, 2011).

Chronic pain is, unfortunately, quite common among community-dwelling older adults, and prevalence is predicted to increase with age (Kemp, Ersek, & Turner, 2005; Weiner, Rudy, Morrow, Slaboda, & Lieber, 2006; Ryan & Ryan, 2011; Schopflocher, 2011). Higher prevalence of chronic pain among older adults may be because, as people age, the frequency of co-morbid conditions associated with pain symptoms, such as osteoarthritis and osteoporosis, increases as well (Ryan & Ryan, 2011). It has further been suggested that the experience of pain in older adults is intrinsically different than pain in younger populations for biological, psychological, and social reasons (Ryan & Ryan, 2011). It stands to reason that other experiences, such as exercise engagement, are also unique for older adults, and gaining an understanding of the unique and meaningful attributes of those experiences may lead to more reflexive considerations pertaining to that cohort. Therefore, research on chronic pain in older adults and, specifically,

developing an understanding of the meaning and process of continued exercise engagement among older adults with chronic back pain, is an important area to explore.

For older adults with chronic back pain, consultation with a healthcare professional such as a physiotherapist, may be sought as a treatment option. Physiotherapists are experts in recognizing concerns of pain, physical function, mobility, and activities of daily living, and can create plans of care to address the ongoing needs of patients (Zalewski, Alt, Arvinen-Barrow, 2014; Falvey et al., 2016). In treating older adults, physiotherapists may offer manual therapy, educational resources, and therapeutic modalities; moreover, for most patients who attend regular sessions with a physiotherapist, there will likely also be an exercise component incorporated into the plan of care (Falvey et al., 2016). Exercise-based therapies are considered a best practice recommendation for conservative management of pain among older adults to improve patient-perceived pain and functional capacity (Park & Hughes, 2012; Kuss, Becker, Quint, & Leonhardt, 2015). For older adults, adherence to exercise recommendations may be impacted by several factors, including self-efficacy beliefs, external sources of support, socioeconomic considerations, previous experiences and knowledge of exercise strategies, accessibility of exercise venues, time and monetary costs, and other co-morbid health conditions (Mailloux, Finno, & Rainville, 2006). One study exploring long-term exercise adherence following an exercise-based rehabilitation program for chronic low back pain in elderly patients found that, for the majority of study participants, exercise behaviours increased immediately following the program, and were maintained at the two-year follow-up (Mailloux, Finno, & Rainville, 2006). In fact, the number and frequency of participants' exercise activities grew during the two year follow-up interval, suggesting that exercise behaviours increased after the rehabilitation intervention. Furthermore, after treatment, most older adult participants reported

improved symptoms and function, which supports the notion that exercise offered benefits in managing chronic back pain (Mailloux, Finno, & Rainville, 2006).

Nevertheless, there remains much ambiguity pertaining to exercise implementation for older adults with chronic back pain, which leaves physiotherapists with considerable choice when prescribing exercise (Ambrose & Golightly, 2015). This ambiguity may facilitate tailoring of exercise programs to individual patients; however, arbitrariness of exercise prescription may also lead to variation in adherence and subsequent effectiveness of interventions among patients with chronic back pain. It has been recommended that more studies be undertaken to explore contents and strategies of successful exercise treatment interventions (Park & Hughes, 2012). In reviewing available published literature, previous studies employing qualitative methodology to explore the use of exercise in physiotherapy care of older adults with chronic back pain were not found.

In the context of this dissertation, ‘exercise’ was conceptualized as planned and structured physical activity undertaken with the intent of gaining benefits through improved flexibility, strength, endurance, physical function, or well-being (Kisner & Colby, 2002). As inclusion criteria for the first study, I employed an operational definition of ‘moderate exercise’ to represent physical activity undertaken at moderate-intensity for 150 minutes per week, and participants’ exercise levels were assessed using the Godin Leisure Time Exercise Questionnaire (Godin & Shephard, 1985; Godin & Shephard, 1997). The overall weekly score for each participant was compared with MET values for moderate-intensity physical activity as defined by the 2011 Compendium of Physical Activities, and older adults with a score between 30 and 59 arbitrary units were deemed to meet the exercise requirements (Godin & Shephard, 1997; Ainsworth et al., 2011). For the second study, a broader consideration of ‘exercise’ was

accepted, which was more consistent with ‘therapeutic exercise’ as conceptualized by Kisner and Colby (2002). In the second study, there was no minimum requirement of intensity or time specified; however, ‘exercise’ was understood as planned, structured, and pursued as a means of optimizing physical function, and participants spoke about ‘exercise’ as including range of motion, stretching, strengthening, and aerobic activities. ‘Older adults’ were considered to be individuals aged 65 years and older, and ‘chronic back pain’ was defined as lasting most every day for the last three months or longer, that impacts on an activity in daily life (Ehrlich, 2003).

This dissertation attempts to highlight exercise for older adults with chronic back pain by exploring the meaning of the experience from older adults’ perspectives and interpreting the process of creating and disseminating exercise programs by physiotherapists. In so doing, I aim to offer an interpretive understanding and provide insight into the realm of exercise among older adults with chronic back pain and, ultimately, to enhance reflective, meaningful, and careful practice.

Background and Significance

For patients with chronic pain conditions, exercise has been demonstrated to significantly improve patient-reported symptoms (Ambrose & Golightly, 2015). There is evidence to suggest that exercise ameliorates the experience of pain through improvements in patients’ overall physical functioning and self-reported ability to cope with pain (Iversen, Fossel, & Katz, 2003). Furthermore, a review of exercise efficacy in patients with chronic back pain suggested exercise may lead to reduced pain intensity; improved attitudes, beliefs, and affect; and enhanced physical functioning in flexibility, strength, and endurance (Rainville et al., 2004). Therefore, the value of exercise for people with pain has been well documented. However, a discussion of why older

adults persist in exercise engagement while experiencing pain, from the perspective of older adults, has not previously been presented.

Previous qualitative studies have sought to understand the impact of chronic pain through investigations of older adults' approaches to health and self-management. In an investigation of older adults' preferred coping strategies for, and perceived barriers to, pain management, the least preferred coping strategies were suggested to be those most commonly prescribed by healthcare professionals – medicine, physiotherapy, and exercise (Lansbury, 2000). In that study, it was suggested that older adults tended to prefer treatments which could be self-administered in the home, finding cost and access to therapy difficult barriers to overcome (Lansbury, 2000). Other studies have identified personal characteristics, such as apprehension and internal drive, pain intensity, self-efficacy, and control beliefs, as well as accessibility concerns as barriers to exercise participation for individuals with chronic pain (Trafimow & Trafimow, 1998; Leveille, Cohen-Mansfield, & Guralnik, 2003; Austrian, Kerns, & Carrington Reid, 2005; Weiner et al., 2006). Furthermore, perceived effectiveness of past experiences with clinically-prescribed exercise and the relevance of those experiences in older adults' current self-management techniques may impact on exercise participation (Liddle, Baxter, & Gracey, 2007). While there is an abundance of literature on pain management strategies, research frequently focuses on perceived barriers to exercise rather than identifying factors which promote maintenance of physical activity and exercise in the presence of pain for older adults. Nevertheless, there is a subset of the population of older adults with chronic back pain who continue to engage in regular physical exercise; as such, it is important for research to be undertaken to specifically explore the characteristics and meaning of exercise for this cohort in an attempt to understand why individuals persist in exercising.

Physiotherapists specialize in recognizing concerns of pain, physical function, mobility, and activities of daily living, and can develop plans of care to address patients' ongoing needs (Zalewski, Alt, Arvinen-Barrow, 2014; Falvey et al., 2016). For older adult patients who participate in physiotherapy in the community, there are several potential roles for physiotherapists. For instance, therapists can provide pain management strategies, educational references on general well-being, and promotion of the benefits of exercise in order for older adults to self-manage their health (Falvey et al., 2016). International guidelines for managing pain in older adults recommend conservative, non-medicinal management, including exercise-based therapies, as it has been widely documented that exercise can significantly improve patient-reported symptoms of pain and enhance functional capacity for older adults with persistent pain (Park & Hughes, 2012; Ambrose & Golightly, 2015; Kuss, Becker, Quint, & Leonhardt, 2015).

There is substantial support in previous research for the positive benefits of exercise-based rehabilitation programs for older adults with chronic back pain (Mailloux, Finno, & Rainville, 2006; Park & Hughes, 2012; Kuss, Becker, Quint, & Leonhardt, 2015). However, despite a general consensus surrounding the wealth of positive benefits arising from exercise for older adults with chronic pain, conditions under which exercise should be employed remain ambiguous. Moreover, research suggests that adherence to exercise recommendations among older adults with chronic back pain is low (Ashe et al., 2009; Bundon, Hurd Clarke, & Miller, 2011). Previously published literature on adherence has largely focused on patient-related factors, with limited understanding of the influence of the actions of healthcare providers, such as physiotherapists, on the creation and dissemination of recommendations, which may influence uptake and adherence (Jack, McLean, Klaber Moffett, & Gardiner, 2010), and guidelines for

effective exercise parameters for older adults with chronic back pain are not widely accepted. This ambiguity in exercise prescription may lead to variation in exercise adherence and effectiveness of interventions among older adult patients with chronic back pain (Ambrose & Golightly, 2015). A literature review by Park and Hughes (2012) further recommended that more studies are required to identify the format and content of the suggested successful treatment interventions.

Together, these findings suggest a positive role of exercise for older adults with chronic back pain and, additionally, that physiotherapy treatment incorporating an exercise component may be helpful in managing this chronic condition. Furthermore, these findings support the notion that unique insights may be gained by exploring older adults' perspectives on exercise and physiotherapists' practices on utilizing exercise in the context of treating older adults with chronic back pain. As patient-centered care is considered to be an essential competency and best practice of physiotherapists in Canada (CPA, 2009), it is integral that physiotherapists strive to understand and integrate their clientele's perspectives into practice. Understanding the experiences of older adults who continue to exercise despite daily back pain may offer important insights for health promotion practices, which encourage engagement of exercise to manage chronic health conditions. Furthermore, insights generated from this research may enhance understandings of inherent values and assumptions underlying physiotherapists' decisions, which may ultimately motivate healthcare providers to reflexively consider their own actions in presenting exercise to older adults with chronic back pain for optimized overall health.

Statement of Thesis Purpose

While there is available literature supporting the positive role of exercise for older adults with chronic back pain, there have not been in-depth investigations which focus on the lived

experience of exercise from the perspective of this cohort or the process with which physiotherapy providers prescribe exercise for this population. In exploring the meaning of the experience of exercise among older adults with chronic back pain, I strived to develop a thoughtful and meaningful understanding of how self-implemented, regular exercise is lived through by this cohort, as this experience may be a rarity with potentially important insights for encouraging others to exercise and experience the positive benefits therein. Secondly, in turning to physiotherapists who provide exercise guidance to older adults with chronic back pain as part of their programs of care, I aimed to interpret the process undertaken in physiotherapists' attempts to encourage these individuals to engage in regular exercise for positive benefits.

The two studies integrated in this research must be positioned within the regional setting of a mid-sized city in southwestern Ontario. The objectives of this dissertation were to understand the lived experiences of older adults who continue to exercise despite chronic back pain and to enhance understandings of inherent values and assumptions underlying physiotherapists' decisions in the process of exercise prescription. My intention was to highlight tacit experiences of a specific population, which may ultimately assist healthcare professionals to more tactfully shape the presentation of exercise, supporting older adults to participate in physical activity for maintained or improved overall health. Insights generated from this study may motivate healthcare providers to reflexively consider their own actions in presenting exercise to older adults with chronic back pain for improved overall health.

Overview of Chapters

This dissertation is presented as an integrated article, as accepted by the School of Graduate and Postdoctoral Studies at the University of Western Ontario. Chapter Two presents a literature review of relevant research pertaining to exercise engagement and experiences in older

adults with chronic back pain, as well as studies including physiotherapists' perspectives on exercise implementation for this cohort. Chapter Three presents the methodologies employed in this research, which includes a discussion on my paradigmatic position, the research methods guiding the two empirical studies, and statements on methodological rigour and reflexivity. Chapter Four presents the manuscript for the first study, an interpretive phenomenological exploration of the meaning of exercise in older adults with chronic back pain. Chapter Five presents the manuscript for the second study, a constructivist grounded theory investigating the process of creating and disseminating exercise plans as treatment for older adults with chronic back pain. Chapter Six presents a discussion of the key insights from both studies, and a discussion detailing implications of this research for future enactment of empathic, tactful, and meaningful care with older adults in the community and physiotherapy practice.

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Chapter Two: Literature Review

In undertaking hermeneutic phenomenological and constructivist grounded theory research, I recognize concerns may arise with regard to a formal literature review. In traditional phenomenology, researchers are asked to ‘bracket’ and set aside their presuppositions in order to remain ‘open’ to the phenomenon of study (Dowling, 2007). Similarly, in grounded theory, literature reviews are recommended to be delayed in order to allow insights to emerge from the data (Charmaz, 2014). Nevertheless, as discussed in more detail in the following Methodology chapter, the epistemological position I embrace suggests that we cannot remove ourselves entirely from our presuppositions (van Manen, 1990). Furthermore, my theoretical perspective purports that meanings of experiences, actions, and understandings of the world are to be understood in a contextualized manner (Caelli, 2000). I recognize that I cannot approach this research as an unbiased or disinterested party. The notion of Herbert Blumer’s (1969) *sensitizing concept* helps to explicate that I had a preexisting interest in the subject of this research and, consequently, had tentative ideas to pursue (Charmaz, 2014). Blumer (1969) further underscored the importance of interpretation in meaning-making, which inevitably involves incorporation of my understandings and biases as the researcher. Rather than presenting insincere claims of bracketing my pre-existing knowledge and reducing its impact on the studies presented herein, I must include and investigate my presuppositions relating to older adults, chronic back pain, physiotherapy, and exercise, which impact my approach to the research (van Manen, 1990). As a professional physiotherapist and a graduate student in health and rehabilitation sciences, I acknowledge that I routinely encounter research literature relating to my area of study. I believe a formal narrative overview of available literature further enhances my reflexivity and theoretical sensitivity, allowing me to become more aware of how pre-existing knowledge influences my

interpretation, which ultimately enriches contextualization and credibility of my research (Lincoln & Guba, 2000).

Search Strategies and Definitions

In searching the literature, six databases were reviewed: PubMed©, CINAHL©, Medline©, PsycINFO©, Sociological Abstracts©, and Scopus©. Both quantitative and qualitative studies were included for consideration in this review. The review was restricted to articles published in English. No date limitations were set; however, the search was conducted in September 2017 and, as such, no studies published later than that date were included. Search terms were combined into four common construct categories. Within these searches, individual terms were combined using the “OR” function prior to being combined with the other three construct categories using the “AND” function. The search strategy for each database included all applicable subject headings and keywords. The first category included the following search terms: physical activity, exercise, physical therapy, physiotherapy, and fitness. The second category included the following search terms: aged, elderly, older adult, older person, senior, geriatric, and gerontology. The third search included: chronic back pain, chronic low back pain, persistent back pain, persistent low back pain, chronic pain, and persistent pain; initially this search criterion had included ‘back pain’ as a concept, however it led to inclusion of studies relating to acute episodes of back pain and was subsequently modified for the search. The final category focused on the phenomenological aspect of experience of exercising with chronic back pain, and included the following terms: experience, meaning, perspective, opinion, attitude, view, and knowledge. The search was then modified to apply filters for Human subjects from the Aged (65+ years) Age Group. This initial search led to 203 articles. Unrelated studies were initially screened out by title, and then further by abstract for less apparent cases. Articles were

excluded if they focused specifically on one condition, such as spinal cord injury, fibromyalgia, or musculoskeletal pain, without specifying chronic back pain, or if they did not involve older adult participants aged 65 years and above. Additionally, I employed forward and backward citation searches for the included articles. No articles were found specifically investigating the experience of exercise in older adults with chronic back pain. After applying exclusion criteria and removing unrelated articles, 11 articles were included in the first review. Two systematic reviews were also included, which discussed adults' perceptions of exercise with chronic back pain, though not specifically older adults; these reviews were included to highlight the importance of developing understandings from first-hand knowledge and experiences.

A similar process was utilized to find relevant literature pertaining to physiotherapists' processes of creating and disseminating exercise for older adults with chronic back pain. The same search terms were employed relating to the constructs of 'exercise', 'older adults', and 'chronic back pain', as described in the former search; however, constructs relating to phenomenology were not included in the search. Instead, a fourth construct was applied, which included physical therapy practice and physiotherapy practice. The initial search yielded two results, relating to weight stigmatization and cost-effectiveness of classification systems for pain, which were considered unrelated to the area of study. The search was repeated without the fourth construct category for physiotherapy practice and a fifth, final construct was applied consisting of process, theory, grounded theory, and development. Filters applied for the second search were for English-language and Human subjects. This search resulted in 106 articles. Unrelated studies were initially screened out by title, and then further by abstract for less apparent cases. Articles were deemed 'unrelated' if they reported no relation to physiotherapists or physiotherapy practice. Forward and backward citation searches were also performed for the included articles.

No articles were found specifically investigating the perspectives of physiotherapists in treating older adults with chronic back pain. After applying exclusion criteria and removing unrelated articles, four articles were included in this review. One systematic review was also included, which explored associations between physiotherapists' beliefs about chronic back pain and their subsequent behaviours in practical management. Several studies were discovered, which explored the effectiveness of exercise therapy for reducing pain and disability for adults, and the influence of physiotherapist beliefs about chronic back pain on treatment. While the studies, unfortunately, did not include older adults' perspectives or discussions surrounding potential influences of advancing age on chronic back pain management, I have included discussions of the available studies to highlight the importance of emerging interpretive research and the influence of physiotherapists' perspectives on clinical practice.

In this research, 'exercise' was conceptualized as planned and structured physical activity undertaken with the intent of gaining benefits through improved flexibility, strength, endurance, physical function, or well-being (Kisner & Colby, 2002). For the purposes of this review, exercise was considered as synonymous with physical activity, but separate from activities of daily living. 'Older adults' were considered to be individuals aged 65 years and older, and 'chronic back pain' was defined as pain lasting most every day for the last three months or longer, impacting on an activity in daily life (Ehrlich, 2003).

Review of Literature on Older Adults' Experiences of Exercising with Chronic Back Pain

The objective of the first review was to explore existing research relating to the subjective experience of exercise among older adults with chronic back pain. No studies were discovered that specifically addressed older adults' direct experiences relating to the central experience in question. However, previously published literature has approached aspects relating

to my research – including explorations of the experience of chronic back pain and self-management approaches; examination of older adults’ preferred coping strategies and perceived barriers to pain management; and perceptions of exercise among individuals with chronic back pain. This overview of research investigating individuals’ experiences with chronic back pain and self-management strategies provides insight into peoples’ perceptions of their pain, reasons people avoid overtly physical exercise with chronic back pain, and preferred coping strategies. Furthermore, it highlights important insights, which may be learned through explorations of human experiences. By sub-categorizing aspects of the experience to contextualize the current research, this review also highlights the scarcity of available literature pertaining to first-hand, subjective experiences relating to exercise among older adults with chronic back pain.

Numerous studies have addressed potential benefits of regular physical activity and encourage older adults (aged 65 years and older) to engage in at least 150 minutes per week of moderate-intensity exercise, yet most older adults do not meet the suggested minimal requirements (WHO, 2010; Statistics Canada, 2016). Although nonadherence to physical activity guidelines may result for a variety of reasons, adverse health conditions including chronic pain are likely of particular concern for older adults (Bundon, Hurd Clarke, & Miller, 2011). A recent systematic review suggested that, while no significant differences in physical activity levels were substantiated among young and middle-aged adults with chronic back pain, there were significant differences among older adults aged 65 years and above; specifically, there is evidence to suggest that older individuals with chronic low back pain are less physically active than healthy controls (Griffin, Harmon, & Kennedy, 2012).

According to the Global Burden of Disease study, low back pain is considered the highest ranked condition contributing to years of disability (Murray et al., 2012). Chronic pain is

estimated to affect between 31.5 percent to as many as half of all community-dwelling older adults and prevalence is predicted to increase with age (Kemp, Ersek, & Turner, 2005; Weiner, Rudy, Morrow, Slaboda, & Lieber, 2006; Ryan & Ryan, 2011; Gibson & Lussier, 2012). Furthermore, among older adults, the back is one of the top three most common locations reported for pain (Abdulla et al., 2013). One reason for increased prevalence of chronic pain in older adults may be that, as people age, the frequency of co-morbid conditions associated with pain symptoms, such as osteoarthritis and osteoporosis, increases as well (Ryan & Ryan, 2011). Previous research has also suggested that engagement in regular physical activity at a moderate-to-vigorous intensity may be predictive of significantly lower ratings of pain and disability for individuals with chronic back pain when compared with sedentary individuals (Pinto, Ferreira, Kongsted, Ferreira, Maher, & Kent, 2014). In acknowledging the prevalence of chronic back pain among older adults, and in recognizing potential benefits of exercise engagement, it is important to develop an improved understanding of continued exercise participation among older adults with chronic back pain.

Studies focusing on experiences of chronic back pain

A recent collated review of qualitative studies suggested three main themes relating to experiences of chronic back pain from the perspective of the patient: understanding the social construction of chronic low back pain, grasping the psychosocial impact of chronic low back pain, and coping with chronic low back pain (Bunzil et al., 2013). The review identified that many individuals with chronic back pain sought a biomedical explanation for their symptoms in order to validate their disability to themselves and to others. However, while a physical diagnosis offered temporary solace, it was suggested that “erroneous biophysical interpretations” (p. 910) of chronic back pain, often acquired from healthcare providers, led to fear and subsequent

avoidance of movement (Bunzil et al., 2013). Additionally, findings suggested that the fluctuating and uncertain nature of chronic pain added to extreme caution relating to potentially painful or threatening movements. Furthermore, findings suggested that individuals living with chronic back pain may have concerns that appearing highly functional and mobile could lead to others' perceptions that their pain is not 'real'; this has been demonstrated to lead to personal dilemmas and negotiations of how to present oneself in social situations, which may ultimately lead to restriction or avoidance of physical activity altogether (Bunzil et al., 2013). The review suggested that individuals experienced chronic back pain as a temporal suspension in wellness, self, and future, which highlighted discordance between traditional biomedical views of chronic back pain with patient experiences. Interestingly, findings also insinuated that 'acceptance' of pain and identity may be a pivotal turning point for individuals who remain positive and hopeful in coping with chronic low back pain.

A separate review article employed meta-ethnography to identify and summarize qualitative research on pain experiences, management strategies, and the meaning of being a patient with chronic back pain (MacNeela, Doyle, O'Gorman, Ruane, & McGuire, 2015). Findings suggested that chronic back pain conjures feelings of loss and discomfort, while adaptive self-management approaches, such as exercise, could provide a counterpoint to the distress for individuals. In several studies included in the review, individuals described 'ebbs and flows' between periods of near-normalcy followed by periods of debilitating pain, which ultimately undermined their ability to carry out their usual daily activities and to fulfill valued roles (MacNeela et al., 2015). Chronic back pain may also have devastating consequences on family dynamics, economic security, and internalized senses of self; the distress impressed by uncertain flares of pain may lead individuals to confine themselves and to dread future

dependency, and concerns about further hurting or harming their backs may also lead people toward activity avoidance. In contrast, self-management strategies, described as individuals' attempts to regain personal control and to live with the chronic back pain, may lead to improved well-being and acceptance (MacNeela et al., 2015). Importantly, acceptance of chronic back pain required acceptance of its continued presence while also maintaining a sense of being purposeful and active; participants who engaged in active self-management approaches, such as exercise, described a determination and commitment to keep going. Interestingly, self-management strategies such as exercise were suggested to be most often learned from healthcare providers, specifically physiotherapists, who "regularize[d] exercise as an ongoing commitment" (MacNeela et al., 2015, p. 75). These findings highlighted distressing and disabling consequences of living with chronic low back pain, which may impact on individuals' desire and capacity to continue engaging in their daily lives. Notably, individuals who had learned to live with the pain were a comparatively smaller or less pronounced group; however, important positive adaptations were reflected in their stories.

Studies focusing on experiences of chronic back pain in older adults

Previous research has suggested that the experience of pain in older adults is intrinsically different than pain in younger populations for biological, psychological, and social reasons (Gibson & Lussier, 2012). Specifically, it has been proposed that the association between pain, function, and depression was different among older adults compared with younger people, with older adults being at greater risk of becoming highly impacted – high levels of dysfunction and depression – with lower levels of pain (Corran, Farrell, Helme, & Gibson, 1997; Gibson & Lussier, 2012). In contrast, younger people tended to have more positive adaptation to high levels of pain or good control of low levels of pain and depression. Gibson and Lussier (2012)

suggested older adults with chronic pain were three times more likely than other aged cohorts to report difficulty with physical activities, including home maintenance, social activities, and instrumental activities of daily living. Furthermore, the findings suggested that self-efficacy scores were more closely associated with activity participation than pain intensity (Gibson & Lussier, 2012). This disparity among older adults may be attributed to the higher incidence of multiple co-morbid conditions among older individuals; although health concerns do not always increase pain, they may have an adverse additive effect on mood and function. The findings that the pain experiences of older adults may differ from younger individuals suggest there remain insights to be uncovered and understood through further investigation of older adults' subjective experiences in the context of chronic back pain.

Perceptions and management of chronic pain among older adults

Lansbury (2000) employed grounded theory to investigate preferred coping strategies for, and perceived barriers to, pain management in older adults. Findings suggested older adults preferred strategies that were easily accessible, convenient, relatively inexpensive, and which they had developed for themselves. Favourable treatments for relaxation and pain relief among the older adults in this study included those which could be administered in the home – such as massage, topical agents, and heat – or those offering ‘distraction’ through social engagement. Interestingly, the findings suggested that the least preferred coping strategies were those most commonly prescribed by healthcare professionals – medicine, physiotherapy, and exercise. Older adults who had received physiotherapy treatment in the past noted that it did provide temporary relief; however, the participants reported they were not offered long-term strategies upon discharge and, as such, felt they were better off to utilize their own strategies. Furthermore, although most of the older adults recognized that daily exercise was beneficial for their health, it

was not commonly practiced, citing fear of falling and exacerbating their health condition as barriers to participation. Ultimately, older adults were viewed as wanting to remain active in their management through informed decision making and pursuit of new strategies for pain relief; however, barriers in the form of cost, access, attitudes of healthcare professionals, and fear needed to be overcome. This research highlights the importance of awareness and understanding of older adults' perspectives on their chronic back pain and preferred coping strategies to direct decisions about healthcare delivery.

Ross, Carswell, Hing, Hollingworth, and Dalziel (2001) employed an exploratory-descriptive methodology with focus groups to understand older adults' decisions surrounding management of musculoskeletal pain, with particular emphasis on contextual factors and decisional conflict. Findings suggested that older adults' decisions were made within a discourse of aging, health, and subsequent social 'consequences' of advancing age. In the study, several older adult participants believed there was an inherent connection between aging and pain, as pain was 'to be expected' with living a longer life and there were limited options to completely eradicate pain. Interestingly, other participants in the same study refuted those thoughts, claiming that accepting pain as a 'normal' part of advancing age would be ruinous. Older adults also described using strategies such as distraction in attempt to 'ignore' the pain, as well as the use of thermal modalities, medication, and exercise. Several participants noted that they routinely performed stretching exercises at home, and included daily activities such as gardening, walking, and 'getting out of the house' as 'exercise'. Exercises were considered to be more beneficial when they were enjoyable, which included varying exercise modes and making contact with other people. Older adults noted benefits of exercise, through social contact and increased strength, but also recognized negative aspects of exercise including the need to accept limitations

and avoid excessively intense activities as well as limited time for commitment to exercise plans. The findings further suggested that older adults with chronic pain were confident in making decisions that reflected their values; however, they may benefit from enhanced knowledge of risks and benefits of pain management strategies as well as having educated support for making decisions relating to self-management.

Austrian, Kerns, and Carrington Reid (2005) employed a cross-sectional survey to investigate older adults' willingness to participate in exercise programs for chronic pain management in a geriatric ambulatory care practice. Findings suggested that accessibility barriers, including concerns related to time, transportation, and treatment efficacy were at the forefront. In addition to accessibility barriers to participation, findings identified personal characteristics, which may interfere with older adults' self-management approaches to their chronic pain. For instance, 'internal' attributes, such as lack of discipline, fatigue, and impatience were suggested as inherent factors in older adults' outlooks, which negatively impacted their perceptions of pain and, ultimately, their enthusiasm to participate in pain management programs. Moreover, several older adults cited fear of worsening injury or disability as concerns against trying exercise programs. Interestingly, although the study suggested few older adults participated in exercise for managing pain, it was also intimated that many would be willing to try a physical exercise program. Furthermore, findings suggested that there may be no correlation between pain intensity and older adults' reported willingness to try exercise and relaxation programs; in fact, there was a moderately positive correlation between increased disability and increased willingness to try exercise and relaxation therapies, suggesting that those older adults with higher disability due to pain may be especially eager to engage in exercise.

Hicks and colleagues (2012) used multivariate logistic regression models to identify predictive factors for, and barriers against, participation of older adults in exercise for chronic back pain self-management. Findings suggested that adherence to an exercise program was the single strongest predictor of improved pain rating; however, other factors, such as higher physical function, longer pain duration, and positive feelings toward the instructor, were also positively correlated with participation in the physical activity program (Hicks et al., 2012). Interestingly, longer duration of back pain was associated with greater adherence to the physical activity program; however, poorer self-reported health and greater distance from exercise facilities were negatively correlated with participation (Hicks et al., 2012). These insights suggest there may be an opportunity to increase engagement in exercise among older adults with chronic back pain, if we can reduce barriers to participation and understand from those who do exercise with chronic back pain as to the meaningful aspects of the experience, which influence their continued participation.

Beliefs about exercise with chronic back pain

Studies addressing experiences of people living with chronic back pain who encounter challenges relating to management of the persistent daily pain also provide insight into individuals' perceptions regarding exercise with chronic back pain. Many of the following studies have highlighted complex and multifaceted beliefs of people with chronic back pain toward exercise, including beliefs that exercise may worsen their condition, challenges inherent in continued adherence to exercise advice, as well as hopeful recommendations for facilitation of exercise engagement. Many participants in these studies expressed frustration toward the uncertainty of achieving prolonged pain relief with exercise, and some highlighted factors in their experiences with chronic back pain, which led to fear avoidance beliefs and, ultimately,

decreased exercise engagement. Overall, the findings of these studies highlight the significance of personal preference and previous encounters for individuals to perceive exercise as a positive self-management strategy as opposed to an ominous risk.

A recently published literature review aimed to thematically analyze and summarize qualitative research studies that explored adults' – although not specifically older adults – beliefs about exercise for individuals with nonspecific chronic low back pain (Slade, Patel, Underwood, & Keating, 2014). The findings suggested that people with nonspecific chronic low back pain have individual preferences for exercise format and type, and often prefer to be matched by experience and abilities. Exercise engagement was facilitated by healthcare providers or instructors with good communication skills, who allowed time for listening and encouragement (Slade, Patel, Underwood, & Keating, 2014). Further facilitators to exercise participation included individuals' reported self-efficacy, individualization and compatibility of the programs with daily life, and perceived effectiveness of exercise for pain control. Interestingly, while many people with chronic nonspecific low back pain included in the review by Slade and colleagues (2014) acknowledged the importance of physical activity for managing pain and maintaining overall health, there were clear distinctions perceived between medically prescribed and self-employed exercise. Findings suggested that some individuals perceived medically prescribed exercises as being too low in intensity to induce noticeable change, thus they chose to pursue other exercise programs, including organized classes, fitness centers, cycling and walking. The review suggested that individuals' exercise abilities, preferences, and experiences ultimately affected their interpretation of information encouraging continued activity, and that perhaps the presentation of exercise as 'routine' in a nonclinical environment (for instance, community-based programs) would help to normalize or de-medicalize exercise for people with chronic back pain.

The review also underscored that there were very few published research articles focusing on individuals' beliefs and perceptions on exercise for chronic back pain, which highlights the importance of continued research involving the people living with chronic back pain to contextualize and offer deeper insight into the meaning of exercise experiences for those people.

Liddle, Baxter, and Gracey (2007) employed focus groups with 'working-aged' adults between 18 and 65 years to explore experiences and expectations of patients with chronic back pain and to understand the challenges inherent in long-term self-management. Findings from the study suggested that individuals' experiences were marked by frustration and disappointment with healthcare providers' inability to accurately diagnose or permanently relieve the cause of their chronic back pain, leading many to trial a multiplicity of treatment interventions, such as medication, advice, and exercise, with mixed success (Liddle, Baxter, & Gracey, 2007). Findings suggested that continued adherence to advice and exercise were challenging; individuals tended to adhere to advice and exercise suggestions to the point of achieving adequate pain relief, after which their motivation to continue self-management decreased. Furthermore, individuals with chronic back pain described some doubt regarding experts' advice about continued exercise engagement, especially when exercise did not offer immediate pain relief. Findings suggested that internalizing the inherent value of self-management required time and experience for individuals to recognize that the benefits from treatment options may be most readily moderated by their own continued engagement. When individuals 'realized' their active participation in treatment could lead to pain relief – rather than waiting for a 'quick fix' treatment – the notion of continued, ongoing self-management was better appreciated. Additionally, perceived effectiveness of past experiences with clinically-prescribed exercise and the relevance of those experiences in individuals' current self-management techniques was reported to impact on

exercise participation. For exercise to be considered as an important role in individuals' self-management strategies, and for continued exercise adherence to be considered a key coping strategy for long-term management of chronic back pain, ongoing support and reassurance from a healthcare provider was recommended to help enhance motivation.

Stenberg, Fjellman-Wiklund, and Ahlgren (2014) employed qualitative content analysis to investigate pain beliefs with respect to physical activity among individuals with neck or back pain. Findings suggested that patients discussed their neck or back pain in terms of mechanical tissue damage and, thus, viewed physical activity as a further stressor to their potentially frail bodies. In addition to fear of further injury, the patients in this study recounted ambiguity in messages surrounding physical activity, and suggested a lack of specificity surrounding exercise instructions with pain may add to the difficulty of remaining physically active. Despite awareness of overall benefits of physical activity, individuals reported confusion due to mixed messages from friends and healthcare professionals about rest and avoidance of additional load, versus aiming to remain as mobile as possible. Furthermore, as patients, men and women reported receiving different messages surrounding the intensity of appropriate exercise; with women more often encouraged to be careful, it was suggested that gender attitudes expressed through social practices may contribute to fear-avoidance of physical activity. Interestingly, findings suggested that individuals with prior experiences of pain relief from physical activity were less fearful of further exercise. This finding insinuates that, if individuals with back pain could have an experience with physical activity wherein they noticed some relief from pain, they may be more likely to continue engaging in exercise; however, the contrary may also transpire, if patients with pain experienced increased or continuation of their pain during exercise, they may be less likely to continue with physical activity.

Slade, Molloy, and Keating (2009) employed focus groups to explore exercise perceptions among people – not specifically older adults – with nonspecific chronic low back pain, and suggested that people who had previously participated in exercise programs had preferences toward specific exercise modalities. The study was aimed at investigating which factors of exercise programs were considered as important for participation and engagement among people with chronic back pain. One major finding from this study was that participants' experiences with exercise impelled their preferences with regard to exercise type and delivery location. Participants emphasized the importance of familiarity and comfort with the exercise environment and type for perceived success in participation; for some of the adult participants, intimidation was a barrier to participation in exercise, for example with weight machines in a fitness center. Participants in this particular study also highlighted the importance of a skilled provider to execute the exercise programs, and noted enjoyment as an important factor in adherence. Importantly, participants also underscored the necessity of matching exercise programs to their abilities, and emphasized that individualized exercise programs were essential. This study suggested that adults with chronic back pain were more likely to adhere to exercise programs if they sensed the exercises were matched to their abilities and prior experiences, when they could be easily incorporated into daily routines, and when the individuals perceived benefits of the exercises.

Crowe, Whitehead, Gagan, Baxter, and Panckhurts (2010) employed interviews and thematic content analysis to investigate self-management strategies employed by individuals with chronic low back pain as well as the perceived roles of their healthcare professionals in facilitating self-management. Findings suggested the most readily cited strategies for self-managing chronic low back pain were medication, heat, and low-impact physical exercise (such

as walking, cycling, swimming, and Pilates). Exercise and heat were described by participants as more regular, routine interventions for maintenance of function, while medication was resisted and tended to be considered more as a used-when-necessary tool to interrupt episodic flares of more severe pain. Findings also suggested the use of low-impact exercise was a strategy most had learned from a physiotherapist or peers with similar low back pain; however, while the strategies may have been engendered by physiotherapists, the manners in which they were executed were based on peoples' personal experiences.

May (2007) utilized framework analysis to investigate patients' perspectives on back pain and its management after physiotherapy. Although the study did not specifically intend on investigating experiences of chronic back pain, the majority of participants included in the study reported back pain having lasted longer than one year. The adults included in this study highlighted substantial impacts of back pain on their lifestyles, which interfered with valued social, sporting, and domestic activities. Several participants, whose pain had persisted for years, reported a long-term perspective on back pain, which required learning to live with the pain and diminishing expectations of a cure. Additionally, several participants reported poor satisfaction with healthcare management they had received, particularly when medication or rest were prescribed instead of physiotherapy. Instead, most participants expressed a desire to be actively involved in their treatment. Moreover, the study suggested that participants' acceptance of chronic back pain related to their interests and abilities to self-manage and cope with the pain, rather than passive resignation to continuing symptoms. This study highlighted important patient beliefs regarding approaches to management of back pain, and suggested further insights to be explored relating more specifically to older individuals, those with chronic back pain, and those

individuals who demonstrate action relating to their reported active involvement in self-management approaches, such as physical exercise.

Review of the Literature on Physiotherapists' Processes for Creating and Disseminating Exercise Programs for Older Adults with Chronic Back Pain

In this second review, I aimed to explore available published literature that addressed physiotherapists' processes relating to creating and disseminating exercise as treatment for chronic back pain in older adults. No studies were found which specifically covered this topic; however, a few studies were found that investigated physiotherapists' perspectives on chronic back pain and its influence on patient interactions among younger individuals or without specifying connections to older individuals, and these were included to provide contextualization for the current research. Findings from the included studies highlight a complexity of considerations impacting physiotherapists' perspectives on management of chronic back pain including patient-specific factors, epistemological beliefs on the nature of pain, and perceptions of the role of physiotherapy. The findings of this review also demonstrate the paucity of research available in this area.

A Cochrane review investigated the effectiveness of exercise therapy for reducing pain and disability for adults with non-specific back pain in acute, subacute, and chronic stages when compared with no treatment (Hayden, van Tulder, Malmivaara, & Koes, 2005). Although there were mixed results for the effectiveness of exercise for acute and subacute back pain, there was strong evidence supporting the effectiveness of exercise for chronic back pain in improving pain and functioning at least as well as other conservative management strategies (Hayden et al., 2005). Most studies included investigated tailored exercise programs delivered in healthcare settings, and the review concluded that healthcare study populations had greater improvements in

pain and functioning than community-based ‘general population’. The findings provide strong evidence that active physical exercise as treatment for individuals with chronic back pain is considered a best practice (Abenhaim et al., 2000; Liddle, Baxter, & Gracey, 2004; Hayden et al., 2005). Furthermore, international guidelines for pain management in older adults recommend conservative, non-medicinal management, including exercise-based therapies (Park & Hughes, 2012; Carrington Reid, Eccleston, & Pillemer, 2015; Kuss, Becker, Quint, & Leonhardt, 2015). Several studies have suggested the effectiveness of physical activity interventions for adults with chronic back pain in improving pain, disability, quality of life, and health-related fitness and support encouraging continuation of daily activities over rest advice (Fujii, Matsudaira, & Oka, 2013; Baena-Beato, et al. 2014). As such, it is reasonable to expect physiotherapists will include exercise as a component of their treatment for this patient population, and it is important to understand the process of how physiotherapists create and disseminate exercise as treatment for older adults with chronic back pain.

Studies focusing on physiotherapists’ perceptions of chronic back pain

A recent systematic review explored both quantitative and qualitative studies to determine associations between physiotherapists’ beliefs about chronic back pain and their subsequent behaviours in practical management (Gardner et al., 2017). The review was instigated by reports suggesting that, despite continuing promotion of the benefits of a biopsychosocial mode of treatment, physiotherapists were tending to maintain attitudes and treatment styles reflective of strictly biomedical models (Gardner et al., 2017). Certainly, it may be appreciated that the beliefs and attitudes of physiotherapists will impact upon patients’ understandings as well as health outcomes. Summarized findings from the quantitative studies indicated that physiotherapists with higher propensities toward biomedical views of pain and

disability tended more toward advising avoidance of aggravating activities and delayed returns to normal activity and work (Gardner et al., 2017). The qualitative studies included in the review added insight regarding the influences of treatment orientation and patient factors on how physiotherapists managed individuals with chronic back pain. The review highlighted physiotherapists' continued prioritization of biomedical approaches to chronic back pain, which in turn affected their focus on tissue damage and biomechanical mechanisms of injury as opposed to inclusion of psychosocial factors (Gardner et al., 2017). Interestingly, the review suggested that the continued biomedical approach may be a reflection of the influence of patient demands, such as expectance of pain relief and manual therapy, which influence patient perceptions of their chronic back pain. In turn, therapists may modify their interventions based upon patients' beliefs to maintain good therapeutic relationships and positive patient-perceived outcomes (Gardner et al., 2017). This review highlighted the importance of considering both patients' and physiotherapists' attitudes and beliefs in shaping clinical care.

Daykin and Richardson (2004) employed grounded theory to investigate physiotherapists' perceptions of chronic back pain to understand possible connections between beliefs and behaviours of physiotherapists. Physiotherapists described their beliefs about chronic back pain as rooted in first-hand clinical experience, gained by assessing and treating patients, enlarging their repertoires of treatment strategies and training, and drawing on personal experiences. Physiotherapists' discussions about improving their understanding of pain through clinical experience highlighted the complexity of chronic back pain, and the necessity of learning appropriate and effective treatments to optimize patient responses (Daykin & Richardson, 2004). Through therapeutic interactions, the physiotherapist participants had also developed generalizations regarding clinical characteristics of patients with chronic back pain who

presented as either ‘good’ or ‘difficult’ to treat. Importantly, the ‘difficulty’ of a patient was not considered to be a reflection of the patient’s personality; however, it was commonly associated with complex comorbidities or poor adherence to treatment recommendations. Furthermore, physiotherapists admitted to disliking difficult patients as a result of feelings of frustration and professional incompetence, and reported poorer expectations for treatment outcomes when considering challenging patients with chronic back pain (Daykin & Richardson, 2004). A third theme was presented pertaining to physiotherapists’ beliefs of pain when treating individuals with chronic back pain; specifically, participants recognized that the therapeutic encounter reflected a meeting of two belief systems between the physiotherapists and their patients, which ultimately impacted upon treatment decisions. Participants’ stories also highlighted that explanation of pain mechanisms and processes to patients could potentially lead to changing patients’ beliefs and good treatment outcomes (Daykin & Richardson, 2004). Interestingly, the ‘difficult’ patients were considered to be those with chronic or complex pain conditions as well as those with overlying psychosocial concerns, such as depression, which are not infrequently associated with older adults with chronic back pain (Corran, Farrell, Helme, & Gibson, 1997; Daykin & Richardson, 2004; Gibson & Lussier, 2012). The findings suggested physiotherapists’ beliefs about the nature of chronic pain influenced their management and outcomes with patients with chronic back pain, and recommended that physiotherapists reflect upon their inherent beliefs about pain and prognosis to allow for discussions with patients about their pain beliefs.

Studies focusing on physiotherapists’ treatment of chronic back pain

Crowe and colleagues (2010) utilized thematic content analysis to explore healthcare professionals’ perceived roles in self-management for individuals with chronic back pain. Findings suggested that several physiotherapists described exercises, specifically targeted at core

strengthening, as their primary strategy employed. The study highlighted one potential role perceived by physiotherapists for encouraging self-management among individuals with chronic back pain, in particular strengthening through exercise. However, it also highlighted that what might be especially important is the promotion of self-management if and when these individuals come into physiotherapy practices, because it is likely that they will eventually leave and continue to manage on their own. In recognizing the majority of individuals with chronic back pain may not maintain regular contact with a healthcare provider, physiotherapists may be well suited to discuss and disseminate forms of treatment that can continue to be administered by patients themselves at home.

Ryan, Schofield, and Martin (2013) investigated recommendations by occupational therapy and physiotherapy students to older and younger adults. Rehabilitation students in this study acknowledged the importance of promoting physical activity for individuals with chronic back pain. Interestingly, participants did not demonstrate significant age biases when offering recommendations for exercise, which suggested physiotherapy students may hold positive beliefs about the possibility for improvement in pain and function for older adults. A comparison of findings within this study to practicing clinicians providing care for older adults suggested there may be biases toward older adults in the beliefs and behaviours of practicing therapists.

Physiotherapists' exercise prescription for patients with chronic back pain

Stenner, Swinkels, Mitchell, and Palmer (2016) recently employed hermeneutic phenomenology to explore decision making by physiotherapists when prescribing exercise for patients with chronic low back pain, although not specifically older adults. The findings suggested three main themes relating to decision-making for exercise. The first theme suggested most physiotherapist participants made choices for exercise prescription based on their personal

preferences and past experiences with specific exercise interventions, rather than employing a shared partnership approach or inviting patient choice. The second theme reflected physiotherapists' internal conflict between research-based evidence and everyday practice for exercise type and parameters. Thirdly, the findings suggested that physiotherapists' recommendations for exercise were largely based on improving compliance rather than achieving concordance between patient and provider beliefs. This study suggested a variety of overlapping ideas, which may factor into the creation and dissemination of exercise for individuals with chronic back pain.

Discussion and Limitations of Available Literature

The studies highlighted herein provide insight into existing understandings of older adults' experiences with chronic back pain, treatment and self-management approaches, and beliefs about exercise, as well as physiotherapists' perceptions about chronic back pain and its influence on their treatment of individuals with chronic back pain. Available literature provides support for the potential benefits of exercise programs, suggests various factors that may facilitate or promote continued participation among older adults with chronic back pain, and offers insight into physiotherapists' beliefs about chronic back pain and its management.

Importantly, this review of the literature was presented in a manner, which superficially subdivided the aspects of the current research studies so as to situate the experience of exercise in older adults with chronic back pain, and the process of creating exercise for older adults by physiotherapists, within what is already 'known' and 'understood' in contemporary literature. However, the distinct subcategories underscore that there is a dearth of literature connecting aspects of chronic back pain, aging, and exercise. Research relating to experiences of chronic back pain and exercise as management/treatment for chronic back pain have largely focused on

younger, 'working aged' adults. Moreover, while the studies which have included older adults (for example, Lansbury 2000; Austrian, Kerns, & Carrington Reid, 2005; Hicks et al., 2012) help to highlight unique attributes of older adults' perspectives with chronic back pain, as well as the importance of exercise participation for individuals with chronic back pain, no studies specifically explored the experience of exercise among older adults with chronic back pain; thus, there are no insights from the perspectives of older adults who *do* continue to persist in physical exercise despite the possible impediments of chronic back pain about the meaning and significance of exercise for those individuals.

Available research on practicing physiotherapists' perspectives and processes of assessment and treatment of individuals with chronic back pain was, again, largely devoid of discussions pertaining to older adults and the influence of aging on their approaches. While emerging research provides novel insight into physiotherapists' beliefs about chronic back pain, the research methodologies employed in the available studies were not conducive to making conjectures about *process*; therefore, the findings do not suggest how those factors interplay to influence exercise prescription. Available literature on adherence has tended to focus on patient-related factors, with limited understanding of the influence of healthcare providers' actions on creation and dissemination of the recommendations, which may influence uptake and adherence (Jack, McLean, Klaber Moffett, & Gardiner, 2010). To my knowledge, there have not been any studies undertaken specifically investigating the perspectives and processes of physiotherapists when treating older adults with chronic back pain with exercise.

There remains a distinct void in understanding the perspectives of and processes involving older adults with chronic back pain and exercise. Individuals with chronic illnesses, as well as older adults, may be marginalized in contemporary Western society as failing to uphold

their personal responsibility toward successful or healthy aging (Cardona, 2008; Rudman, 2015). The apparent disregard for inclusion of older adults in research relating to chronic back pain and exercise, despite ‘well known’ benefits of exercise for pain management, mobility, independence, and quality of life (Taylor, 2014) is an oversight which needs to be addressed. The detailed accounts of distress and despair resulting from individuals’ experiences of chronic back pain, coupled with the possibilities people have recounted for improving their lives with self-management and exercise, provide a compelling case for the importance of further developing understandings of why certain individuals continue to exercise despite chronic back pain, and what is specifically meaningful about those experiences.

Summary

In reviewing available published literature, findings support the importance of developing enhanced understandings of the beliefs and behaviours of older adults with chronic back pain with respect to exercise. Numerous studies underscore significant benefits for improved pain, function, and quality of life resulting from physical exercise. A few studies have sought to understand the impact of chronic pain through examination of older adults’ approaches to self-managing their health, and there is growing support for the notion that older adults with chronic back pain may willingly employ self-management strategies to accept and cope with their condition. Previous research suggests that perceptions about exercise and the relevance of those experiences in individuals’ current self-management strategies may be largely determined by prior experiences. Moreover, there is evidence to suggest that novel insights may be gained by specifically exploring older adults’ experiences in the context of chronic back pain.

There are also a small number of published studies addressing physiotherapists’ perspectives on treating individuals with chronic back pain, though not specifically older adults.

There appears to be consensus that physical exercise is important for self-management of chronic back pain, and physiotherapists are experts in designing and prescribing exercise for individuals with chronic back pain. Emerging research further suggests that physiotherapists integrate several considerations into their perceptions and management of individuals with chronic back pain, including epistemological beliefs about the nature of chronic pain, the role of physiotherapy for managing chronic back pain, and relevant clinical experience.

While thoughtful approaches to research on exercise and physiotherapy are gradually becoming increasingly available with respect to older adults with chronic back pain, there remains a paucity of literature investigating older adults' experiences and physiotherapists' processes when managing chronic back pain with exercise. The few studies addressing older adults' perspectives relating to chronic back pain and exercise rarely question the meaning and importance of those experiences from the older individuals themselves. Moreover, the studies involving physiotherapists tend to discuss perspectives without elaborating on the processes by which those thoughts pertaining to aging, chronic pain, and exercise are implemented into clinical practice for older adults with chronic back pain.

The purpose of this dissertation is to develop a thoughtful and meaningful understanding of how self-implemented, regular exercise is experienced among older adults with chronic back pain, and to interpret the process undertaken by physiotherapists in an attempt to encourage older adults with chronic back pain to engage in exercise. Maintaining a focus on understanding the meaning of exercise for older adults with chronic back pain may allow for contextualization of exercise in the lives of older adults, and may assist physiotherapists in presenting ideas relating to exercise in ways which resonate with the lived experiences of older adults with chronic back pain. Moreover, exploring physiotherapists' processes may assist in understanding important

themes in treating older adults with chronic back pain and encourage healthcare providers to reflexively consider their own actions in providing care and promoting exercise.

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Chapter Three: Methodology

The aim of this research was to enhance understandings of exercise engagement for older adults with chronic back pain. Respectively, the first and second studies addressed the meaning of the experience of exercise among older adults with chronic back pain, and the process of how physiotherapists create and disseminate exercise as treatment for older adults with chronic back pain. Knowledge gained from these studies has important implications for clinical practice enabling healthcare professionals to more tactfully shape the presentation of exercise, supporting older adults to participate in exercise for maintained or improved overall health.

The research presented herein was undertaken from a perspective which values the experiences and interpretations of both older adults and physiotherapy providers, and from which interpretive understandings of meaning and action can be co-constructed. Both of the research methodologies employed, which are discussed in more detail below, acknowledge co-creation of knowledge through interpretation and exploration of occurrences in context. Findings generated from this study are, thus, contextually-linked to the time and place, to the participants, and to myself. The findings are not intended to demonstrate generalizability in the traditional, post-positivistic sense; however, insights raised may carry analytic generalizability in the sense that they raise theoretical and interpretive understandings that may be considered for their relevance in other contexts (Charmaz, 2006). In adopting two methodologies to integrate in this dissertation, I sought coherence between my paradigmatic position, epistemological stance, and the methods used throughout the research process. My paradigmatic position and methodologies employed for the first and second studies are presented below, followed by statements of methodological rigour and reflexivity.

Paradigmatic Position

“The preferred method for human science involves description, interpretation, and self-reflective or critical analysis” (van Manen, 1990, p. 6)

I hesitate to explicitly label my paradigmatic position, as I find my natural inclination toward research and the nature of knowledge overlies two predominant ‘camps’ in qualitative research – namely, interpretivism and constructivism – and I understand many varied interpretations may arise from readers of this dissertation as a result of me titling my paradigm. Nevertheless, I have attempted to articulate and acknowledge the influences behind my adopted paradigmatic position to further elucidate the fundamental ontological, epistemological, and theoretical assumptions underpinning my perspective. I believe people’s experiences of phenomena are unique and that individuals’ lived experiences, actions, and understandings of the world are always shaped within a context created by society, culture, history, and language (Caelli, 2000; Finlay, 2006). As such, I recognize the existence of multiple, subjective meanings and ‘realities’ (Finlay, 2006). Moreover, the epistemological position I adopt espouses that any claims of ‘truth’ arise from individuals’ unique interactions with the world within their sociocultural and historical context (Charmaz, 2008).

My paradigmatic perspective aligns with contemporary interpretive phenomenology, as conceptualized by Caelli (2000), which purports that meanings of phenomena are always to be understood in a contextualized manner. Human understandings of our experiences and selves are interpreted through our interactions in the world and constructed through language (van Manen, 1990; Charmaz, 2014). Therefore, understandings of the inherent meaning in human actions can only be interpreted in terms of the “system of meanings to which it belongs” (p. 191), for instance the social, cultural, and historical context (Schwandt, 2000). Additionally, the findings

herein were interpreted based on my values, beliefs, and presuppositions as the primary researcher to present one possible interpretation of the nature of the experience (van Manen, 1990). Through thoughtful reflection on the research text, the reader may recognize inner meanings that resonate beyond the literal words. In this regard, my writing of the research texts will convey my one interpretation, while the reading of the text by different readers in different contexts will lead to the possibility of many varied meanings of the findings.

I further acknowledge influences of constructivism on my paradigmatic position, which underscores the existence of multiple social realities, and the relativist nature of that which can be 'known' as 'reality'. In this regard, I approached this research with the belief that there are multiple 'realities', and that each is constructed under specific conditions, which involve various participants and their interactions (Charmaz, 2008). As such, the findings represented here are to be considered as one possible interpretation, which does not preclude the possibility of other interpretations about the meaning, reality, or truth of the topics of study. While interpretivism and constructivism share many philosophical underpinnings, they differ in the nature of their inquiry aims; constructivism is perhaps more relativist in its ontological assumptions than interpretivism. While interpretivism allows for in-depth understanding of meanings formed through interpretation, constructivism further layers those understandings about the world of human action and process; as such, always confined by our perspective, sociohistorical context, and discursive practices (Lincoln & Guba, 1985; Schwandt, 1998). Furthermore, as I acknowledge the influences of constructivism on my paradigmatic perspective, I state my involvement as an integral part of the research. Just as participants bring unique knowledges to the research, I recognize the analyzed findings generated from these studies are also thoroughly interconnected with my interpretations as the researcher (Charmaz, 2008). Rather than forcing

attempts to set aside my preconceptions about each of the ‘parts’ of my research subjects – older adults, living with back pain, physiotherapy and exercise prescription – and the interactions among them, I acknowledge my positionality and have attempted to scrutinize the various ways in which my prior knowledge and value positions impacted my decisions throughout the research process (Charmaz, 2008).

In articulating my paradigmatic perspective, I appreciate aspects of symbolic interactionism and pragmatic interpretivism as theoretical perspectives, which are commensurate with my constructivist-interpretivist paradigm, and which provide a framework for deeper consideration of how human behaviour is shaped through our interactions (Blumer, 1969; Schwandt, 1998; Charmaz, 2014). Symbolic interactionism as a theoretical perspective suggests that individuals construct their senses of self, society, and ‘reality’ through interaction with other people (Charmaz, 2006). Pragmatism further contributes that people are creative in their actions, and meanings are created through practical actions aimed at solving problems (Charmaz, 2006). These perspectives assume meaning and action are continuously interrelated; thus, people create meaning through actions, and our actions are influenced by meaning (Charmaz, 2006). I believe individuals can and do think about their lives and actions freely, within the constraints of their social, cultural and historical contexts. I believe people define meaning and conduct themselves in a manner, which reflects their interpretations of the meaning as well as their beliefs of other peoples’ expectations. Thus, “people, individually and collectively, act on the basis of the meanings that things have for them” (Benzies & Allen, 2001, p. 544) and, ultimately, “through this process people come to fit their activities to one another and to form their own individual conduct” (Blumer, 1969, p. 10). As such, I subscribe to the notion that knowledge is created within a social context, which allows for shared viewpoints and interpretive understandings,

rather than “radical subjectivism” (Charmaz, 2014, p. 14). My understanding is that radical subjectivism portrays all knowledge as subjective interpretations by individuals suggesting it would be impossible to develop some consensus around social phenomena. Alternatively, my paradigmatic perspective appreciates that individuals’ unique subjective understandings are always formed within a social context.

Symbolic interactionism highlights the important role language plays in creating and communicating meaning and actions between people (Charmaz, 2014). Further, “symbolic interactionism views interpretation and action as reciprocal processes” (p. 262), which aligns well with my choices to explore both experience and actions through interpretation with the aim of enhancing understanding and informing future care (Charmaz, 2014). Symbolic interactionism is informed by pragmatism, which proposes that the significance of abstract theories relies on their useful, practical applications (Gutek, 2014). I feel this perspective aligns well with my research questions, as I aim to develop a meaningful understanding of the experience of exercise, and to explore the process in physiotherapy practice of creating and disseminating exercise, for a substantial and growing population – older adults with chronic back pain.

Study one: Hermeneutic phenomenology

The first study employed hermeneutic phenomenology, informed by an interpretivist perspective, which highlights individual perceptions and values the everyday experiences of older adults with chronic back pain (van Manen, 1990; Wilding & Whiteford, 2005).

Phenomenology was chosen as the methodology for this study because of the value it places on unique, contextual, person-bound significances. In phenomenological studies, the researchers intentionally engage with other people’s experiences to develop deeper understandings about the meaning of those aspects of human ‘being’ in the world, which may resonate with others as a

piece of a human experience (van Manen, 1990). This research was informed by the phenomenological writings of Max van Manen, which postulate the importance of hermeneutic phenomenology in “enrich[ing] our understanding of everyday life experience” (p. 345) through both cognitive and emotional means (van Manen, 1997).

Hermeneutic phenomenology allows for the exploration of experiences in context, and centralizes the importance of everyday experiences and the meanings people ascribe to them (Wilding & Whiteford, 2005). In undertaking a phenomenological study, the researcher is fundamentally questioning what a specific experience is ‘really’ like, how it is ‘felt’, and the essence that makes up its nature (van Manen, 1990). One of the important characteristics that van Manen (1997) described was “lived throughness” (p. 351), which locates the phenomenon concretely in the lived world such that readers can identify the phenomenon as a common, ‘everyday’ experience. In this dissertation, I provide storied examples of exercise experiences in an attempt to connect the reader with past exercise experiences in his or her own life. By making this connection between the participants in my phenomenological study and the reader of my research text, I hope to personalize the experiences of physical exercise, aging, and pain as commonplace within the ‘everyday’ and thus highlight the phenomenon of exercise for older adults with chronic back pain as a “felt concern” (van Manen, 1997, p. 353).

Furthermore, hermeneutic phenomenology proposes a connection between knowledge and action by suggesting that lived experience itself is an acceptable foundation for daily practice, thus it is well-suited to a study in health and rehabilitation science (van Manen, 1990). The dynamic nature of hermeneutic phenomenology embraces the researcher’s interpretations of the phenomenon and serves to highlight complexities of human health and the uniqueness of participants’ experiences (Wilding & Whiteford, 2005). In conceptualizing phenomenology as a

kind of action-oriented research methodology, it may be important to differentiate between the “pragmatic consequence” (p. 156) of phenomenology in contrast with traditional behavioural research (van Manen, 1990). Rather than aiming for development of instrumental techniques, policies, or rules to guide behavior as might be considered in behavioural social science research, phenomenology provides “tactful thoughtfulness” (p. 156), which may guide individuals to perceive, understand, and act with more care and discernment (van Manen, 1990). The value of phenomenological research for healthcare professionals is its reverence for thoughtfulness. As healthcare professionals, we must carefully consider the ‘lifeworlds’ of our patients. For professionals working with older adults and patients with chronic back pain, gaining insight into the meaning of everyday lived experiences such as exercise may contribute to more meaningful patient-practitioner relationships.

Everyday events, or “matters of the lifeworld” (p. 7), are the focus on phenomenology wherein the ‘lifeworld’ is considered to be the world as it is ‘truly’ experienced, pre-reflexively, in-the-moment (van Manen, 1990). In adopting this perspective on experiences, I acknowledge the influence of Maurice Merleau-Ponty (1962, 1964) and his theorization that experiences and knowledge of the world are realized through our being-in-the-world. As part of his view, experiences become ‘conscious’ through perception, and peoples’ perceptions of experiences are actualized through four ‘lifeworld’ aspects: body, time, space, and in relation to other people (Merleau-Ponty, 1964; Racher & Robinson, 2003). van Manen (1990) similarly highlighted the four existentials as a helpful guide for reflection, albeit with slightly different nomenclature as: lived body (corporeality), lived time (temporality), lived space (spatiality), and lived human relation (relationality or communality). Each of these four existentials overlap and contribute to experiences, albeit to varying degrees (van Manen, 2014).

Another similarity between hermeneutic phenomenological methodologies proposed by Merleau-Ponty (1962) and van Manen (1997) arises from the notion of ‘eidetic’ (p. 361) reduction, which describes a process toward discovering the essence or inner meaning of the experience. Early proponents of phenomenology (for instance, Husserl), suggested a concept of reduction for the researcher to set aside their presuppositions in order to distill the unique attributes of an experience. In contrast, hermeneutic phenomenology does not suggest that we can remove ourselves entirely from our presuppositions. As such, reduction becomes more of a process than an end-goal (van Manen, 1990). In a hermeneutic sense, phenomenological reduction requires that researchers approach an experience with amazement and wonder; that we acknowledge subjective preferences and expectations, which impact our approach to the topic; that we intentionally remove pre-existing theories and conceptions pertaining to the phenomenon; and that we look beyond the “particularity of lived experience toward the universal, essence or *eidōs*, that lies on the other side of the concreteness of lived meaning” (van Manen, 1990), p. 185). In this manner, reduction may be used as a phenomenological tool to discover the lifeworld, rather than as a target in itself (Merleau-Ponty, 1962).

Rather than attempting to ‘bracket’ or constrain the influence of my presuppositions and values on my interpretations of the meaning of the experience of exercise, this utilization of reduction allowed me to become more aware of how assumed, taken-for-granted understandings influenced my understandings. As noted above, hermeneutic reduction requires openness to understandings through critical self-reflection of the researchers’ own pre-understandings and biases. For this study, I employed both hermeneutic and ‘eidetic’ reduction, as proposed by van Manen (1990, 2014). Along with my thesis supervisor, I engaged in a hermeneutic circle of analysis to highlight my pre-understandings and how they influenced the findings. Furthermore,

hermeneutic interpretation, and engagement in the hermeneutic circle, required repeated interaction with the data by incorporating my presuppositions to shape and be shaped by the research findings (Wilding & Whiteford, 2005). For eidetic reduction, themes emerging through coding and analysis may be recognized as patterns to form the framework for initial phenomenological writing (Heinonen, 2015). Through writing and re-writing of the findings for the first study, I developed a meaningful understanding of the experience in question. In this manner, the actual process of writing the phenomenological research became a method for ‘reduction’ through which I continuously questioned my emerging interpretations.

Phenomenological research allows for a transformation of lived experience into writing, which both reflects the lived experience and reflexively interprets meaning in it; in this way, reflection and writing add significance to the event (van Manen, 1990). The older adults in this study were engaging in regular physical exercise routines with chronic back pain before our interviews, presumably largely without reflection on the meaning of those experiences. Although phenomenological research aims to gather pre-reflexive data, I believe that people interpret all experiences. Thus, in asking for a description of experience from another person, one will receive a telling of the lived experience which includes “thoughts and interpretations of the experience that occurred after the immediate experience was over” (p. 369, Caelli, 2000). I believe that the descriptions of lived experiences I have received through this research are neither pre-reflexive nor primordial, because I believe that in order to remember and re-tell a lived experience through stories to another individual inevitably involves interpretation. This notion was articulated in an article by Racher and Robinson (2003) in that “people are self-interpreting beings, and interpretations occur in contexts involving everyday experiences” (p.472). Importantly, the descriptive accounts of the lived experience of exercise for older adults with

chronic back pain captured through one-on-one, audio-recorded interviews were “already *transformations* of those experiences” (p. 54, van Manen, 1990). Thus, the very ‘data’ that I have interpreted to arrive at the essence of the experience already represented interpretations of the experiences as told to me by each person.

The interpretivist paradigmatic position from which this research emerged presupposed an indissoluble link between interpretation and understanding, and acknowledging all understanding as a form of interpretation shaped by individuals’ lived experiences (Johnson, 2000). The results of this study represent my interpretation of an experience for a specific cohort of people. The meanings I have found in the experience of exercise for older adults with chronic back pain may only be significant for the people in my study. I do not claim to present results that can explain or predict exercise for older adults with chronic back pain, nor do I suggest that these results be generalized to larger populations in a traditional, post-positivistic sense. Rather, the intention of this research was to achieve resonance, such that findings may resonate with readers, relating to the ways in which they construct their views of the studied world (Lincoln & Guba, 2000). Moreover, phenomenological understanding enables tactful thoughtfulness, which may encourage individuals to perceive, understand, and act with more care and discernment (Lincoln & Guba, 2000). I recognize that a phenomenological analysis is “always *one* interpretation, and no single interpretation of human experience will ever exhaust the possibility of yet another complementary, or even potentially *richer* or *deeper* description” (van Manen, 1990, p. 31). Accordingly, my aim in undertaking this phenomenological research was to construct one possible interpretation of the experience of exercise in older adults with chronic back pain, which may highlight aspects of the phenomenon to which other people may relate. Moreover, I recognize labelling the fundamental meaning of an experience is an expression of

judgment; as such, I expect that “different readers might discern different fundamental meaning [...] and it does not make one interpretation necessarily more true than another” (van Manen, 1990, p. 94). The findings herein were interpreted based on my values, beliefs, and presuppositions in order to construct one possible interpretation of the nature of the experience (van Manen, 1990). However, the study findings add to existing literature on exercise and chronic pain management in older adults by providing an in-depth exploration of the experience of a cohort of older adults, specifically those who were engaged in continued regular exercise despite chronic back pain. By interpreting older adults’ stories of exercise experiences, I aim to bring reflective awareness to the quality of those experiences by highlighting significance in typically taken-for-granted actions of regular physical exercise for older adults with chronic back pain (van Manen, 1990). Moreover, I hope this research will encourage thoughtfulness in considerations of exercise engagement with older adults with chronic back pain.

Study two: Constructivist grounded theory

The second study was an exploration of the process physiotherapists engage in when creating and disseminating exercise programs designed for older adults with chronic back pain. Insights gained from this study provide a conceptual understanding of the physiotherapists’ decision-making, actions and experiences influencing behaviour when creating and disseminating physical exercise into therapeutic treatment plans for older adults with chronic back pain.

This research involved constructivist grounded theory, wherein social processes are theorized while remaining grounded in participants’ stories (Charmaz, 2000; Mills, Bonner, & Francis, 2006). Constructivist grounded theory suggests theory and methods for conducting inductive, open-ended research to explore human actions. Moreover, constructivist grounded

theory methodology allows researchers to enhance meaningful understandings of subjective experience and processes without remaining external or objectivist toward the subject matter (Charmaz, 2003). Constructivism acknowledges “mutual creation of knowledge by the viewer and the viewed” (p. 250) and, as such, provides a perspective from which interpretive understandings of meaning and action can be co-constructed (Charmaz, 2003). Therefore, ‘reality’ is not discovered but, rather, co-created through the interactive process between researcher and participants whose interpretations confer meaning upon the situation. Similarly, constructivist grounded theory differentiates ‘reality’ and ‘truth’, assuming that ‘truth’ equates to universal, lasting principles (Charmaz, 2003). Instead, constructivist approaches recognize that what is understood as knowledge and truth is always based upon individuals’ perspectives and interpretations. From this viewpoint, the findings of constructivist grounded theory suggest hypotheses, rather than generalizable ‘truths’, which may be useful in explaining and understanding similar research problems in other instances (Charmaz, 2003). Therefore, in this research, I aim to highlight one interpretation of a process, which may reflect individual or shared realities as they are dynamically and continuously constructed in the context of exercise prescription in physiotherapy practices.

In assuming that individuals’ understandings are constructed and interpreted, it is acknowledged that the data gathered through grounded theory methods are themselves narrative constructions of experience, which are re-constructed through language, rather than pre-reflective experiences (Charmaz, 2003). As noted above, the theoretical position from which I undertook this research professes that the meaning in any experience or action is only to be understood in a contextualized manner, and that our understandings are created in a social, cultural, and historical context, interpreted through our interactions in the world, and constructed

through language (van Manen, 1990; Caelli, 2000; Charmaz, 2014). Within this paradigmatic perspective, it is imperative that the findings presented herein be understood as representing one possible interpretation of the process. However, readers may recognize meanings and insight from thoughtful reflection on the findings to consider in other, similar contexts.

The form of constructivist grounded theory I employed in this research is based upon the theory and methods proposed by Kathy Charmaz. In her own words, “interpretive theories aim to understand meanings and actions and how people construct them [...] This type of theory assumes emergent, multiple realities; indeterminacy; facts and values as inextricably linked; truth as provisional; and social life as processual” (Charmaz, 2014, p. 231). This perspective espouses that researchers must acknowledge the relativity of their perspectives and practices, and their reflexivity in reflecting on and interpreting the research, while maintaining action in social situations as the primary focus (Charmaz, 2008). Furthermore, this constructivist approach recognizes that multiple realities are constructed in contextual conditions, research findings emerge from interaction and interpretation involving both the researcher’s and participants’ positionalities to co-construct data. Importantly, rather than attempting to isolate the existence of values, beliefs, and presupposition, constructivist grounded theory explicitly acknowledges that research is a reflection of values, and encourages identification of the impact of these value positions on the research (Charmaz, 2008). Previous research has considered reflexivity, or ‘critical reflexivity’, in healthcare practice as involving the interrogation of interpretation, which shapes understandings and production of knowledge; for instance, through critical consideration of power dynamics and taken-for-granted traditions in everyday practice (McCorquodale & Kinsella, 2015). In this research, I chose to explore processual actions of a group of physiotherapists working in outpatient clinics with older adults with chronic back pain. As a

physiotherapist myself, I recognize that my perspective impacts upon my positions and practices in data collection and analysis. Discussions with my research supervisor helped to highlight and scrutinize the influence of my pre-existing perspectives on the research, and a statement of reflexivity is provided below.

Grounded theory offers systematic guidelines for exploring and analyzing individuals' perspectives of their empirical worlds (Charmaz, 2003). Without becoming prescriptive, grounded theory methods suggest strategies for data collection and analysis in order to develop theoretical frameworks to explain a particular process of interest. Importantly, throughout the research process, ongoing analytic interpretation is utilized to further guide data collection in an iterative process to enhance and refine the developing theory (Charmaz, 2003). Theoretical sampling enables the researcher to translate findings from description to analysis, explaining connections between concepts, and enhancing the robustness of the emerging theory. Theoretical sampling also leads the research toward "theoretical saturation" (p. 213), that is, when relationships are defined between coded categories, theoretical relationships resonate as plausible, and no new insights or properties appear to emerge (Charmaz, 2014). I have difficulty accepting the term 'saturation' as my theoretical position assumes emergent and relative realities and acknowledges subjectivity in theorizing; I recognize interpretation is never fully complete or absolute, and therefore I aim for theoretical plausibility rather than absolute accuracy (Charmaz, 2016). In this research, I emphasize 'saturation' for the explanatory aspects of the theory, rather than suggesting saturation of the whole phenomenon (O'Reilly & Parker, 2012). In this regard, I appreciate Dey's (1999) concept of "theoretical sufficiency" (p. 257) as it reflects the interpretive nature of constructivist grounded theory that I set out to achieve.

Appropriateness of fit between phenomenology and grounded theory

This integrated dissertation is composed of two research studies. As noted above, the first research study involved interpretivist phenomenology informed by the work of Max van Manen (1990). Interpretive phenomenology aims to study the nature and meaning of experiential phenomena (Annells, 1999). Within a healthcare context, the broader aim of a research study – interpretive or otherwise – is to inform caring practices and to further understanding. The interconnection of phenomenology with grounded theory offers unique, multifaceted understandings of the importance of exercise experiences for older adults with chronic back pain from both ‘patient’ and ‘provider’ perspectives. As with constructivist grounded theory, interpretivist phenomenology appreciates multiple truths and realities of unique individuals and how meanings are co-constructed through interactions with other people in the world. Both studies integrate interpretivist thought processes, which espouse that our understandings and experiences are shaped by our society and culture (Sandberg, 2013). Further, Charmaz (2003) articulated that,

Researchers starting from other vantage points – feminist, Marxist, phenomenologist – can use grounded theory strategies for their empirical studies. These strategies allow for varied fundamental assumptions, data gathering approaches, analytic emphases, and theoretical levels. Thus diverse researchers can use grounded theory methods to develop constructivist studies derived from interpretive approaches (p. 252).

By integrating these two methodologies, my research will highlight the importance of sensitivity in approaching individual patients while also offering practically-oriented information for exercise prescription in older adults with chronic back pain, thereby linking meaning to process. A key competency of physical therapists is the ability to empathize with the experiences of our

patients – understandings which may be captured through phenomenology – while translating that knowledge into physiotherapy practice. The explanatory nature of grounded theory facilitates bridging meanings ascribed to patient experiences with their health condition into processes of caring, specifically in this study the process of physiotherapists prescribing and advocating for uptake of therapeutic exercise. This research may provide significant contributions to the provision of rehabilitation interventions focused on exercise and pain management for older adults. Insights gained may challenge healthcare professionals to consider how inherent assumptions in physical therapy communities affect providers’ experiences of creating and disseminating exercise programs in treatment plans for older adults with chronic back pain.

This combination of two studies may have important implications for clinical practice enabling healthcare professionals to shape the presentation of exercise with ‘tact’. van Manen's (2008) notion of ‘tact’ describes an approach to how knowledge can function in action. Rather than proposing a paused, reflective or philosophical approach or a strictly skills-based form of action, acting tactfully implies a conscientious and intentional approach to social interactions. In van Manen’s (2008) own words, “perceptiveness, insight, and feeling are instantly realized in a mode of acting that is tensed with a certain thoughtfulness or thinking attentiveness; tact could be defined as a thinkingly acting” (p. 15). Moreover, tact necessitates acting in the best interest of the other person, which I believe fits well with physiotherapists’ intentions to help patients. This research provides empirical support framed within a theoretical perspective, which can be applied within real physiotherapy interactions. Physiotherapists have first-hand experience in patient interactions, which inform how they conduct themselves in future exchanges. With the perspectives offered from this research, healthcare practitioners can enhance their perceptiveness

and insight into physiotherapy encounters with older adults with chronic back pain thereby supporting older adults to participate in exercise for maintained or improved overall health.

Ethical Approval

This research was approved by the University of Western Ontario Health Sciences Research Ethics Board (Appendices A and B). All participants were informed that participation was voluntary and anonymous, and they were able to withdraw from the research at any time. Participants were provided with Letters of Information and Consent, which outlined the nature of the research, that interviews would be audio-recorded, and their identities would be removed from data, files, and publications (Appendices C and D). I confirmed participants' understanding of the letters' contents and answered any questions that arose. In addition to interviews, data was collected in the form of observational memos for a few participants in the second study. With permission from the study sites, and verbalized consent from any patients being observed, I wrote notes on observed activities taking place within the physiotherapy setting. The physiotherapists and patients were informed in writing (email) and verbally about the purpose of the observational note writing, and were reassured that no identifying or confidential information would be recorded about patients at any time. The physiotherapist and site location were kept anonymous through observational memo-taking. Upon receiving verbal and written confirmation of informed consent for the initial interview and observation, and permission to be contacted for possible follow-up interviews, we proceeded with the research. Audio-recording files and digital transcripts were encrypted and stored on a password-protected computer in a locked office, and observational memos were kept in a locked filing cabinet in a locked office on university campus. Confidentiality was maintained through de-identification of participants and numeric coding.

Research Methods: Study One

Participant sample and setting

Purposive sampling was employed to recruit community-dwelling men and women aged 65 years and older from a mid-sized city in southwestern Ontario, with self-described chronic back pain lasting most every day for three or more months and impacting on their activities in daily life (Ehrlich, 2003). I accessed potential participants through public notices at various community centers around the city, which offered classes and fitness facilities for use by older adults. With permission from one community center, I also made a brief presentation to a group of seniors in the organization regarding my study. Three participants were referred to me through word-of-mouth by other participants. Participants' level of physical exercise was assessed over the telephone using the Godin Leisure Time Exercise Questionnaire (Godin & Shephard, 1985; Godin & Shephard, 1997). Older adults were deemed to meet the exercise requirements if they engaged in at least moderate exercise, as defined by the 2011 Compendium of Physical Activities, for at least 150 minutes per week (Godin & Shephard, 1997; Ainsworth et al., 2011). This level of physical activity – intensity and duration – has been reported to effect physiological changes, to reduce risks of adverse health conditions and premature mortality for adults, and to achieve health benefits and improve functional abilities (Ainsworth et al., 2011; CSEP, 2011). Potential participants who did not meet the minimum exercise requirements of 150 minutes per week were also to be excluded, as the study aimed to target a subset of the older adult population who regularly engaged in exercise at a level that would provide health benefits. Exclusionary criteria for this study included if potential participants' self-reported pain was cancer-related, or if the individuals were awaiting surgery for their pain. I selected these exclusion criteria with the presumption that individuals with cancer-related pain may have other factors, including

worsening of disease, which would influence their decision and ability to participate in regular exercise (Stevinson, 2006). Furthermore, older adults living in institutionalized or hospital settings were to be excluded as those settings typically provide care for older adults in poorer health, both physically and cognitively, than community-dwelling older adults (Muir, Berg, Chesworth, Klar, & Speechley, 2010). Finally, potential participants who did not meet the minimum score for cognitive non-impairment were to be considered ineligible for inclusion as this study involved an interview-based methodology, relying upon storied experiences of participants to elucidate the meaning of exercise. Participants were screened for cognitive non-impairment with the mini mental telephone screening tool (Roccaforte, Burke, Bayer, & Wengel, 1992). Notably, there were no potential participants excluded on the basis of these criteria. All participants were English speaking. Informed, written consent was obtained from each participant (Appendix C). For additional participant information, see Appendix E.

Data collection

Each older adult participant was engaged in an audio-recorded, in-depth, individual interview lasting approximately between 40 and 90 minutes. Interviews were conducted in private rooms within healthcare facilities or within participants' homes; interview locations were selected by the participants for convenience and comfort. Open-ended questions were employed in an effort to be as inclusive as possible in gathering the rich descriptions of the lived experiences, stories of exercise experiences, and information about social context, including living environment, family and friends, and general health. For example, *"tell me about exercise in your life"*, *"tell me about a time that stands out in your mind that shows what it is like to exercise with chronic back pain"*, and *"how do you approach exercise in order to be successful?"* The initial interview guide is included in Appendix G.

In line with interpretive hermeneutic phenomenological tradition, data collection and analysis were iterative processes. The interview guide and prompts were modified as interviews progressed and themes emerged in order to explore emerging concepts in more detail, to critically discuss themes with participants to ensure my understandings of the experiences resonated with their experiences of the phenomenon, and to draw conclusions on the essence of the experience (van Manen, 1990; Wilding & Whiteford, 2005).

Analysis of the findings

I transcribed the audiotaped interviews to immerse myself in the data. I wrote reflexive notes of my impressions of participants' stories after continuously re-reading the transcripts to make my assumptions explicit, to remain cognizant of how I influenced interpretations of the data, fully aware of my own lived experience with a parent with chronic back pain and my identity as a physiotherapist. I based my analysis upon the notion of 'phenomenological reduction'; through repeated, in-depth analysis of features of participants' descriptions of the experience of exercise in daily life (Shaw & Connelly, 2012). I coded participants' descriptions of experiences, thoughts, feelings, decisions, and behaviours on the transcripts in a free, 'open' style of coding (Larkin & Thompson, 2012). In total, I coded ten transcripts line-by-line and later into categories, sub-themes, and themes. I used 'mind mapping' as a tool to visually describe emerging relationships between concepts, which allowed for critical analysis of conceptualization of themes and their relative importance to the underlying phenomenon (Buzan, 2002; Appendix J). Further, I employed 'free imaginative variation' – a process of inclusion and exclusion of various features from the transcripts to distinguish central core concepts of the phenomenon – to assert my interpretation of the meaning of the experience of exercise from the perspective of study participants (Shaw & Connelly, 2012). I developed an interpretative

understanding through ongoing engagement of my presuppositions with the stories of participants, which facilitated the discovery of the essence of the experience (Johnson, 2000).

For this study, I employed both hermeneutic and eidetic reduction, as proposed by van Manen (1990, 2014). Hermeneutic reduction suggests ‘openness’ to understandings through critical self-reflection of my own pre-understandings and biases. Through discussions with my thesis supervisor, I engaged in a hermeneutic circle of analysis to highlight pre-understandings and how they would affect the findings. Hermeneutic interpretation, and engagement in the hermeneutic circle, involved repeated interaction with the data by incorporating my presuppositions to shape and be shaped by the research findings (Wilding & Whiteford, 2005). For eidetic reduction, patterns and themes were recognized through coding and analysis, which formed the framework for initial phenomenological writing (Heinonen, 2015). Through reflexive consideration of participants’ words, existential themes, and implicit understandings, as well as writing and re-writing of the findings, I identified the unique attributes – or essence – of this experience.

Research Methods: Study Two

Study sites, recruitment, participant sampling

Physiotherapist participants were recruited from outpatient, ambulatory care clinic settings in a mid-sized city in southwestern Ontario. I accessed potential participants through emails to outpatient orthopaedic physiotherapy clinics in the city, which offered physiotherapy services to older adult patients, among others. I attached a poster as well as the letter of information and consent to the email, and requested that potential interested participants contact myself. Purposive sampling was initially employed to gain a variation of participants across a range of years of experience, clinical setting, sex, and post-graduate certification. Early analytic

work to engage with the emerging data led to theoretical sampling, through revisions to the interview guides as well as the recruitment process for later participants. For instance, early interviews suggested subtleties in the process of developing exercise might be more intricately or reflexively explicated by physiotherapists with more years' of clinical practice expertise; therefore, later recruitment aimed to find participants with more experience and the interview guide evolved to further explore and understand emerging ideas. In this study, sampling was not intended to gain a 'representative' sample, nor to match statistically with the larger population of physiotherapists in the city; rather, the study aimed to seek out participants with diverse experiences in order to explore the subject in depth. My preference for including therapists from outpatient clinical settings reflected an assumption I hold that outpatient settings may support longer-term therapist-patient relationships and less regimented, time-sensitive intervention approaches than inpatient, acute care settings. Further the research question was addressed to those physiotherapists providing care to older adults with ongoing, long duration, chronic back pain living in the community. Largely this patient population seeks physiotherapy care in community-based clinical settings (Freburger, Carey, & Holmes, 2005), which served to focus recruitment of physiotherapist participants from these clinical settings. Physiotherapists holding a professional degree in physical therapy, who were currently working clinically around a mid-sized city in southwestern Ontario, and were registered as members in good standing with the College of Physiotherapists of Ontario were sought for inclusion in this study. Age and sex were not exclusionary for the purposes of this study. Further, participants must have had a caseload which included treating individuals with chronic back pain aged 65 years and older. Participant recruitment and interviews continued until a point of 'theoretical saturation' was achieved, and no new information was arising. Nine physiotherapists who met the inclusion criteria

participated in this study (Appendix F). All participants were English speaking. Informed, written consent was obtained from each participant (Appendix D).

Constructivism underscores the subjective and human relationships among participants and the researcher (Mills, Bonner, & Francis, 2015). As such, the researcher is considered an integral part of the research process, rather than an objective messenger of the observed. In this manner, I must acknowledge my values and beliefs throughout the entirety of the research process, and reflexively consider the impact of these values on the data collection and analysis processes and, ultimately, the outcome of this research. Prior to beginning data collection, I acknowledged and discussed my biases with my thesis supervisor. Through each analytic discussion, we revisited my presuppositions to reflect upon how they influenced my choices of language, codes, themes, visualizations, and directions of the constructed theory.

Data collection

Constructivist grounded theory proposes to explore and interpret processes of human actions, which requires detailed and descriptive data. As such, I engaged participants in in-depth, individual, audio-recorded interviews at a location and time of their choosing, to minimize impact on their work schedule, earning potential and to facilitate ease in conversation and engagement. All nine participants completed one in-depth interview. I conducted a second, follow-up interview with one participant to further explore emerging concepts as I felt her responses in the initial interview were particularly insightful in articulating organization to the process, clinical reasoning, and professional reflexivity about her practice. Rather than utilizing the follow-up interview and observations to ‘verify’ my findings, I employed these theoretical sampling techniques to develop fuller understandings of the constructed ideas, such that the eventual proposed theory would demonstrate “intimate familiarity” (p. 520) with the participants

and the studied world (Charmaz, 2000). I determined additional follow-up interviews with the other eight participants were unnecessary as no new themes were constructed from the one follow-up interview to challenge the emerging theory.

Interviews were guided by questions focused on understanding the physiotherapists' process of creating and disseminating exercise for older adults with chronic back pain. For example, "*what actions do you take when an older adult with chronic back pain comes in to see you?*", and "*what factors play into treatment of older adults with chronic back pain?*"

Interviews progressed in a conversational, open style of communication for approximately 36 to 66 minutes, using questions and probes from the interview guide to invite stories, openness, and rich description from participants. The interview guide provided me with an introductory set of questions and probes, which were helpful; however, questions were slightly reworded within each interview to further engage participants and to enhance rapport between myself and participants during the interviews. Early analysis and initial coding of interview transcripts helped to highlight key insights and direct further theoretical sampling within data collection through revisions to the interview guide (Charmaz, 2014). The list of questions, cues or prompts also helped me to keep interviews open-ended, to allow participants to direct the conversations, and to avoid asking leading questions loaded with "unexamined preconceptions" (Charmaz, 2014, p. 63). Grounded theory involves early analytic work, to engage with the emerging data and to guide theory construction. As such, the interview guides as well as the recruitment process for later participants evolved and changed over time, reflective of theoretical sampling, to further explore and understand concepts raised by participants. The initial interview guide is provided in Appendix H.

In addition to interviews, I observed five of nine physiotherapist participants for one- to two-hour sessions during clinical interactions with their older adult patients. Through these observations, I was better able to understand the clinic environments, including physical structures and scheduling, as well as the manners in which the physiotherapists communicated with their patients, other physiotherapists, and support personnel through verbal and non-verbal means. I presupposed that the physiotherapists participating in this study would have assumptions and internal problem-solving processes, which they may not verbalize (Charmaz, 2003); thus, I added observational notes from immersion in the field to contribute to constructing rich descriptions about the process of the prescription of exercise as described by participants. I wrote notes on observed activities taking place within the physiotherapy setting, which assisted to contextualize the data from interviews and reflections amassed in this study through my sustained involvement in the clinic environment (Charmaz, 2003). Each observation was scheduled after the interview with that participant had taken place, allowing time between the sessions for me to read through the interview transcript and consider the interview data before entering the observational field. I recorded observations through hand-written notes. When it appeared that no new insights were being added from observational field notes, observations were not asked of the remaining participants.

In addition to field notes, I wrote reflexive memos immediately following each interview and observation, which included my impressions, insights, and emerging new questions (Appendix I). Informal discussions also took place between myself and the physiotherapist participants before and after observational sessions, which I considered in my reflexive memos. Through these varied forms of data collection, I hoped to immerse myself in the field and in the data in order to increase my theoretical sensitivity (Mills, Bonner, & Francis, 2006). Moreover,

employing multiple methods of qualitative data collection – with interviews, observational memos, and reflexive notes – has been suggested to strengthen research with few participants (Charmaz, 2014).

Analysis of the findings

I transcribed audio recordings of the interviews verbatim to encourage engagement and familiarity with the data. Observational and reflexive memos were used to document interpretations of interviews and observations, thoughts on emerging themes, and decision-making criteria for research decisions. Throughout the analyses, I returned to the transcripts and field notes continuously to compare ideas raised in each, subtle semantic differences, and cues toward the organization and ordering of the process. Codes were generated based on recurrent themes and actions evoked by participants, which helped to direct further data collection (Charmaz, 2003). The constant comparative method of analysis was employed, in which data were compared between stories of patients, participant experiences and perspectives, points in time, and categories (Glaser and Strauss, 1967; Charmaz, 2000; Charmaz, 2003). Coding transcripts line-by-line initially helped to keep the analysis grounded in the words of the participants, rather than adopting assumptions uncritically, relying on implicit understandings or incorporating my biases, which could be problematic in studying people from my own professional field (Charmaz, 2014). Samples of early analytic visual renderings of the process are provided in Appendix L.

Theoretical sampling also involves a form of exploratory reasoning, termed *abduction*, which supports imaginative investigation of possible theoretical explanations to account for surprising findings (Reichert, 2007; Charmaz, 2014). I employed analytic abduction as a process of making inferences from the data, akin to free imaginative variation in

phenomenology, to theorize the significance of interesting emerging ideas and to support useful explanations (Shaw & Connelly, 2012); for instance, we discussed influence of years' experience on physiotherapists' reflexivity, organization, and approach. Codes and categories from the interviews helped to guide further recruitment and interview processes, and to develop the theoretical analysis, until such time as I believed a plausible and coherent analysis had been constructed (Charmaz, 2003; Charmaz, 2014).

Analysis and data collection were concluded when I felt I had reached "theoretical sufficiency" (Dey, 1999, p. 257); that is, when relationships had been defined between the coded categories, my field observations aligned and integrated into themes, I had returned to an insightful participant to allow for member reflection, to check that the theoretical relationships resonated with her and to develop fuller understandings of the constructed ideas (Charmaz 2000), and no new ideas appeared to emerge. Theoretical sufficiency was contingent upon the quality of interviews, theoretical sampling, as well as the act of revising and evolving the interview guide upon reflection of early interview transcripts (Bowen, 2008), as continuing interviews served to elaborate on or adjust emerging themes and fill in any gaps. My theoretical position assumes emergent and relative realities and acknowledges subjectivity in theorizing, thereby making it difficult to claim absolute 'saturation'. Instead, I emphasize 'saturation' for the explanatory aspects of the theory, rather than suggesting saturation of the whole phenomenon (O'Reilly & Parker, 2012). I am more concerned with theoretical plausibility than absolute accuracy (Charmaz, 2016). In this regard, I implicitly accepted Dey's (1999) concept of "theoretical sufficiency" (p. 257) rather than complete saturation, as it reflects the interpretive nature of constructivist grounded theory that I set out to achieve.

Methodological Rigour

Study one

In ensuring methodological rigour in the hermeneutic phenomenological study, key quality considerations related to *coherence* and *sincerity* were attended to and weaved throughout the research process. *Coherence*, as described by Ballinger (2006), requires that the research purpose, procedures, and presentation of findings complement my theoretical and philosophical beliefs and those underlying interpretive phenomenological methodology. In this hermeneutic, interpretivist phenomenology, issues of interpretation, subjectivity, and reflexivity were especially important (Ballinger, 2006). To ensure coherence throughout the development and undertaking of this research, my thesis supervisor and I regularly discussed the appropriateness of fit between my epistemological, ontological, and paradigmatic positions in relation to phenomenology. In other words, rigour in this research is demonstrated through coherence between my theoretical and philosophical beliefs and those underlying phenomenological methodology. My theoretical perspective leads me to believe that there is no one true reality, rather the interpretations and subjective experiences of the participants are fundamental to understanding the phenomenon (Wilding & Whiteford, 2005; Ballinger, 2006). In embracing an interpretivist paradigmatic position, I recognize that findings generated from this study are inseparable from my own understandings of the storied experiences of older adults with chronic back pain. Consequently, I also recognize the possibility that different constructions of the meaning of experiences of exercise could exist in other contexts, studied by other researchers (Wilding & Whiteford, 2005).

To ensure *sincerity* in this research, I draw the reader's attention to issues of transparency and self-reflexivity, as outlined by Tracy (2010). To demonstrate honesty and transparency, I

documented procedural and interpretive decisions made throughout the research process in a methodological journal and discussed these decisions with my thesis supervisor. An example excerpt from the methodological journal is available in Appendix K. Issues of subjectivity (for instance, my cultural and historical presuppositions, attitudes, values, and beliefs as a researcher) have also been addressed through self-reflexive memos, which were documented in my methodological journal and appear in this dissertation in my *Statement of Reflexivity*. In discussing challenges of phenomenology, my role in the research process, and how my experiences implicate the presentation of research findings, I hope to articulate sincerity in my research.

Study two

To enhance methodological rigour in the constructivist grounded theory study, consistent attention was paid to quality considerations of *trustworthiness*, demonstrated by *credibility* and *transferability*, as well as *authenticity*, considered as *fairness* and *tactical authenticity* (Guba & Lincoln, 1989; Guba & Lincoln, 1994; Lincoln & Guba, 2000; Charmaz, 2014). The selection of these criteria reflects my belief that rigour in qualitative methodologies, which do not claim objectivity or ‘truth’ in their objectives, can be demonstrated through transparency, consistency, and coherence of the methodological approach with my theoretical perspective and research methods. Furthermore, I believe these criteria allow me to demonstrate the quality of this research to readers in healthcare and physiotherapy contexts, who may not share my theoretical perspective.

Credibility refers to rigour of the research process (Lincoln & Guba, 2000). Integrating various data collection methods and immersing myself as the researcher in clinical settings for interviews and observation aided to demonstrate familiarity with the research settings and

participants. Credibility was further demonstrated through detailing of my experiences in formal physiotherapy training and clinical practice, and the implications therein on this dissertation (Charmaz, 2014). A statement of my reflexivity is offered for consideration below. Dedication to constant comparison and theoretical sampling also assisted to ensure credible categories and connections arising from the data. Reflexive memos and clear writing were employed to enhance the trustworthiness and credibility of this research. Furthermore, credibility is apparent through the transparency of documenting procedural and interpretive decisions made throughout the research process in a methodological journal and discussing these decisions with the research team (Sandelowski, 1986). Issues of subjectivity, preconceptions, values and beliefs have been articulated and critically explored through self-reflexive memos, which were documented in a methodological journal as well as in this dissertation. While this constructivist grounded theory methodology does not aim for reproducibility of findings, the transparency of my beliefs as the researcher – and the implications on the research process and findings – underscore rigour and quality in this qualitative research.

This research did not aim to be generalizable in the same sense that traditional post-positivistic research may be interpreted. Rather, *transferability* was envisioned as aligning with resonance, meaning that key findings would resonate with others and relate to the ways in which they construct their views of the studied world (Lincoln & Guba, 2000). Readers are invited to consider whether the findings relate to their understandings and experiences in similar settings. In this research, transferability was relayed through rich descriptions about the context, participants, research process, and the research team. Implicit assumptions held by myself and the physiotherapist participants were ‘unpacked’ to connect the proposed theory to larger contexts. Theoretical sampling and constant comparison within and between participants

throughout the research process were employed to ensure the abstract analytical concepts continued to resonate with participants and offer deeper understandings of the process of exercise prescription (Charmaz, 2014).

To demonstrate rigour through authenticity, the criteria of *fairness* was considered, which is reflected in a balanced quality in representation of participants' perspectives (Lincoln & Guba, 2000). I strived for a quality of balance of participant voices, through revisions to the interview guides, theoretical sampling based on emerging areas of focus, and direct quotations in the writing. Further, while I claim that this research was co-constructed between myself and the participants, I acknowledge that the power of many research decisions with regard to methods and dissemination ultimately rest with myself. Nevertheless, I aimed to "act with energy to ensure that all voices in the inquiry effort had a chance to be represented in any texts and to have their stories treated fairly and with balance" (Lincoln & Guba, 2000, p. 180). As an aside, while older adults with chronic back pain provide the focus for discussion of physiotherapists' views, I acknowledge that the perspectives of older adults were not represented within this section of the research, and this might be interpreted as disregard for a potentially marginalized population. However, the first component of this integrated manuscript involved a phenomenological study specifically addressing older adults' experiences, which provides novel insight and representation of older adults' voices about the meaning of exercise experiences.

Finally, *tactical authenticity* was respected in articulating how insights from this study translate to clinical practice and may empower interested parties in the field of physiotherapy to take action (Guba & Lincoln, 1989). As discussed above, this research offers empirical evidence from a constructivist perspective, which is applicable within physiotherapy settings. The findings of this research contribute insights, which may enhance physiotherapists' abilities to act

perceptively and with conscientious feeling or ‘tact’ when prescribing exercise within a treatment plan for older adults with chronic back pain. Further, interpretations from this study contribute to better understandings of everyday practices for a cohort of physiotherapists, which may challenge accepted customs and inspire further research to bridge the gap between theory and practice.

Statement of Reflexivity

I state my involvement as an integral part of the research and understand that findings presented for each of the two integrated studies are contextually bound to time, place, participants, myself, and my thesis supervisor (Charmaz, 2008). It is imperative that I acknowledge my positionality and explore the various ways in which my prior knowledge and value positions impacted my decisions throughout the research process (Charmaz, 2008). Both my supervisor and I are physiotherapists trained in the foundations of qualitative research, including qualitative methods of interviewing and analysis.

At the outset of my journey through graduate school, I had no clinical background in physiotherapy. My undergraduate education was in biology and psychology, which I had taken in pursuit of amalgamating my interests in health and people. I was accepted to the professional Master of Physical Therapy program during my second year of graduate school, and the professional education and training took place over the following two years. Since graduating from the professional Master of Physical Therapy program, while remaining enrolled in graduate school and immersed in this research, I also worked part-time in a private, outpatient orthopaedic physiotherapy clinic in a small, rural town in Ontario treating patients whose demographics, backgrounds, injuries and ailments were widely varied. Undoubtedly, my level of comfort and understanding relating to the language and assumptions underpinning physiotherapy grew

tremendously through my professional training to become a physiotherapist. This increased familiarity with professional assumptions and expectations, however, also complicates reflection of the presuppositions I would have carried with me at the outset of this entire research project and the ways in which my more recent professional training impacts my interpretations today. It has been interesting to reflect upon the changes in my understandings over the past five years, both through journaling and in discussions with my thesis supervisor. I believe my increased familiarity with and sensitivity toward physiotherapy practice, chronic back pain, and exercise was highlighted throughout the creation, conduct, and presentation of the second study in this dissertation and may be noted through comparisons of terminology and writing between the two studies herein. For instance, at the outset of this research, I chose to employ the term ‘chronic back pain’ as encompassing of the symptoms for which I was selecting participants; however, it was not until later years that I realized the more common terminology employed in physiotherapy practice and related academic literature was ‘chronic *low* back pain’, and several physiotherapist participants in the second study automatically switched to using this terminology without my prompting. Similarly, terms employed in physiotherapy practice, including subjective and objective history, range of motion, and specific outcome measures, were familiar to me by the time I conducted data collection for the second study; however, these certainly would have been somewhat foreign to me in my earlier years of graduate school. Moreover, as detailed below, my understandings and convictions about the philosophical foundations for this research became much more defined and nuanced through my experiential learning over my years of graduate studies.

My intentions of discovering the process of exercise prescription for older adults with chronic back pain were to understand and interpret current practices, and to reflexively consider

my own approach to treating similar patients. In posing a phenomenological question to explore the experience of exercise for older adults with chronic back pain, I made an assumption that there would be essential elements to that experience that make it unique for those people. Similarly, in employing constructivist grounded theory to explore processual actions of physiotherapists, I anticipated I might recognize aspects relating to the ways in which I treat patients with similar conditions. Importantly, however, while there may be similarities between my experiences and those of the participants, I suspected there were also essential differences that make the experience unique for the older adults and physiotherapists in this research.

I was careful during interviews and analyses to ensure my interpretations were not disparaging of my participants. Just as any interpretations of mine will differ from those of others, my personal biases for exercise prescription occasionally differed from the stories I encountered. However, this was the purpose of my research – to investigate the issue through the lens of other participants, as well as through my interpretations – and as such, it is important to me that participants are aware their contributions were analyzed and interpreted in a constructive rather than censorious manner. I wanted to highlight participants' voices, with my interpretation linking together quotations, but without omitting or precluding details. This was particularly important when themes arose, which did not align with my presuppositions, or which led the research in a new direction. This situation arose, for example, in Study One with participants discussing the impacts of exercise on their minds, as I expected physical exercise to be more closely associated with bodily 'feelings'; and in Study Two with participants' ambivalence toward the topic of discharge, as it remained an open-ended aspect of the process to the end. It was important for me to remain open to topics highlighted by participants, and to base my interpretations on the data and perspectives presented to me in the research process.

Kathy Charmaz highlighted, “what we can and do ask in a setting depends on how our research participants identify and know us” (p. 23) and “how your research participants identify you influences what they will tell you” (2014, p. 29). This raises the question as to how I present myself as the researcher. I wondered, should I openly identify that I have completed the professional physiotherapy program and am practicing as a physiotherapist? Or, do I highlight the Health and Rehabilitation Sciences research work without the information about my professional training? In the first study, this was a non-issue, as I had not yet been accepted to the professional program. Interestingly, however, the older adult participants often asked if I was a physiotherapist or if there was an exercise advice component to the research. Admittedly, I felt disappointed not to have affirmative answers to either of those questions. In undertaking the second study, I had completed my professional training as a physiotherapist. I decided to present myself as such to the research participants. I wanted participants to be as open as possible in the interviews; as such, I wanted to minimize their fears of repercussions or judgment from me about how they prescribe exercise and whether I might be appraising their practices. I feared that participants knowing I, too, was a physiotherapist would impact the views, feelings, and actions they shared with me for fear of being reprimanded. At the same time, it was important to me to facilitate an open and honest environment for participants to share their insights with me, and I felt that deliberately withholding information would be deceitful. I can appreciate in some circumstances that careful presentation of oneself to research participants may be vital to direct the research trajectory; however, for the purposes of this research, I am not convinced that it was imperative for me to withhold information about myself. Furthermore, as my professional training in physiotherapy undoubtedly affects my interpretation of data – and had already influenced my interest in pursuing this research – it seemed fair to have it as an influential trait

throughout the research process. It was also plausible that identification of myself as having professional physiotherapy training could, in fact, work to my advantage in gathering rich descriptions of exercise prescription processes. If participants felt that we shared a certain level of comfort or understanding around exercise terminology and treatment techniques, perhaps it would allow for additional information sharing.

I recognize now that my paradigmatic position as assuming all knowledge is interpreted within a specific context and constructed through language has become more resolute through enacting this research, and putting theory into action. In reading and completing course work to understand qualitative research and epistemologies, I could piece together a theoretical position which resonated with my beliefs. It was not until undertaking the research process, however, that I truly appreciated how impactful my preexisting beliefs and values were on my view of the world. In discussions with my research supervisor, and being consistently asked to ‘unpack’ certain ideas or reflect on the degree to which I was imposing my experiences upon participants’ words, I believe I have become much more aware of the truly relativist nature of this research. Together, my experiences as a graduate student and a physiotherapist have guided my approaches to research and to clinical practice. This research highlights for me the importance of trying to understand patients’ experiences and expectations in order for me to enact empathic, tactful, and meaningful care with older adults.

Conclusion

This chapter delineated the methodologies which surrounded my research – interpretivist phenomenology and constructivist grounded theory – as well as my paradigmatic position, epistemological stance, and methods used throughout the research process. I highlighted considerations of methodological rigour – including coherence, sincerity, trustworthiness, and

authenticity – and reflected upon the indissoluble links between myself as the researcher and the findings presented herein. In the following chapters, I present, in integrated article format, the manuscripts for the first and second studies, followed by a discussion of the key insights from both studies and implications of this research for meaningful care with older adults with chronic back pain in physiotherapy practice.

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Chapter Four: Exploring the Experience of Exercise in Older Adults with Chronic Back Pain

Physical exercise behaviour is a crucial component of health, particularly in older adults with age-related increasing numbers of co-morbid health conditions. The benefits of regular physical exercise are well documented. Current exercise recommendations for older adults (aged 65 years and older) are at least 150 minutes per week of moderate-intensity exercise (WHO, 2010; CSEP, 2011). Although nonadherence to physical exercise guidelines may result for a variety of reasons, adverse health conditions including chronic pain are likely of particular concern for older adults (Bundon, Hurd Clarke, & Miller, 2011).

Chronic pain, considered as lasting three or more months (Ehrlich, 2003), is estimated to affect between 31.5 percent to as many as half of all community-dwelling older adults, and prevalence is predicted to increase with age (Kemp, Ersek, & Turner, 2005; Weiner, Rudy, Morrow, Slaboda, & Lieber, 2006; Ryan & Ryan, 2011; Schlopflocher, 2011). Furthermore, among older adults, the back is one of the top three most common locations reported for pain (Abdulla et al., 2013). One reason for increased prevalence of chronic back pain in older adults may be that, as people age, there is a higher frequency of co-morbid conditions associated with pain symptoms, such as osteoarthritis and osteoporosis (Ryan & Ryan, 2011). Researchers indicate the experience of pain in older adults is intrinsically different than pain in younger populations for biological, psychological, and social reasons (Ryan & Ryan, 2011). Specifically, the association between pain, function, and depression may be different among older adults compared with younger people, with older adults being at greater risk of becoming highly impacted with high levels of dysfunction and depression at correspondingly lower levels of pain (Corran, Farrell, Helme, & Gibson, 1997; Gibson & Lussier, 2012). Although there have been

several studies on pain management strategies, available literature tends to focus on perceived barriers to exercise rather than identifying factors which promote maintenance of physical activity in the presence of pain in older adults (for example, Austrian, Kerns, & Carrington Reid, 2005; Schofield et al., 2011; Zalewski, Alt, & Arvinen-Barrow, 2014). However, it is equally important to develop an improved understanding of continued activity participation (specifically, herein, exercise participation) among older adults with chronic back pain.

Studies describing the effects of exercise for older adults with chronic back pain suggest that exercise ameliorates the experience of pain. A bicycle endurance intervention study found significant improvements in overall physical functioning and positive effects on ability to cope with pain in older adult participants with chronic back pain (Iversen, Fossel, & Katz, 2003). A review by Rainville and colleagues (2004) reported reduced pain intensity, improved attitudes, beliefs and affect, and enhanced flexibility, strength, and endurance with exercise in older adults with chronic low back pain. However, daily exercise is reported by older adults among the least preferred coping strategies prescribed by healthcare professionals for self-management, along with medication and referral to physiotherapy (Lansbury 2000). Further barriers to exercise participation by older adults with chronic pain have been clearly documented. Personal factors as barriers to exercise participation included: internal drive, apprehension, education level (Austrian, Kerns, & Carrington Reid, 2005), pain intensity, self-efficacy, and control beliefs (Trafimow & Trafimow, 1998; Leveille, Cohen-Mansfield, & Guralnik, 2003; Weiner et al., 2006). Contextual factors reported to impact uptake of exercise by older adults were: accessibility to exercise programs (Austrian, Kerns, & Carrington Reid, 2005), past experiences with clinically-prescribed exercise, and relevance of exercise within current self-management strategies (Liddle, Baxter, & Gracey, 2007).

Previous research supports positive benefits of exercise for older adults with chronic back pain. Nevertheless, in-depth investigations which focus on the lived experience of exercise from the perspective of this cohort have not previously been presented. Understanding the experiences of older adults who continue to exercise despite daily pain may provide important information for health promotion practices encouraging the uptake of exercise to manage and improve chronic health conditions. In exploring the meaning of the experience of exercise among older adults with chronic back pain, I strived to co-construct a thoughtful and meaningful understanding of how self-implemented, regular exercise is lived through by members of this cohort, as this experience may provide important insights when encouraging older adults with chronic back pain to exercise and benefit from the positive effects on health with regular exercise. Rather than striving for development of instrumental techniques, rules, or policies to direct behavior as might typically be considered in behavioural social science research, the phenomenology employed herein aims to provide “tactful thoughtfulness” (p. 156), which may assist individuals to perceive, understand, and act with more care and discernment (van Manen, 1990). Phenomenological research has tremendous value for healthcare professionals in its reverence for thoughtfulness. As healthcare professionals, we must carefully consider the ‘lifeworlds’ of our patients. For professionals working with older adults and patients with chronic back pain, gaining insight into the meaning of everyday lived experiences such as exercise may contribute to more meaningful patient-practitioner relationships.

Methodology

In this study, I employed hermeneutic phenomenology, informed by an interpretivist perspective that values the everyday experiences of older adults as a source of knowing (Wilding & Whiteford, 2005). Phenomenology allows for the exploration of experiences in context

(Wilding & Whiteford, 2005). The dynamic nature of hermeneutic phenomenology embraces my interpretations of the phenomenon and serves to highlight complexities of human health and the uniqueness of participants' experiences (Wilding & Whiteford, 2005). Furthermore, hermeneutic phenomenology centralizes the importance of everyday experiences and the meanings people ascribe to them, thus it was well-suited to a study in health and rehabilitation science (Wilding & Whiteford, 2005).

Interpretive phenomenology aims to study the nature and meaning of experiential phenomena (Annells, 1999). My interpretivist paradigmatic position from which this research emerged presupposes an indissoluble link between interpretation and understanding, and acknowledges all understanding as a form of interpretation shaped by individuals' lived experiences (Johnson, 2000). My epistemological understanding is that 'truth', 'reality', and meaning behind human actions arise from individuals' unique interactions with the world within their social, cultural, and historical contexts (Schwandt, 2000; Charmaz, 2008). I believe human understandings of our experiences and our selves are interpreted from our interactions in the world and constructed through language (van Manen, 1990; Charmaz, 2014). The research is situated in constructions of participants' experiences, and the interpretive understanding presented herein is a construction involving my interpretation and representation. Knowledge claims presented herein are not alleged to be 'true' or 'universal' realities; however, I maintain that the interpretations and findings of this research are rooted in participants' 'realities' based on their perspectives (Schwandt, 1994; Charmaz, 2000; Guba & Lincoln, 2005).

I maintained a hermeneutic positionality toward data collection and analysis of transcripts influenced by Max van Manen (1990). I maintained an 'openness' to the stories of everyday experiences through critical self-reflection and with attention to 'pathic' knowledge or 'felt

sense' of being in the world (van Manen, 1990; 1999; 2014), as opposed to the more objective, controlled information traditionally required in positivistic, scientific research. Phenomenology focuses on everyday events, or “matters of the lifeworld” (p. 7), where the ‘lifeworld’ is considered to be the world as it is ‘truly’ experienced, pre-reflexively, in-the-moment (van Manen, 1990). In adopting this perspective, I acknowledge the influence of Maurice Merleau-Ponty (1962, 1964) and his theorization that knowledge and experiences are realized through our being-in-the-world; thus, experiences become ‘conscious’ through perception, and peoples’ perceptions of experiences are actualized through four ‘lifeworld’ aspects: body, time, space, and in relation to other people (Merleau-Ponty, 1964; Racher & Robinson, 2003). In order to maintain a focus on ‘pathic’ knowledge and participants’ lived experiences, analysis was initially guided by four existential themes – lived time, lived body, lived space, and lived relations – which are conceptualized as fundamental to all lived experience (van Manen, 2014; Heinonen, 2015). Through reflexive consideration of participants’ words, existential themes, and implicit understandings, as well as writing and re-writing of the findings, it was possible to identify unique attributes – or essence – of the experience.

In keeping with a hermeneutic phenomenological perspective, I recognize that the essence of this lived experience can never be considered fully complete and the findings presented herein are only a representation of participants’ experiences (van Manen, 1990). As such, my ambition with this research was to provide an in-depth exploration of the experience of a cohort of older adults, specifically those who were engaged in continued regular exercise despite chronic back pain. With these insights, my hope is to inspire a more sensitive, tactful approach to shaping the presentation of exercise in order to support older adults to participate in physical activity for maintained or improved overall health. Findings generated from this study

are, thus, contextually-linked to the time and place, to the participants, and to myself as the researcher; therefore, they are not statistically generalizable to other larger contexts.

Methods

Participant Sampling

I employed purposive sampling to recruit ten community-dwelling men and women aged 65 years and older who had chronic back pain, self-described as lasting most every day for three or more months (Ehrlich, 2003) and impacting on activities in daily life, from a mid-sized city in southwestern Ontario. The sample size was not predetermined; rather, it was pragmatically informed as no new participants were approaching me after six months of recruitment, and I felt that I had amassed a collection of rich descriptions and insights through the in-depth interviews I had undertaken with the ten participants. I accessed potential participants through public notices at various community centers around the city, which offered classes and fitness facilities for use by older adults. With permission from one community center, I also made a brief presentation to a group of seniors in the organization regarding my study. Three participants were referred to me through word-of-mouth by other participants. To be included, participants' level of physical exercise was assessed over the telephone using the Godin Leisure Time Exercise Questionnaire (Godin & Shephard, 1985; Godin & Shephard, 1997). Older adults engaging in at least moderate exercise, as defined by the 2011 Compendium of Physical Activities, for at least 150 minutes per week were deemed to meet the exercise requirements (Godin & Shephard, 1997; Ainsworth et al., 2011). Exclusionary criteria for this study included if potential participants' self-reported pain was cancer-related, or if the individuals were awaiting surgery for their pain. I selected these exclusion criteria with the presumption that individuals with cancer-related pain may have other factors, including worsening of disease, which would influence their decision and ability to

participate in regular exercise (Stevinson, 2006). Furthermore, older adults living in institutionalized or hospital settings were to be excluded as those settings typically provide care for older adults in poorer health, both physically and cognitively, than community-dwelling older adults (Muir, Berg, Chesworth, Klar, & Speechley, 2010). Finally, potential participants who did not meet the minimum score for cognitive non-impairment would be considered ineligible for inclusion as this study involved in-depth individual interviews, relying upon storied experiences to elucidate the meaning of exercise. Participants were screened for cognitive non-impairment with the mini mental telephone screening tool, prior to being invited for an interview (Roccaforte, Burke, Bayer, & Wengel, 1992). Notably, there were no potential participants excluded on the basis of these criteria. I ensured that all participants provided informed consent for audio-recorded interviews and use of their anonymous data for analysis, interpretation, and dissemination prior to conducting the research. This study received approval from the Research Ethics Board at The University of Western Ontario (Appendix A).

Data Collection

I conducted in-depth, individual interviews, which were audio-recorded and subsequently transcribed verbatim, in private rooms within healthcare facilities or within participants' homes; interview locations were selected by the participants for convenience and comfort. I employed open-ended questions in an effort to be as inclusive as possible in gathering the rich descriptions of the lived experiences, stories of exercise experiences, and information about social context, including living environment, family and friends, and general health. Interviews lasted between 40 and 90 minutes. Sample questions included:

- Tell me about exercise in your life.
- Tell me about the choices you make about exercise.

- What are your most important priorities around exercising?
- Tell me what you think about before you start exercising.
- Can you tell me about a time when you felt you were not successful in exercising?
- Tell me about your back condition.

In line with hermeneutic phenomenological tradition, data collection and analysis were iterative processes. As interviews progressed and themes emerged, I modified the interview guide in order to explore emerging concepts in more detail and to critically discuss themes with participants to ensure my understandings reflected their experiences and that conclusions represented the essence of the experience (van Manen, 1990; Wilding & Whiteford, 2005). The initial interview guide is provided in Appendix G.

Data Analysis

I transcribed the audiotaped interviews to immerse myself in the data. I wrote reflexive notes of my impressions of participants' stories after reading and re-reading the transcripts to make my assumptions explicit, to remain cognizant of how I influenced interpretations of the data, fully aware of my own lived experience with a parent with chronic back pain and my identity as a physiotherapist. I analyzed participants' descriptions of the experience of exercise in daily life using a 'phenomenological reduction' approach (Shaw & Connelly, 2012). Through a detailed line-by-line approach (van Manen 1990), I coded participants' descriptions of experiences, thoughts, feeling, decisions, and behaviours on the transcripts in a free, 'open' style of coding (Larkin & Thompson, 2012). As common interpretations emerged from participants' stories, I established sub-themes and themes to characterize features of the experiences of exercise in the daily lives of older adults with chronic back pain in conjunction with 'free imaginative variation' – a process of inclusion and exclusion of various features from the

transcripts to distinguish central core concepts of the phenomenon (Shaw & Connelly, 2012). Further, ‘mind mapping’ was used as a tool (Buzan, 2002) to visually describe emerging relationships between concepts, allowing for critical analysis of conceptualization of themes and their relative importance to the underlying phenomenon (Appendix J). Through reflexive consideration of participants’ words, existential themes, implicit understandings, and mind mapping visual representations, as well as writing and re-writing of the findings, I identified unique attributes – or essence – of the experience. Recurring themes from the writings of the findings and mind maps were written together to develop my interpretations of the hermeneutic understanding of the lived experience of exercise by older adults living with chronic back pain (van Manen, 2014). Each step of the comprehensive analysis process was completed with review by my thesis supervisor, who challenged my written interpretations, thereby promoting coherence and sincerity.

Methodological Rigour

In ensuring methodological rigour in this research study, the key quality considerations were *coherence* and *sincerity*. *Coherence*, as described by Ballinger (2006), required that the research purpose, procedures, and presentation of findings complement my theoretical and philosophical beliefs and those underlying interpretive phenomenological methodology. My theoretical perspective leads me to believe that there is no one true reality, rather the interpretations and subjective experiences of the participants are fundamental to understanding the phenomenon (Wilding & Whiteford, 2005; Ballinger, 2006). In embracing an interpretivist paradigmatic position, I recognize that findings generated from this study are inseparable from my own understandings of the storied experiences of older adults with chronic back pain. Consequently, I also recognize the possibility that different constructions of the meaning of

experiences of exercise could exist in other contexts, studied by other researchers (Wilding & Whiteford, 2005).

To ensure *sincerity* in this research, I draw the reader's attention to issues of transparency and self-reflexivity, as outlined by Tracy (2010). To demonstrate honesty and transparency, I documented procedural and interpretive decisions made throughout the research process in a methodological journal and discussed these decisions with my research supervisor (Appendix K). In this journal, I declare my cultural and historical presuppositions, attitudes, values, and beliefs as a researcher, my role in the research process, and how my experiences implicate the presentation of research findings to articulate sincerity in my research.

Findings

Participants

The sample of participants for this study (n=10) included seven women and three men, aged 66 to 97 years, from a mid-sized city in southwestern Ontario. Participants' reported varied duration of back pain ranging between 10 and 70 years. No specific pathology or diagnosis for chronic back pain was required for participation in this research. All participants were considered 'community-dwelling' – i.e., living in their own home – at the time of the interviews and were fluent in the English language.

The reported frequency of exercise activities among participants ranged from three to six separate sessions per week; however, each individual confirmed at least 150 minutes of exercise per week at a 'moderate' (for example, non-exhausting fast walking, easy swimming or cycling) or 'strenuous' (for example, running, squash, vigorous aerobics in which heart rate is rapid) level (Godin & Shephard, 1985). Types of exercise included walking, swimming, biking, aquafit, aerobics, resistance-training, yoga, golf, and squash.

The Meaning of the Experience of Exercise in Older Adults with Chronic Back Pain

For the older adults participating in this study, the meaning of the experience of exercise was inextricably connected with their chronic back pain; participants exercised *because* of an intricate link between their back pain and exercise, rather than despite it. The essence of *relief* from pain offered by exercise was considered in light of two major themes, mind and body, as well as six sub-themes: enjoyment, social engagement, gratitude, learned limitations, maintaining mobility, and aging.

Major Theme One: Mind

A resounding message throughout participants' stories was the important influence of exercise on mental well-being. Despite my pre-conceived consideration of exercise as an outlet for physical, bodily movement, the participants in this study emphasized the importance of exercise as providing *relief* from the 'emotional weight' of chronic pain. It was evident in the interviews that participants' exercise activities provided an imperative reprieve from pain and had a positive influence on mood and mind. In particular, participants often described chronic pain as impeding their mental capacity, by reducing their ability for concentration or evoking feelings of frustration; however, in contrast, exercise provided a psychological relief from the ever-present thoughts of and cognitive awareness of pain. For instance, Participant 3 noted, "*[pain] affected my concentration. I still tried to play squash. [...] But that really did affect my concentration and my ability to play squash.*" He went on to stress the importance of exercise for his mental well-being, "*if I haven't exercised in two days, I start – I don't feel right [...] I think that really sort of affects, you know, my mood*".

Importantly, the influence of exercise on participants' minds was often described in terms of a 'welcomed blankness'. Whereas feelings of aching, discouragement and frustration might

typically infiltrate their minds throughout the day, participants noted their concentration on exercise activities provided a distraction from other thoughts; without explicitly mentioning pain, participants' quotations highlighted mental relief from pain through their absence of acknowledgement of pain in the moment of exercise.

You really are concentrating on what you're doing, the number of times you're doing this, but there's music and a beat to help you keep up to the time and instructor does it with you. So I think what you're thinking about is just you're right into doing just that. I don't really think about much else, just if we're doing an exercise – a certain exercise – you're just concentrated right onto that. (Participant 1)

Similarly, other participants described concentrating on counting or allowing their mind to wander while exercising. Participants noted one of the benefits of engaging in vigorous exercise was that it forced them to focus on the exercise itself and to otherwise 'empty' their minds.

The meaning of the major theme of *Mind* – the influence of exercise experiences on older adults' minds – was considered as composed of three sub-themes: enjoying exercise experiences, the importance of social engagement through exercise, and presenting an attitude of gratitude.

Sub-theme one: Enjoying exercise experiences.

The significance of truly enjoying exercise activities was striking. Several factors contributed to participants' opinions of the enjoyment of their exercise experiences, including the type of activity, the environment including physical space and other people, and encouragement they received from continued function and use of their bodies. Participant 4 described,

I'm pretty regular three times a week, and I miss it if I don't come. I go to beginners' aquafit [...] I tried yoga a couple of times and really didn't like it, so I didn't stick to that. [...] I got coming here and just loved it, because I love water. I used to be a good

swimmer in my younger years. So I've been coming here ever since [15 years] [...] I don't really enjoy doing the exercises at home as much as I enjoy coming here.

Interestingly, Participant 1 commented specifically that what made aquafit classes more enjoyable than yoga at home was the fact that her classes required an arranged routine with others outside of her home. She stated,

I even have a couple of tapes of yoga – sitting yoga and standing yoga – and I did that for a while. But I much prefer this, going out of the house and having a particular time that I'm supposed to be there and that's – I never miss that.

In a similar manner, the journey to find an exercise program that best fit her needs was detailed by Participant 5. She recounted,

The doctor told me to come here or similar places that had the heated pool, and that would probably help out, which it has. It's been very good. [...] I've been here for about 10 years at least. [...] I don't play tennis or these – they're too vigorous for me, and I don't know how to play them anyway, so I didn't choose any of those sports or exercises I should say. So I stick with the ones that maybe are a bit simpler at that, they aren't – I guess they are simpler? I guess they are. And I enjoy them.

Participant 3 also noted the importance of receiving satisfaction from his choices of exercise. He compared his exercise choices with those of other people he knew and previous activity types he had trialed. When asked about his choices regarding exercise, he replied, *“Well I mentioned I don't run and that's a choice. I did run but I never really got hooked on it. You know, I never really got the satisfaction.”*

Many of the older adults in this study opted to attend organized, group-based exercise programs. With that, the nature of the instructor – as well as participants’ interpretation of the instructor’s likeability and skillset – played a large part in their enjoyment of the exercise events.

I complemented [instructor name] today because she is the best instructor I have ever had anywhere. She’s like a choreographer in a musical revue, she really does her homework. And the music – she uses, oh Mamma Mia, a lot of, you know, pieces with a real beat. [...] And it’s fun! You know, I’ve heard some of the [fellows] [...] the one said to me one day, ‘I don’t know how she gets me to do some of the things I know I’m not capable of, but she gets me to do them’, because she just inspires us. [...] That’s the one thing I like about this program: it’s supervised so well. And even though I’ve been doing weight machines for twenty-something years, but you can still get into bad habits. And she watches us all the time. It’s great. [...] We’re very lucky to have it here. (Participant 7)

Participant 9 also described strong feelings toward the quality and amicability of her instructors. She stated, *“My instructor is really, very good. She’s not military-style at all. She’s a lovely, pleasant, modest lady. And very easy to work for. In my years here, I’ve had four different exercise leaders. They’re trained – they’re highly trained.”*

Interestingly, many participants underscored that they were not always enthused to exercise. Several participants described days when they hesitated to exercise, or noted parts of their exercise programs which were not as pleasant. Nevertheless, there appeared to be a balance between enjoyment and implementation, and the internalized belief that exercise was beneficial persevered. Participant 6 – who exercised five days per week at a fitness center – recalled, *“I’d rather go golfing than go to the gym. I like outdoors. I’d rather go fishing than go to the gym, but that doesn’t give me the aerobics.”* Other participants similarly sympathized with the notion that

exercise could be tedious; however, they seemed steadfast on the fact that exercise would remain part of their routine for as long as possible due, in large part, to their appreciation of it.

I suppose there would be lots of reasons to think, ‘oh, I’m not going to do that today.’ But I don’t ever feel that way. And that’s only because of the pleasure I get from getting into the water. I wouldn’t do that if it were a regular exercise class [...] That would not be something I’d probably stick to like I’ve stuck to this, but I intend to do this as long as I can. As long as they have the program. (Participant 2)

The older adults in this study seemed to revel in the fact that exercise enabled them to remain physically active. These participants had discovered forms of exercise which both challenged and highlighted their physical abilities. For instance, Participant 4 exclaimed, *“It’s a lot more fun here. It’s easier to do these things in the water, and I just enjoy it more. [...] I’m getting much better at it because I know it is better for my body to do it and it does help my back for sure.”*

For the older adults in this study, it seemed as though the onset of chronic back pain imposed limitations on their bodies and lives, whereas exercise allowed them to extend their abilities and remain engaged in meaningful activities; this characteristic of their exercise experiences was inherently enjoyable and gratifying.

Sub-theme two: The importance of social engagement through exercise.

The importance of social engagement through exercise was a theme in each interview. When asked to describe her aquafit routine, Participant 4 identified, *“a little bit, you know, is social too. I mean I’ve been with some of these people the whole length of time I’ve been coming here, and we do laugh, but laughing is good for you.”*

For some participants, it appeared as though the belief that others would expect their presence during scheduled exercise sessions was a motivator for participants to attend. When asked about choices she makes and priorities surrounding exercise, Participant 1 stated,

I will never miss if I have to go somewhere. It's like going with a friend for a walk. If you have a friend to go for a walk with and tell them you'll go, you'll go. If you are on your own, maybe you won't. So anyway, that is one psychological aspect of it all.

Participant 3 echoed the notion of the difficulties of remaining self-motivated without external supporters when reflecting on his early decisions. He stated,

One thing with the cycling, I think I've made a mistake by never joining a group – a cycling group – because it's the old story if you leave it to yourself, you know, you don't go as often as you should. [...] That's a challenge for anybody.

In addition to providing impetus for continued engagement with exercise, social interaction with others indeed enhanced the enjoyment of exercise activities for all participants in this study.

Participant 3 enthusiastically highlighted the significance of companionship with exercise,

Another thing I like about the exercise that I do is the camaraderie. [...] I could exaggerate and say, 'the only reason I golf is because of the camaraderie.' [...] what I enjoy is the interaction with the people. And that is also really evident at our squash club.

It's a really fun place. [...] No snobby stuff or anything like that. It's just a lot of fun.

Participant 9 also acknowledged the importance of the other people who she interacted with during her exercise activities. Although she was unfamiliar with the other exercisers prior to joining the group-based fitness class, she described her appreciation for their companionship.

I consider the group that I run here with friends and acquaintances. I'm interested in their lives. [...] I think about those people through my day and appreciate them. So this is good

for me – this group – socially. It really is good for me. Because you can chat while you're exercising and you can know about each other. And they're lovely people and so on.

Similar sentiments of positive inclinations toward the social aspect of their exercise activities were alluded to by several participants. Participant 2 noted, *“When I'm in the pool, there are other people, and we're just talking. Socializing really. Because they're all just doing their own thing, and I'm doing mine, and it's just, just general chatter.”* Participant 5 also stated, *“It's a little bit of social time with our exercises. I think we're the chattiest group that they have here.”*

When asked to describe what she thinks about during exercise, Participant 7 heartily stated,

I think about my companions; how they are, what they're doing. It... the social aspect of those classes is every bit as important as the physical. And we have a great group. We've even started going out the odd Friday for lunch together. [...] It's a fun group.

Interestingly, the influence of the support of other people was described both by participants who regularly engaged in group-based exercises, as well as participants who typically exercised independently in a public space. For Participant 8, there were a number of people who regularly attended the same fitness center around the same time each day. She stated, *“It's just a group, it's a group of people that you know. And that's the other thing: you have support from people that I go – that I meet every day at the gym.”*

Notably, all participants in this study were retired at the time of the interviews. Although the time since retirement varied among participants, I believe a component of the import of social interaction through exercise was rooted in the potential lack of other friendships, which may have previously been provided through work or other organized activities. For instance,

There's a group of us that have been together for years, going to the gym. And we do some socializing while we're working out on the machines. [...] That's when we

sometimes break and talk to people, meet new people. It's a social thing, I guess is important. Now that I don't have that kind of social contact I had when I was working, the gym becomes important. (Participant 6)

Relatedly, for this cohort of participants, having a group of similarly-aged peers may have been valued, although not necessary, for adding to the enjoyment of exercise activities. More importantly, it would seem, were like-minded, positive attitudes of others present during exercise, which added to the pleasure received from the activities. Participant 1 expressed,

Most people in joint therapy, which is my class, we have some things in common. Most of us are of an age, there are only a couple say in their 50s, but most of us would be in our 70s. I don't have a lot in common with a lot of them but they're, on the whole, very congenial people. They like to chat. There's always some laughter. It's kind of an upbeat kind of group. [...] They're very, very nice people. So that's important. The people you're doing this with make it a pleasure.

As detailed in the following section, it was imperative for the participants in this study to maintain an appreciative attitude toward their chronic pain condition as well as their exercise abilities. It appeared the presence of positivity from others provided further encouragement for continued participation by offering motivation, enjoyment, and meaningful social engagement.

Sub-theme three: Presenting an attitude of gratitude.

A striking theme among participants' interviews was a sense of positivity and gratitude. These appreciative attitudes were especially apparent when participants discussed their chronic back conditions and, specifically, the capabilities they maintained despite their potential setbacks. For Participant 4, when asked what makes her exercise successful, she replied, "*A good attitude.*" When elaborating on how she approached exercise in order to be successful, she noted,

“I approach it with positive thinking, and know how good it is for me. [...] I just need that positive attitude and get at it and do it. And then some of those aches and pains will be gone by the time I finish.” Likewise, in response to the same question, Participant 7 responded, *“Just always think positively and think of the benefits.”* Quite similarly, Participant 5 explained,

Thinking positively of course. [...] I have to think positively that I, you know, that I’m doing this to benefit myself. And that helps me to a certain point to do it successfully. Some days, of course, aren’t as successful as others, when I have more pain than other times. But I try to keep positive. And some days it’s hard to do. I carry on anyways.

For many participants, a grateful mindset was closely correlated with their internalization of their fitness. Participants described learning first-hand that they could continue to lead meaningful, active lives with chronic pain, as long as their commitment to exercise was steadfast. Despite living with chronic back pain for nearly fifty years, Participant 3 described his good fortune in avoiding other injuries. He attributed his well-being to his ongoing commitment to physical exercise stating, *“I’ve avoided a lot of injuries because a lot of squash players end up with – they’re not able to play with their knees or whatever. So I’ve been fortunate with that. [...] I think some of it, what I’m doing, is what they call it ‘exercise’ or ‘preventative medicine’.”*

Gratitude resonated through many participants’ interviews, not only through their stories of exercise experiences, but also in their descriptions of their lives on the whole.

I enjoy my life. I think, I worry – sometimes I’m startled at how the years have added up. Especially in the night sometimes I think, ‘oh God, I’m getting so old’, but it’s a good time of my life. I think I’m a happy person. I enjoy people. I enjoy the friends I have and the family I have. I consider myself very lucky. I think that has a lot to do with how you feel and how you exercise and all – if you enjoy what you’re doing. (Participant 7)

It is unclear as to whether the onset of chronic back pain and subsequent events, which taught participants their limitations and abilities, cultivated attitudes of gratitude, or if the participants recruited in this study – who were previously exercising regularly – represent a subset of the population who inherently already had an optimistic outlook. Nevertheless, it was apparent that, for this group, maintaining an attitude of gratitude – toward their health condition, exercise activities, and current capabilities – was connected with continued engagement in exercise.

Major Theme Two: Body

The second major theme, *Body*, arose from participants' connections of exercise experiences with their physical bodies. Importantly, the significance of these associations lay in the predominantly positive nature of the linkage; whereas chronic back pain had, for many, created dissatisfaction between participants and their bodies, exercise times offered a period of relief from the physical feelings of pain as well as the confines sensed from a 'disabled' body.

Similarly to *relief* of the mind from pain with exercise, participants' stories contextualized exercise as a relief from body pain. Participants described positive feelings of freedom in movement, feeling more able and agile, and bodily-felt satisfaction following exercise. Simply, Participant 4 stated, "*I know I feel better when I do exercise and keep moving.*" Likewise, Participant 1 ardently noted,

I look forward to it. I can say that. I look forward to it. And the freedom the water gives you. [...] The water, it's relief from pain, is what the water exercises do. That would not be true of other things. But exercising in the water – which is the only thing I can talk about – is a relief from pain really. And the ability to move in ways you can't move out of the water.

Participant 7 described feelings of relief as ease in movement following exercise.

First thing in the morning, when I'm putting my shoes on for instance, when I go there and change into my gym shoes, I feel stiff. And by the time I'm finished, I feel I could do anything. Everything's eased.

Participant 6 also described differences between his stiffness and suppleness before and after exercising. He stated, *"I just stretch [my back] a little bit and then I walk around doing the weights, and it doesn't bother me then. And then I'm usually pretty good the rest of the day unless, you know I sit, stop moving."*

Importantly, although it appeared as though participants had internalized understandings that exercise would ultimately provide relief from their pain, not all of the older adults identified as eager exercisers all of the time. Rather, several individuals described debates with themselves when preparing to exercise, with *anticipated relief* as the ultimate reward. In the tersest example of this, Participant 10 noted the value of exercise was, *"Getting it over with! [...] It's like beating your head against the wall. It feels good when you quit."* Participant 9 illuminated,

I make a choice at 5 o'clock in the morning every Monday, Wednesday, and Friday. The choice is: get out of bed. I never really want to. [...] But I know that I will feel good while I'm exercising – until I get really exhausted.

When prompted to consider what she thinks about before exercising, Participant 9 went on to state, *"That I need to do this thing. I can remember how uncomfortable I was, and incompetent I was, before I got into this routine. That I'm tired. That this is a good thing to do. That I'm going to feel exhilarated pretty soon."*

The essence of relief was distilled both through participants' use of the term, as noted above, but also from the notable absence of descriptors of pain during exercise experiences. The realization that exercise could provide an opportunity for diminished or deficient pain for older

individuals who lived most everyday with some level of chronic back pain was imperative. A final comment by Participant 2 encapsulated the overall feelings depicted by the other older adults in this study. At 97 years old, she stated, *“I always feel that, after I’ve exercised, that it was worth the effort”*. For the participants in this study, relief was lived and felt through positive exercise experiences, and their understanding that exercise would continue to provide relief seemed internalized based on their prior involvement in the act of exercising. When asked about the choices she makes around exercise, Participant 9 stated,

To stay flexible. To beat the arthritis that is in my spine. [...] I really push hard. I probably push harder than anybody else in the class, thinking that maybe that will strengthen the heart. [...] Strengthen the heart and stay moving in spite of the arthritis.

Flexibility, strength, and perseverance of the physical body was also described by Participant 6, who explained how motionlessness led to immovability, but remaining active and persevering allowed him to continue.

Sometimes, like when I come home from a hard day of fishing or golf and I sit down – when I stop moving – I freeze up. Like I can hardly make a fist sometimes because there’s just, there’s nothing there. And if I get in the recliner, it’s just like my joints have quit on me. I find it very stiff to get up and start moving again, but that’s what I have to do eventually. [...] I get up and start moving again and, you know, things loosen up.

Participant 6 also went on to describe the daily routine of rigidity, but emphasized the importance of tenacity to continue moving, *“You don’t move it, you lose it”*. Participant 7 understood this phenomenon through her sister, *“She told me when she was in her mid-90s, she said, ‘the worst thing I ever did was stop exercising.’”*

The meaning of the major theme of *Body* was considered as composed of three sub-themes – learned limitations, maintaining mobility, and approaches to aging – which are explored in more detail below.

Sub-theme four: Learned limitations.

Older adults in this study were acutely aware of their physicality and the boundaries imposed by way of their bodies serving as their ‘vehicles’ in the world. Participants described an awareness of their bodies, which was not consciously felt until the onset of injury or illness.

When your back goes or any part of you goes and it hurts to walk, then you think of all the things you do that you don’t even think of. [...] When you have no pain, you don’t even think about limitations of what you’re doing. You do six things a day and you just do them. When it’s painful, then you limit and you think about it. You’re just thinking about [pain] more often I guess. (Participant 1)

Many participants described vexation with the limitations imposed upon them by chronic back pain. Participants discussed activities they were no longer able to take part in, as well as modifications required to the activities they maintained. For instance,

I’m not able to do a lot of things I used to do, or that I really want to do. Like we used to go bike riding, we used to be campers. [...] So it limits me to what I can do, and it limits my husband and I, what we can do now. [...] I just can’t keep up that pace anymore. I just can’t do it. So it really has changed my life. But if I didn’t do what I do – I could just give up and be in a wheelchair and I’m not going to do that. [...] With the pain, I just do a little and then you pace yourself and sit down or lay down and rest. (Participant 4)

Likewise, Participant 1 provided a vivid description of the limitations now imposed upon her as a result of her chronic back pain.

That was what I find hard is a lot of stuff I just can't do now. I can't go shopping now, for instance, because I just can't walk far enough to go to more than one or two stores. [...] Your life kind of shrinks down to going for lunch with friends – that's okay – and going to a movie is okay, because I can get handicap parking and not have to walk too far. But, it does limit. You're very, very limited.

Many participants described a manner of discovering forms of exercise which best suited their needs. This progression often involved a process of trial and error, and testing the bounds of their activity and pain tolerances. This process of finding forms of exercise which met their wants and needs was an important aspect of their experiences. Participant 1 noted, *"I don't think I would go to a straight exercise class because there's so much I can't do. This is just [...] is just exactly what I need. So it couldn't be any better. Tailor made."*

A number of participants noted the need to pace themselves by balancing their times of exercise activities with periods of rest and relaxation. Participants' descriptions of lived time highlighted fairly regimented routines of scheduled exercise and rest, which enabled them to extend meaningful activities throughout the day. Participant 4 stated, *"You have to learn to pace yourself. [...] You do a bit of work or walking or whatever, and then you need to take a rest."* Similarly, Participant 7 noted, *"I still really believe if you keep moving it, you're [better off] ... you know, I truly believe that. But rest in between. Rest when you're tired."* Participant 10 also alluded to the importance of allowing himself time to rest and relax by stating, *"I feel you have to try and make an effort to move [...] but you can't be moving all the time, you know?"* For Participant 2, allowing herself time to relax and recover following her exercise sessions enabled her to have more energy throughout the remainder of the day.

Usually when I – after I’ve done – especially here at the pool or a long walk, then I will have a rest for sure. And I lay down and sometimes go to sleep, and I get up and I feel better. I have more energy and get going again.

Each participant demonstrated an awareness of his or her body, noted through the impact of pain on daily activities. It seemed as though exercise experiences were an extension of this bodily consciousness, albeit in a much more positive sense. Exercise enabled participants to employ their bodies in a more meaningful manner than that allowed by a body crippled with pain.

Sub-theme five: Maintaining mobility.

Several participants noted they had exercised throughout their lives, and they intended to remain physically active going forward. For instance, Participant 8 stated, “*I’ve always considered myself reasonably active,*” and Participant 9 noted, “*I’ve intermittently tried to exercise all my life.*” Similarly, Participant 5 described exercise routines as a “*habit*” and “*part of a routine*”. For many participants in this study, remaining physically active through exercise was considered as a non-negotiable and necessary endeavor. For instance, Participant 3 stated,

I’ve always wanted to maintain, you know, exercise. I feel better when I do. And I’ve never been an exercise addict but I’ve always played a lot of squash, and I still play three times a week. [...] I’ve maintained it pretty well throughout my life. [...] We do try to walk a fair amount from where we live, you know, we walk a lot of places. It’s kind of handy, which again is another habit to maintain.

The concept of maintaining mobility through exercise was also considered with caveats for improvement by Participant 9 as she stated,

I hope to stave off further deterioration as I get older. I hope to stay strong enough in my abdominal muscles that the back doesn’t start hurting again. I hope to keep up flexibility,

um, in the joints and I hope to hang on to strength. [...] So I hope to just kind of maintain the status quo. I'm not planning on becoming better at weightlifting or anything like that. And stamina – I don't think I'm going to be able to improve any. [...] So I think I'll maintain the status quo as best I can.

Another participant expanded on the intention of maintaining her current level of mobility by noting she still continues to aim for improvement in her physical capabilities.

My goal would be to at least maintain what I have, and hopefully increase somewhat. I mean, that's always my goal is that I can, you know, do a different class or I can do one more rep, or I can spin a little harder. That's always the goal. (Participant 8)

For others, the notion of maintaining mobility was conceptualized as a life-long habit. Several participants underscored the importance of exercise as a lifestyle, which they had maintained for decades. For Participant 7, the importance of maintaining mobility through regular exercise was described with reference to feelings of missing out if ever she were to forego an exercise class. She described, *"I think I've exercised all my life [...] It's part of my lifestyle. And I miss it so much if I – I have very good health, and I seldom get a cold, but if I do, I really miss it if I can't go."* Similarly, Participant 4 noted, *"At some point, I know I will be less able to do what I do now, but I'm not giving up. [...] [My mother] gave up and you can't give up. You have to keep moving."*

Participants seemed to have internalized an important correlation between remaining physically mobile and maintaining the ability to participate in meaningful activities in their lives. This relationship was particularly evident when participants made comparisons to other, less able individuals.

Sub-theme six: Approaches toward the influence of aging.

When asked to describe exercise in their lives, many of the older adults in this study connected changes – in their chronic back pain condition as well as their exercise levels – with aging. Participants often paralleled increasing pain with increasing age and declining physical ability. For instance, Participant 4 stated, *“I can’t begin to do what I used to do.”* Comparably, Participant 2 noted, *“I’ve slowed down. [...] Because of my age, I think.”*

Participant 1 continued along this theme, however her description succinctly highlighted the important attributes of resilience and optimism embodied by many participants in this study. She described, *“It’s just like anything else. You can either feel sorry for yourself because you can’t do it. Or you can do it as much as you can. And it’s just growing old. Growing old means sometimes limiting some of the things.”*

Rather than internalizing the notion that increasing age necessitated decline, participants appeared to accept aging as a constant and set it aside in order to operate within their lifeworlds. Despite the connections participants made between aging and negative consequences, the older adults in this study maintained positive attitudes toward their ongoing physical abilities and desires to remain active and engaged. In part, it seemed as though participants employed age as a means of empowering them to make decisions based on their wants and needs, rather than expectations imposed upon them. For instance, at 97 years old, the expectation from others that she must accept age-as-decline was especially salient for Participant 2.

I’ve gone to the doctor many times with my back. [...] Of course, usually a favourite expression of the doctor is, ‘you know your age...’. They always like to tell me my age, you know, ‘what can I expect for my age?’ But I expect that, for my age, that I can live my life comfortably, as comfortable as I can make it. You know? But no, they feel that I

shouldn't expect very much because of my age. But I feel that I don't expect too much, but I expect to be able to be comfortable. And if, by exercising and taking – not doing – tearing around, doing things I shouldn't, I feel that I should be able to enjoy life. Even with a sore back.

Changes with increasing age were not readily accepted for the older adults in this study. On the contrary, several participants noted their exercise tendencies had been lifelong habits and, as such, aging played a very minor role in their choices and actions.

My daughter worries about me because she said, 'mom, you don't pay attention to how old you really are.' She said I still walk too fast and do everything too quickly, and she worries about me, but you can't change yourself. That's just the way I'm built. But I resent that I have to... I get tired. And I find it hard to deal with that. (Participant 7)

Comparably, when asked what she might anticipate in her physical activity levels going forward, Participant 2 stated, *"I'm quite sure that it won't increase. It will decrease, of course, from my age. I feel for a person of my years, I think that I do very, very well really exercising. But it's something that I've always done."*

Several participants noted the importance of modifying their exercise environments to include supervision specific to seniors. The importance of safety while exercising had become a priority for many, particularly among the older participants in this study, upon experiencing falls themselves or hearing of stories from peers.

I had a fall, and hurt my back. [...] I just didn't trust the instructors at [fitness center] to be properly trained for seniors. And I had heard about this program that I'm in, and I'm so impressed with it. So I started going to that three times a week, and I've been going there I don't know how many years now. (Participant 7)

Likewise, Participant 2 described the decision to pay for a fitness club membership rather than utilizing the unsupervised gym in her apartment building.

I can't go because there's no supervision. [...] It's not good for older people – at least, I shouldn't say that, but it isn't good for me, because I feel that I need someone there if I needed help, which I never have needed help, but if I did, I would need someone then.

In a similar vein, Participant 9 jubilantly described the impressive nature of her fitness classes, which were specifically designed for older adults. Rather than connecting aging and exercise modification with declining ability, this participant's experiences suggested that amendments to exercise routines could be empowering in enabling older adults to remain physically active.

When asked what made her exercise successful, she recounted, *“It's really tailored to old people. In a thousand ways. And probably, as you work on this project, it would be useful to find out what they think about exercise for old people.”*

Overall, the participants in this study appeared to approach aging with cautious optimism and restrained acceptance. The older adults discussed increasing age as an ‘inevitability’; however, it was clear that narratives of inescapable decline with age were not internalized. Rather, participants acknowledged their increasing age as a component of the context within which they operated and exercised. Increasing age offered participants a point of comparison with their earlier selves and others; ambition for staving off physical decline; and opportunity for modified exercise programs, tailored to their needs.

Discussion

Implicit, immediate understandings about aging, chronic back pain, and exercise are considered on a daily basis by healthcare professionals and older adults alike. The meanings of these concepts are constructed and reified through social, cultural, and professional discourses,

and impact upon individuals' life choices and self-identities (Crotty, 2003; Twigg, 2006). I aimed to explore the meaning of the experience of exercise among older adults with chronic back pain, beyond implicit, presumed meanings, and to co-construct a thoughtful and meaningful understanding of how self-implemented, regular exercise is lived through by this cohort. The findings of hermeneutic phenomenology are not considered 'generalizable' as known in a post-positivist framework; however, implications of my understandings are offered for consideration by healthcare professionals in their interactions with older adults living with chronic back pain.

Exercise as *Relief*

Relief from, or the absence of, pain comprised the central theme in this phenomenological research study suggesting an important connection between exercise participation and mental and physical well-being for these older adults. Both chronic back pain and exercise activities influenced the 'felt' status of the workings of their minds and bodies. Exercise lightened the 'burden' of pain, and was sensed as a reprieve. Participants discussed three aspects related to *mind*, which emerged as essential elements to exercise experiences. The first element, *enjoying exercise experiences*, represented how imperative it was for these older adults to receive intrinsic gratification and encouragement from exercise activities. The second element, *social engagement through exercise*, represented the significance of companionship and support from significant others in exercise contexts. The third element, *presenting an attitude of gratitude*, represented the influence of positivity and optimism in attitude on attributing meaning to exercise experiences. Participants further discussed three aspects related to *body*, interpreted as critical elements to exercise experiences. Through their exercise experiences, participants discussed *learning their limitations*, learning the bounds of their abilities and finding meaningful exercises to best suit their needs, which inadvertently allowed them to learn the physical capabilities that they still

maintained. Further, participants spoke about the importance of *maintaining mobility*, which represented the significance for participants of remaining physically active through exercise for preservation of independence and preventing deterioration. Finally, participants' *approaches toward aging* highlighted approaches to aging described by participants, which connected their physical bodies, abilities, and engagement, and underscored the importance of tailored exercise environments for older adults.

Participants in this study continually emphasized a sense of *mind-ful relief* provided through exercise from the 'emotional weight' of chronic back pain; specifically, participants experienced exercise as a reprieve from pain and felt positive influences on several aspects of mind – mood/emotion, ability for thinking/concentration and capacity of mind. Older adults in this study highlighted substantial impacts of chronic back pain on their lived sense of being-in-the-world (van Manen, 1990) and presenting themselves in various contexts. Participants explained how recurrent, daily pain had initially deteriorated their perceived abilities to engage in meaningful activities and, subsequently, seemed to alter their perceptions of themselves as evidenced by their interpretations of embodied experiences and comparisons made to younger, former selves. Participants often described chronic back pain as an impediment on their mind, by reducing concentration or eliciting frustration. By contrast, exercise provided a relief for their minds from the ever-present thoughts of pain, and suspended pain-related limitations on their body during exercise participation.

Certainly, available literature supports a positive relationship between physical exercise and mental well-being (Penedo & Dahn, 2005). Moreover, there are emerging studies supporting the benefits of exercise for overall well-being in specific contexts of older adults (for example, Martin & McCann, 2005; Netz, Wu, Becker, & Tenenbaum, 2005), and for individuals with back

pain (for example, Hurwitz, Morgenstern, & Chiao, 2005). There also appears to be growing interest and research-based support for “mind-body therapies” (p. 360), such as tai chi and yoga, for older adults with chronic pain, which claim to focus on connections between the brain and behaviour to appreciate how emotional and mental factors impact health (Morone & Greco, 2007). However, this is the first study to my knowledge to suggest that the *meaning* of exercise for older individuals with chronic back pain may be in its ability to influence their mental ‘felt’ sense of pain, thereby offering *relief*.

Freedom from bodily ‘felt’ pain during exercise allowed participants to return to their active lived selves as imagined prior to – or without – pain. For participants, it was essential to learn the limits of their bodies as indicated by pain, to maintain movement, and to adapt their exercise participation within the combined effects of their chronic condition and aging. Internalization of and ‘actively remembering’ the positive impacts of exercise on the ‘felt’ pain in their bodies fostered continued involvement in exercise as a meaningful activity. Coupled with a *care-ful* awareness of pacing themselves and respecting their limitations in activity, the liberation from the confines of ‘felt’ pain with exercise granted them the capacity to actively live their lives.

This finding of bodily *relief* and the possibility for older adults to reconnect with important lived identities as active and able through physical exercise aligns well with previous work by Charmaz (1995, 2016) on adapting to impairment. Charmaz (1995, 2016) articulated an interconnectedness between body, identity, and self – taking a stance that the ‘self’ is inseparable from our embodied existence – and that bodily feelings therefore affect mind and consciousness. This stance further suggests that chronic illness, by impacting upon bodily function, intrudes on daily life and challenges individuals’ self-identities. Therefore, to understand how loss and

reestablishment of the connection between body and ‘self’ occur, it is imperative to develop an understanding of how chronically ill people make sense and meaning of their bodily experiences (Charmaz, 1995). Participants in the present study acknowledged changes related to their chronic back pain, which had amassed over time and affected their abilities to continue meaningful engagement in activities. Specifically, back pain threatened to disrupt participants’ identities as active, able, and independent by imposing limitations on their physical bodies. Importantly, however, participants’ stories highlighted the influence of physical exercise in enabling them to reconnect with a lived body that was active and able. Therefore, through exercise, participants were able to embody the active selves they wished to be and that they truly ‘felt’ they were, which contrasted the immobile, or pained bodies they knew to exist if they were to stop exercising. This finding complements Charmaz’s (1995, 2016) perspective that individuals can adapt to alter their lives and selves in acceptable ways in order to maintain integrity of self, around their chronic condition, to express themselves in new and different ways.

Enjoyment

Participants highlighted an innate and meaningful sense of enjoyment gained from their engagement in exercise. Enjoyment has long been considered a key construct underlying motivation for participation in exercise and sport; however, definitions of ‘enjoyment’ and the implications therein are varied (Kimiecik, & Harris, 1996). The consideration of enjoyment as ‘flow’, as proposed by Csikszentmihalyi (1990) and elaborated upon by Kimiecik and Harris (1996), resonates with my understanding of the participants’ experiences. The definition by Kimiecik and Harris (1990) of ‘enjoyment’ is, “an optimal psychological state (i.e., flow) that leads to performing an activity primarily for its own sake and is associated with positive feeling state” (p. 256). In this sense, enjoyment extends beyond one single positive affective response

and, instead, suggests that enjoyable events incite feelings, thoughts, and imaginations about other positive occurrences; thus, enjoyment is a forward flow and people are changed as a result of engaging in the enjoyable activity (Csikszentmihalyi, 1990; Kimiecik & Harris, 1996). While enjoyable events may breed other extrinsic rewards, the key to this conceptualization is that the enjoyed activity becomes intrinsically rewarding; the association with states of positive feelings become interconnected with the exercise activity and, thus, exercise is pursued for its own sake (Kimiecik & Harris, 1996). While enjoyable experiences may be influenced by environmental and social factors, Kimiecik and Harris (1996) proposed that enjoyment be focused more so as an “optimal psychological state (flow)” (p. 257) in order to best conceptualize linkages between enjoyment and ‘felt’ senses. In my study, participants spoke about external factors – including type of exercise, the environment including physical space, other people, and the encouragement they received from continued functional use of their bodies – as positive influences on adding enjoyment to their exercise experiences. I believe, for the participants in this study, the initial attributes which were considered pre-reflexively as enjoyable are second only to the ‘felt’ sense of reduced physical pain and lessened mental focus on pain, which came to the older adults during exercise. It is the latter two aspects of mental and physical *relief* received from exercise that were internalized for our participants, such that the exercise activities which initially incited those feelings became ‘felt’ as intrinsically rewarding.

In their discussion, Kimiecik and Harris (1996) suggested that, “enjoyment is not an affective product of experience, but a psychological process that is the experience” (p. 257). In adopting this conceptualization of enjoyment, I propose that the older adult participants in our study truly received mental or psychological inspiration whilst exercising. Importantly, however, in our study, I believe the influence of *mind* was only part of the meaningful experience, and this

is why the essence of the experience was not proposed to be enjoyment alone. In my study, participants also noted a sense of optimal bodily experiences whilst exercising, which enabled them to move more freely than when immobile, and feel more able than might be expected with chronic back pain. Thus, the essence of *relief* proposed in this study is conceptualized to extend beyond enjoyment to entail a component of bodily reprieve as well.

Social Engagement

Participants seemed to feel a sense of connection with other people through their shared exercise experiences, and noted a sense of being cared for with the support of quality instructors. Connections and conversations taking place during exercise sessions served as a respite from focus on pain and added enjoyment to the experience. Previous research has highlighted the importance of social support and engagement with exercise for older adults, suggesting positive correlations between social support in exercise and subjective well-being, satisfaction with life, and ‘successful aging’ (for example, McCauley et al., 2000; Martin & McCann, 2005; Chodzko-Zajko et al., 2009). Research has also suggested the importance of social engagement as a means to maintain important connections and meaningful social roles in retirement and later life (Heaven et al., 2013). Furthermore, previously reported findings from a phenomenological inquiry of rehabilitation interventions have suggested a positive valuation of group-based programs for individuals with chronic pain when all people in the group were similar in terms of group characteristics, such as cohesion, safety and support (Andersen et al., 2014). As such, the significance of social engagement through physical exercise may be interpreted for the participants in this study as contributing to positive attributions of well-being, maintaining connections and social roles, and fostering support through connections with similar peers.

The article by Andersen and colleagues (2014) identified characteristics of meaningful exercise groups beyond social interaction; that was, the universality of persistent pain among participants highlighted emotional and instrumental characteristics that people had in common, which facilitated a sense of cohesion and understanding between peers. A few participants in the present study spoke about connecting with others of similar ages and abilities; however, detailed discussions of emotional characteristics were not divulged. Future research may explore the impact of comparable group members for enjoyment of and adherence to exercise among older adults with chronic back pain.

The theme of social engagement may not always be as central to exercise experiences as in this study, as participants were recruited from various community organizations offering group-based programs as well as through word-of-mouth. However, in this phenomenological inquiry with this particular group of older adults, stories featured the importance of physical and social connection to other people which came through exercise activities. Interestingly, in this study, not all participants described exercising in group-based fitness programs; in fact, some participants selected more individualized strength-training programs at independent fitness centers over group classes. Nevertheless, despite the more individualized aspects of some participants' exercise routines, every participant in this study identified some form of positive social interaction associated with their participation and context of exercise.

Attitude of Gratitude

Participants' appreciative attitudes were apparent upon discussing their chronic back conditions and, particularly, the capabilities they maintained despite the imposed limits with chronic pain. The older adults' appreciativeness resonated through many interviews, both in stories of exercise experiences and in descriptions of their lives on the whole. I do not claim to

be an expert on the topic of ‘gratitude’; however, it was a term, which I felt best encapsulated participants’ overall positivity. The model of gratitude summarized by Wood, Froh, and Geraghty (2010) resonates well with my own conceptualization of the term. In a theoretical integration of research on gratitude, it was suggested that gratitude extends beyond appreciation for kind acts of others; to be more precise, gratitude represents a habitual focus and admiration for positive life attributes, including relationships and health (Wood, Froh, & Geraghty, 2010). The notion of gratitude has traditionally been considered as appreciation for receiving assistance and, therefore, researchers have often conceptualized gratitude as an emotion directed towards other people (for example, McCullough, Kilpatrick, Emmons, & Larson, 2001). However, more recent conceptualizations argue for a more inclusive definition, which suggests that gratitude is more of a “life orientation” (p. 891), or a disposition toward noticing positive attributes of the world (Wood, Froh, & Geraghty, 2010). The theorization of gratitude as a life orientation has linked the concept with an existential, psychological or “eudemonic” (p. 6) conception of well-being; both concepts have been suggested to correlate with autonomy, purpose in life, and self-acceptance (Wood, Froh, & Geraghty, 2010). In this study, the older adults were interpreted as demonstrating gratitude in their attitudes toward their lives. While several participants did acknowledge and appreciate individuals who had led them to find their exercise activities, the *attitudes of gratitude* had further reaches into participants’ descriptions of their lives on the whole. The older adults in this study largely seemed to demonstrate gratitude through acceptance of their circumstances and a steadfast focus on maintaining ability through exercise. Participants described feeling grateful for the capabilities they maintained despite living with chronic back pain, and gratefulness for learning they could continue to engage in meaningful activities as they

grew older with chronic pain. Several participants specifically said the key to successful exercise attempts was maintaining a ‘good attitude’ and approaching exercise with positive thinking.

My study intentionally sought people who were currently engaging in regular exercise. As such, I would not make conjectures for the older adults in our study as to whether their gratitude extended as a product of their exercise, or whether their innately positive dispositions facilitated continued participation in exercise. Nevertheless, it was noticeable that, for this group, maintaining an attitude of gratitude – toward their back condition, their exercise activities, and their current capabilities – was connected with continued engagement with physical exercise. Perhaps gratitude allowed participants to be truly open to the ‘felt’ sense of relief for their minds and bodies during exercise. To my knowledge, there are no currently available research studies investigating the impact of gratitude on chronic pain or exercise engagement among older adults.

Learned Limitations

An important aspect of participants’ continued engagement in exercise was the journey of trial-and-error through which they learned their bodies’ limitations – the points at which their chronic back pain would flare up – and therefore, also, the capabilities for continued physical activity that they still maintained. A similar notion was described in a qualitative study, which explored reasons why older adults adjust their activity levels when experiencing chronic pain; the authors termed the impression ‘living within your limits’ (Mackichan, Adamson, & Gooberman-Hill, 2013). The findings claimed older adults’ reasons for limiting engagement in physical and social events were founded in their desires to preserve function and avoid medical interventions. By limiting themselves to simpler activities, older adults felt they would be able to maintain their independence longer; however, paradoxically, reducing activities could also lead to further deconditioning and isolation (Mackichan, Adamson, & Gooberman-Hill, 2013).

Participants in the study by Mackichan and colleagues (2013) rationalized their activity limitations in the context of broader expectations of aging and decline. Similarly, participants in the present study discussed linkages between aging and chronic pain; specifically, that deterioration in health or development of chronic illness was partially to be expected with advancing age. Interestingly, while participants in the present study discussed the importance of learning new limitations imposed by age or ailment, they focused more on the physical abilities they still maintained and the activities they were able to continue, rather than focusing on the restrictions they lived within. The present study adds insight to the meaning of exercise for this group, in that learning limitations for lifestyles to prevent or reduce incidences of pain may serve an empowering role for older adults with chronic back pain, as exercise offers a tangible example of the physical capabilities they retain rather than reinforcement of disability.

For people with chronic back pain, management of their condition involves recognizing that pain may not fully disappear and, in fact, may reappear continuously throughout their lives, which therefore requires ongoing management (Larsen, Nielsen, & Jensen, 2013). Although people with chronic back pain may come to accept the chronicity of their condition, other people within their social and cultural contexts may not share the same feelings toward chronic illness; as such, individuals with chronic back pain may express, manage, perform, or respond differently to their pain experiences depending on their social context, for instance, in a clinical setting, at-home, or at-work (Larsen, Nielsen, & Jensen, 2013). In the study by Larson and colleagues (2013), people with chronic back pain disclosed a sense of dilemma when considering how best to interpret and express their feelings of pain in consideration of activity engagement, and described difficulties in coping with and presenting their pain when interacting with others through their various social roles. Moreover, patients reported constant evaluation of pain

experiences – ‘good’ pain and ‘bad’ pain – when assessing whether movements would alleviate or aggravate future pain (Larsen, Nielsen, & Jensen, 2013).

The older adults in my study highlighted similar thoughts when *learning limitations* with regard to exercise. Participants were mindful toward boundaries of comfort and ability, which appeared to have been learned through prior practices. Participants were aware of prospective causes for the onset of pain and typically how to avoid it. Participants also described discovering forms of exercise which best suited their needs through a process of trial and error, to test the bounds of their activity and pain tolerances, and they appeared to have reached a point of satisfaction with the type and intensity of exercise they engaged in. Findings from previous studies add depth to our ‘pathic’ understanding of potential internal conflicts felt by individuals living with chronic back pain when making choices for activity engagement. Furthermore, they emphasize that actions, such as engagement in regular physical exercise, for people with chronic back pain involve contemplation of social roles and relations, and weighing risks of compromising self-identities with the possibility of pain (Larsen, Nielsen, & Jensen, 2013). Although not specifically explored, perhaps the individuals participating in my study specifically selected exercise types or environments, which allowed them to express their perceptions of pain and ability in meaningful ways. Future studies may further explore the influence of social roles specifically on older adults with chronic back pain.

Maintaining Mobility

For older adults in this study, remaining physically active through exercise was considered as a non-negotiable and necessary endeavor to maintain mobility in order to preserve independence. Several participants discussed ambitions to maintain their current level of exercise, despite possible interference of factors such as increasing age or nagging back pain.

The notion of maintaining mobility was conceptualized, for many, as a life-long habit. Participants internalized an important connection between remaining physically mobile and maintaining the ability to participate in meaningful activities in their lives. This relationship was especially evident when participants made comparisons to other, less able individuals.

Published literature strongly suggests that sedentary behaviour is detrimental to physical and mental health as well as quality of life, and further that older adults are the most sedentary age group and have the highest burden of chronic disease (Chastin et al., 2017). One captivating aspect of this study was that I intentionally sought older adults who ‘defied’ these statistics, despite living with chronic back pain. The sub-theme of *maintaining mobility* arose from several participants citing support for the statement that, ‘if you don’t move it, you lose it’. Participants connected their drive to maintain mobility when comparing themselves with peers or family who had adopted more sedentary behaviours, and whose health had subsequently declined.

This concept of *maintaining mobility* may be related to social context and, specifically, broader messages conveyed in media regarding exercise and health. In interpreting the stories by participants in this study, it is important to contextualize the historical situated-ness of ‘knowledge’ and how older adults and individuals with chronic illnesses may be empowered or disempowered by mainstream messages (Edwards & Richardson, 2008). With increasing prevalence of chronic illnesses, healthcare systems are shifting models of care delivery to reallocate resources; promotion of self-management strategies is one such recommendation. One implication in a health promotion approach to healthcare is that every person, with appropriate skills and support, can become an active participant in their own health (Edwards & Richardson, 2008). This shift to recognizing additional factors to illness experiences reflects a larger epistemological shift in healthcare away from a strictly biomedical perspective on disease

process to include consideration of other factors which impact upon the experiences of those impairments (Edwards & Richardson, 2008). This emphasis on the malleability of health – or impairment – should be critically reflected upon, however, as it may inadvertently contribute to ‘healthist’ attitudes, which attribute personal and moral responsibility for preserving good health to individuals and, consequently, lay blame on those with age correlated chronic illnesses (Crawford, 1980, 1984; Hurd Clarke & Griffin, 2008; Katz, 2013). For older adults with chronic back pain, it is imperative that we continue to develop deeper understandings of older adults’ experiences of their health conditions, the contexts within which their health is experienced, as well as the implications for their abilities to access services and participate in their health (Edwards & Richardson, 2008). Thus, in reflecting upon providing physiotherapy practices – or healthcare more generally – it is important to recognize the theoretical frame through which we identify impairments, promote messages of health, and treat the needs of individuals.

It is also plausible that the attention paid to maintaining mobility, and comparisons with more negative alternatives of sedentariness, immobility or dependence, revealed participants pre-reflective appreciations of ‘lived time’ or temporality (van Manen, 2014; Heinonen, 2015). Older adults’ relationships to ‘lived time’ may have become more pronounced through direct confrontation with limitations imposed by chronic back pain and advancing age. The salience of time as a precious commodity resonated as participants expressed gratitude for maintaining the mobility they had to continue pursuing meaningful activities in their lives despite advancing age and time. The meaning of exercise ‘in the moment’ reflected a confluence of considerations from past and future selves. Participants were emphatic that the capabilities and mobility they maintained were largely attributable to remaining physically active; as such, continuing exercise was considered essential to maintaining mobility and preserving independence in the future.

Approaches toward the Influence of Aging

Many older adults in this study connected changes in their chronic back pain condition as well as their exercise activities with advancing age. Several participants described age-related changes in terms of capacity and interests. In some cases, participants paralleled increasing pain with increasing age and declining physical ability; however, participants often highlighted capabilities they maintained in comparison to what might be ‘expected’ of someone ‘their age’. This approach toward the influence of aging highlighted attributes of resilience and gratitude embodied by many of the older adults. Rather than internalizing a sense that increasing age necessitated decline, participants appeared to accept advancing aging as ‘absolute’ and set it aside in order to operate within their lifeworlds. Despite associations between advancing age and negative corollaries often expected in traditional biomedical discourse on aging (for example, Harman, 1956; Twigg, 2006), the older adults in this study maintained a positive attitude toward their physical abilities and desires to remain active and engaged. In part, it seemed as though participants employed age as a means of empowering them to make decisions based on their wants and needs, rather than expectations imposed upon them. However, the positivity of older adults’ perspectives may also be considered as a reflection of the rise of ‘positive aging’ or ‘healthy aging’ discourses in popular culture wherein uninterrupted aging is considered ‘pathological’ and achievement of good health with advancing age is considered possible through exercising personal lifestyle choices (Cardona, 2008; Rudman, 2015). Participants’ stories may reflect their internalization of popular messages which tout individual obligation to augment the “at-risk aging body” (p. 11) and, thus, may represent their striving toward discursive constructions of themselves as aging ‘successfully’ (Rudman, 2015).

There are comparisons between illness-related changes and age-correlated changes, which may be appreciated. For instance, as humans, when we fall ill and also as we age, our bodily materiality changes and, moreover, our bodily existence is experienced differently (James & Hockey, 2007). In health sciences, aging bodies have traditionally been approached from a biomedical perspective, which suggests cellular senescence as the principal determinant of aging and professes physiological limitations on maintaining ‘good’ health (Laz, 2003). In this view, bodies are conceptualized as neutral objects of science, composed of and reducible to biological cells, systems, and processes (Twigg, 2006). As an alternate to the characterized ‘objectivity’ of traditional biomedical approaches, social constructionist perspectives suggest that aging extends beyond the physical body to include attitudes of people with aging bodies. Furthermore, these experiences are created within social, cultural, and historical contexts and, thus, any meaningful understanding of aging and old age is constructed through social context (Crotty, 2003).

A third perspective reconsiders aging and the body to challenge the limitations of both biomedical and social constructionist perspectives, proposing that embodiment holds the key for relating the body, health, and identity in aging (Twigg, 2006; James & Hockey, 2007; Hay, Connelly, & Kinsella, 2016). This idea to consider embodiment – or the lived bodily experiences – aligns closely with a hermeneutic phenomenological approach, and parallels the discussions offered by participants in this study. An embodied approach to aging acknowledges that bodily changes and cellular senescence are inevitable, but that our responses to our aging bodies are not predetermined, biologically or socially (James & Hockey, 2007). Instead, interrelationships exist between physical changes, peoples’ lived bodily experiences of those changes, and the social contexts within which we make sense of those changes, which are all important in understanding connections between the body, health and identity (James & Hockey, 2007).

In a phenomenological sense, the body is viewed as our “vehicle of being in the world” (Merleau-Ponty, 1962, p. 82), and people experience agency and structure interacting through their embodied being in the world (James & Hockey, 2007; van Manen & Adams, 2010). The ‘lived body’ extends beyond its physical nature and interacts with time, space, and others and, as such, is *indivisible* from its context – historically, culturally, socially, and biographically (van Manen, 1990; Todres, Galvin, & Dahlberg, 2007). Further, the ‘lived body’ represents an intersection between ‘feeling’ and consciousness, through which we experience engagement and enact choice (Tulle, 2007; McCormick, 2011). It is as embodied beings that people make meaning surrounding various identities as ‘self’, such as activity, success, health, disability and decline (Katz, 2011). In the context of chronic illness and aging, consideration of embodiment in discussions of health identity and change are essential; when individuals experience irreversible bodily changes, a strictly discursive position cannot account for how their embodied perceptions of their lifeworld are altered (James & Hockey, 2007; Dezutter, Luyckx, & Wachholtz, 2015). It is in how people act in response to their embodied experiences of aging – for instance, ignoring or embracing them – that ultimately affects their experiences (Hay, Connelly, & Kinsella, 2016). The onset of chronic pain may threaten to destabilize people’s internalized lifeworlds and disrupt their interpretations of meaning in life. However, individuals’ abilities to find meaning in experiences despite health- or age-related challenges may alter the ways in which they interpret those destabilizing events (Dezutter, Luyckx, & Wachholtz, 2015).

Participants in this study acknowledged age- and illness-related changes, which had accrued throughout their lifetimes and affected their abilities to continue meaningful engagement in activities. Several participants acknowledged discourse on expectations of decline with aging, reflective of the traditional biomedical approach. However, participants continued in their stories

to highlight the choices they felt they made to continue engaging in exercise and the ways in which their continued ability challenged or rebutted expectations of older people living with chronic pain. Most importantly, participants' stories about the meaning of exercise highlighted the role that physical exercise played in enabling them to reconnect with a lived body that was active and able. Through exercise, participants could embody the active individuals they strived to be and that they truly 'felt' they were, which contrasted the immobile, or pained bodies they knew to exist if they were to stop exercising. Without explicitly labeling – or perhaps, without reflexively considering – their approach towards the influence of aging, participants in this study seemed to appreciate an embodied approach. This perspective allowed the older adults to recognize biological changes, to challenge social constructions of the meaning of aging, and to act out valued perspectives of themselves through their lived bodily experiences in exercise.

Although available literature supports positive impacts of exercise for older adults and individuals with chronic back pain for improved function and psychological health (for example, Warburton, Nicol, & Bredin, 2006), this study is the first to my knowledge to suggest that older adults may continue to engage in regular exercise *because* of their chronic back pain and, more specifically, because of the associated *relief* from that pain offered by exercise. The notion that exercise may offer a mental and physical reprieve from feelings and thoughts of chronic back pain is a novel contribution of this work. Future research may explore the extent to which this idea of 'relief' resonates with exercise experiences of other populations and in other contexts.

Conclusion

This study presents novel findings focusing explicitly on the lived experience of exercise from the perspective of older adults with chronic back pain. Given that chronic pain can be a barrier to activity in older adults, and the growing absolute number of older adults, it remains

important to gain an understanding of the experience of self-implemented, continued, regular physical activity from the perspective of this cohort. Healthcare practitioners working with older adults with chronic back pain make inferences about the meaning of aging bodies and pain, which may ultimately impact the treatment of those individuals, programs of care, and community service provision.

The findings of this research provide important, novel information for healthcare practitioners who prescribe exercise to maintain and improve health as a component of chronic pain self-management. Insights gained may challenge healthcare professionals' inherent, taken-for-granted assumptions about exercise habits and attitudes of older adults with chronic back pain, and may inspire more reflexive approaches to clinical practice. Moreover, understanding the lived experiences of older adults who continue to exercise despite chronic back pain will have important implications for clinical practice enabling healthcare professionals to more tactfully shape the presentation of exercise, supporting older adults to participate in physical exercise for maintained or improved overall health. Finally, knowledge gained may motivate older adults with similar characteristics for continued physical activity, which may serve to increase or maintain participation in regular exercise for improved overall health. With these insights, my hope is to inspire a more sensitive, tactful approach to shaping the presentation of exercise in order to support older adults to participate in physical exercise for maintained or improved overall health.

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Chapter Five: The Process of Creating and Disseminating Exercise Programs by Physiotherapists for Older Adults with Chronic Back Pain

In Canada, the prevalence of chronic pain among older adults aged 65 years and older may be greater than 31.5 percent and, among individuals reporting persistent pain, the back is the most frequently cited anatomical location of pain (Schopflocher, 2011). International guidelines for pain management in the elderly recommend conservative, non-medicinal management, including exercise-based therapies (Kuss, Becker, Quint, & Leonhardt, 2015). For older adults, exercise may be especially important in extending life, maintaining functional independence, preserving quality of life, and managing health resources (Taylor, 2014). Moreover, it has been reported in multiple integrative reviews that physical exercise can significantly improve patient-reported pain symptoms, reduce perceived pain, and enhance functional capacity for older adults with persistent pain (Park & Hughes, 2012; Ambrose & Golightly, 2015). Unfortunately, it is not clear under which conditions the physical interventions using exercise were employed or whether they were supervised under the expertise of a physiotherapist, and it has been suggested that more studies be undertaken to identify the format, parameters, and content of the recommended treatment interventions (Park & Hughes, 2012).

Physiotherapists are experienced in identifying issues or changes in pain, physical function, mobility, and activities of daily living, and can create plans of care to address the ongoing needs of patients (Zalewski, Alt, Arvinen-Barrow, 2014; Falvey et al., 2016). Previous studies have highlighted the importance of physiotherapist involvement in care for older adults, from the acute care setting through transition to community settings, and for ongoing self-management programs (Falvey et al., 2016). For older adults who seek physiotherapy treatment for chronic back pain, there is likely an exercise component to be incorporated into the plan of

care. However, there is significant ambiguity in exercise parameters for older adults with chronic pain (Ambrose & Golightly, 2015). This indistinctness leaves physiotherapists with considerable choice when prescribing exercise, which may facilitate customization of exercise programs to individual patients. However, alternatively, arbitrariness of exercise prescription may also lead to variation in exercise adherence and thus effectiveness of interventions among patients with chronic pain.

Together, these studies suggest that physiotherapy treatment incorporating an exercise component may be helpful in managing chronic back pain for older adults. These findings also suggest that unique insights pertaining to preferred processes of exercise prescription may be gained by exploring physiotherapists' perspectives on how to utilize exercise in the context of treating older adults with chronic back pain in outpatient physiotherapy practices, which is likely the most common setting for physiotherapists to address chronic back pain (Freburger, Carey, & Holmes, 2005). There is considerable support in published literature for the benefits of exercise-based rehabilitation programs for older adults with chronic back pain (Mailloux, Finno, & Rainville, 2006; Park & Hughes, 2012; Kuss, Becker, Quint, & Leonhardt, 2015). However, research also suggests that adherence to exercise recommendations among older adults with chronic back pain is low (Ashe et al., 2009; Bundon, Hurd Clarke, & Miller, 2011). Moreover, available literature on adherence has tended to focus on patient-related factors, with limited understanding of the influence of healthcare providers' actions on creation and dissemination of the recommendations, which may influence uptake and adherence (Jack, McLean, Klaber Moffett, & Gardiner, 2010). Therefore, in the constructivist grounded theory presented in this paper, I aimed to understand the process physiotherapists undertake when creating and disseminating exercise programs for older adults with chronic back pain. Insights generated from

this study may enhance understandings of inherent values and assumptions as well as contextual conditions underlying physiotherapists' decisions. Furthermore, knowledge gained may motivate healthcare providers to reflexively consider their own actions in presenting exercise to older adults with chronic back pain for improved overall health.

Methodology

I used constructivist grounded theory methodology to explore and describe the process of creating and disseminating exercise programs for older adults with chronic back pain by physiotherapists. Grounded theory offers guidelines for conducting systematic, inductive research to develop theoretical analyses (Charmaz, 2000). Using constructivist grounded theory, social processes can be theorized while remaining grounded in participants' stories (Charmaz, 2000; Mills, Bonner, & Francis, 2006). Constructivism acknowledges "mutual creation of knowledge by the viewer and the viewed" (p. 250), and thus provides a perspective from which interpretive understandings of meaning and action can be co-constructed (Charmaz, 2003). Furthermore, constructivist grounded theory endorses participants' immediate understandings of their empirical worlds (Charmaz, 2000), thereby offering an accessible mode of researching pragmatic clinical practices, for instance in physiotherapy.

With a constructivist perspective, I acknowledge that there are multiple 'realities', and that each is constructed under specific conditions, which involve various participants and their interactions (Charmaz, 2008). Knowledge claims based on constructivist grounded theory research do not purport to be real, true, permanent, or universal realities (Charmaz, 2000; Guba & Lincoln, 2005). Constructivism does not aim to seek truth; however, it maintains a component of realism in that it acknowledges human 'realities', which individuals act upon and within; further, it purports that what people take as 'real' and 'true' are based upon our perspectives and

guide our actions (Schwandt, 1998; Charmaz, 2000). I subscribe to the notion that knowledge is created within a social context, which allows for shared viewpoints and interpretive understandings, and my constructivist viewpoint aligns with Charmaz (2016) in appreciating that individuals' unique subjective understandings are always formed within a social context. I believe our understandings of experiences and our selves are interpreted from our interactions in the world and constructed through language (van Manen, 1990; Charmaz, 2014). Thus, the data are constructions of participants' experiences, and the analytical theory presented herein is a construction involving interpretation and representation by the research team (myself and my thesis supervisor), grounded in participants' words.

Methods

Constructivist grounded theory suggests theory and methods for conducting inductive, open-ended research to co-construct themes and theories from the data. The result of this process is a substantive theory of human actions, herein describing physiotherapists' process of creating and disseminating exercise programs for older adults with chronic back pain. This study received approval from the Research Ethics Board at The University of Western Ontario (Appendix B).

Participant Sampling

Physiotherapist participants were recruited from outpatient, ambulatory care clinic settings in a mid-sized city located in southwestern Ontario. Purposive sampling was employed initially to gain a variety of participants across a range of years of experience, clinical setting, sex, and post-graduate certification. Sampling was not intended to gain a 'representative' sample, matching statistically with the larger population of physiotherapists in the city; rather, I aimed to seek out participants with diverse experiences in order to explore the subject in depth. The intention of including therapists from outpatient clinical settings was reflective of my inherent

assumption, with my ‘insider’ knowledge of physiotherapy and the healthcare system, that outpatient settings would support a longer-term therapist-patient relationship and less regimented, time-sensitive intervention approaches than acute inpatient settings. Further the research question was addressed to those physiotherapists providing care to older adults with ongoing, chronic back pain, and this patient population largely seeks physiotherapy care in community-based clinical settings (Freburger, Carey, & Holmes, 2005). Physiotherapists holding a professional degree in physical therapy, who were currently working clinically, and were registered as members in good standing with the College of Physiotherapists of Ontario were sought for inclusion. Age and sex were not exclusionary. Participants had caseloads which included treating individuals aged 65 years and older with chronic back pain lasting three or more months. Nine physiotherapists who met the inclusion criteria participated in this study (Appendix F). The sample size was smaller than initially intended; however, after completing nine interviews, one follow-up interview, and five observations, I concluded that no new themes were emerging from the data. All participants were English speaking. Informed, written consent was obtained from each participant (Appendix D).

Data Collection

Constructivist grounded theory proposes to explore and interpret processes of human actions, which requires detailed and descriptive data. As such, I engaged participants in audio-recorded in-depth, individual interviews, which lasted between 36 and 66 minutes. Participants were offered to select the interview location and time, such that time taken for an interview would have minimal impact on their work schedule, earning potential, and to ensure they would feel relaxed and not rushed to facilitate ease in conversation and to engage with myself for a length of time. A lack of time, reduced earning potential and tight scheduling are known

challenges for physiotherapists working in busy, fee-for-service, community-based clinics (Hudon, Drolet, & Williams-Jones, 2015).

Grounded theory involves early analytic work to engage with the emerging data and to guide theory construction. As such, the interview guides as well as the recruitment process for later participants evolved and changed over time, reflective of theoretical sampling, to further explore and understand emerging ideas. While the interview guide provided me with a foundational set of questions and probes that remained helpful for the interviews, questions were slightly reworded within each interview to facilitate engagement and rapport between myself and participants during the interviews. In addition, the list of questions, cues or prompts assisted me to keep interviews open-ended, to avoid asking leading questions loaded with “unexamined preconceptions” (Charmaz, 2014, p. 63), and to allow participants to direct the conversation. The initial interview guide is provided in Appendix H. A more detailed discussion of how I attended to reflexivity to challenge and engage my beliefs and values is provided in Chapter Three.

During the interviews, I asked participants to reflect on interactions with older adult patients with chronic back pain whom they were treating presently or had treated in the recent past. My questions sought to elicit insight into physiotherapists’ perspectives about the process through which exercise was used in treating and managing chronic back pain for older adult patients. Sample questions included:

- What actions do you take when an older adult with chronic back pain comes to see you?
- What factors play into treatment of older adults with chronic back pain?
- How has your approach to treating older adults with chronic back pain evolved with your knowledge and experience?

- What role does exercise play in your interventions for older adults with chronic back pain?
- Tell me about a patient when you knew you had success.

All nine participants completed one in-depth interview. I conducted a second, follow-up one-hour interview with one participant to further explore emerging concepts as I felt her responses in the initial interview were particularly insightful in articulating organization to the process, clinical reasoning, and professional reflexivity about her practice.

In addition to interviews, I observed five of the physiotherapists for one- to two-hour sessions during clinical interactions with their older adult patients. Through observation, I was better able to understand the clinic environments, including structures and scheduling, as well as the manners in which the participants communicated with patients, other physiotherapists, and support personnel through verbal and non-verbal means. I presupposed that participants would have assumptions and problem-solving processes, which they may not verbalize (Charmaz, 2003); thus, the addition of observational notes from immersion in the field contributed to my understanding of the context and situating the rich descriptions. Each observation was scheduled after the interview with that participant had taken place, allowing time between the sessions for me to read through the interview transcript and consider the interview data before entering the field. I recorded observations through hand-written notes. When it appeared that no new insights were generated from attending these five observational sessions, field note and memo writing, further observation opportunities were not requested of the remaining participants.

I wrote reflexive memos immediately following each interview and observation, which included my impressions, insights, and emerging new questions. Furthermore, informal discussions also took place between myself and the physiotherapist participants before and after

observational sessions, which I considered in my reflexive memos. The memos were both descriptive and analytical, and were considered an important step in the data collection and analysis process. A sample memo is available in Appendix I.

Data Analysis

I transcribed the audio recorded interviews verbatim to encourage further engagement and familiarity with the data. Throughout the analyses, I continuously returned to the transcripts and field notes. I generated codes based on recurrent themes and actions evoked by participants, which helped to direct further data collection (Charmaz, 2003). I employed constant comparative analysis to compare data between stories of patients, participant experiences and perspectives, points in time, and categories (Glaser and Strauss, 1967; Charmaz, 2000, 2003). Line-by-line coding initially helped to keep the analysis grounded in the words of the participants, rather than adopting assumptions uncritically, relying on implicit understandings or incorporating my biases, which could be problematic in studying people from my own professional field (Charmaz, 2014).

Initial codes were provisional and comparative, to help highlight key insights and direct further theoretical sampling within data collection through revisions to the interview guide and recruitment strategies (Charmaz, 2014). I subsequently consolidated codes into larger, more abstract categories through focused and theoretical coding. For example, ‘comfort’ emerged as an important category and related to initial codes such as ‘resources’, ‘manual therapy’, ‘intervention’, ‘help’, ‘patient rapport’ and ‘pain relief’. Theoretical coding identified a core category – in this example, ‘physiotherapy care’ – which connected the remaining themes from codes to articulate a narrative for this process. The codes and categories from the interviews helped to further guide recruitment and interview processes through theoretical sampling, and to develop the theoretical analysis, until I believed a plausible and coherent analysis had been

constructed (Charmaz, 2003; Charmaz, 2014). Samples of early analytic visual renderings of the process are provided in Appendix L.

Analysis and data collection were concluded when I felt I had reached “theoretical sufficiency” (Dey, 1999, p. 257), that is, when I had defined relationships between the coded categories, I had returned to an insightful participant to check that the theoretical relationships resonated with her, and no new insights were interpreted. Theoretical sufficiency was contingent upon the quality of the interviews, theoretical sampling, as well as the act of revising and evolving the interview guide upon reflection of early interview transcripts (Bowen, 2008), as continuing interviews served to elaborate on or adjust emerging themes and fill in any gaps. Additional follow-up interviews with any of the other eight participants were determined to be unnecessary as no new themes were constructed from the follow-up interview to challenge the emerging theory. My theoretical position assumes emergent and relative realities, and I acknowledge subjectivity in theorizing; thus, I do not claim absolute ‘saturation’. Instead, I emphasize ‘sufficiency’ for the explanatory aspects of the theory, rather than suggesting saturation of the whole phenomenon (O’Reilly & Parker, 2012).

Methodological Rigour

To enhance methodological rigour in this research, consistent attention was paid to quality considerations of *trustworthiness*, demonstrated by *credibility* and *transferability*, as well as *authenticity*, considered as *fairness* and *tactical authenticity* (Guba & Lincoln, 1989; Guba & Lincoln, 1994; Lincoln & Guba, 2000; Charmaz, 2014). The selection of these criteria reflects my belief that rigour in qualitative methodologies, which do not claim objectivity or ‘truth’ in their objectives, can be demonstrated through transparency, consistency, and coherence of the methodological approach with my theoretical perspective and research methods.

Credibility refers to rigour of the research process (Lincoln & Guba, 2000). Integrating various data collection methods and immersing myself in clinical settings for interviews and observation demonstrate familiarity with the research context and participants. Constant comparison, theoretical sampling, reflexive memos, and clear writing also assisted to ensure credible categories and connections arose from the data (Charmaz, 2014). Furthermore, credibility is apparent through the transparency of documenting procedural and interpretive decisions in the research process (Sandelowski, 1986).

This research did not aim to be generalizable in the same sense that traditional positivistic research may be interpreted. Rather, *transferability* was aligned with resonance, meaning that key findings would resonate with others and relate to the ways in which they construct their views of the studied world (Lincoln & Guba, 2000). Transferability was relayed through rich descriptions about the context, participants, and research process, and readers are invited to consider whether the findings relate to their understandings and experiences in similar settings.

To demonstrate rigour through authenticity, I considered the criteria of *fairness* (Lincoln & Guba, 2000), which is reflected in a balanced quality in representation of participants' perspectives through revisions to the interview guides, theoretical sampling based on emerging areas of focus, and direct quotations in the writing. Further, while I claim that this research was co-constructed between myself and the participants, I acknowledge that the power of many research decisions with regard to methods and dissemination ultimately rested with myself. Nevertheless, I aimed to "act with energy to ensure that all voices in the inquiry effort had a chance to be represented in any texts and to have their stories treated fairly and with balance" (Lincoln & Guba, 2000, p. 180).

Finally, I respected *tactical authenticity* in articulating how insights translate to clinical practice and may empower interested parties to take action (Guba & Lincoln, 1989). The findings of this research offer insights, which may enhance physiotherapists' abilities to act perceptively and with conscientious feeling or 'tact' when prescribing exercise in treating older adults with chronic back pain. Further, interpretations from this study contribute understandings of everyday practices for a cohort of physiotherapists, which may challenge accepted customs and inspire further research to bridge the gap between theory and practice.

Findings

Participants

The sample of participants for this study (n=9) included six women and three men who were licensed physiotherapists. Clinical career experience ranged from eight months to 30 years. All participants met inclusion criteria. The reported caseload and scheduling of patients varied among participants, between eight and 40 hours per week, with between two and four patients typically scheduled per hour. In their respective practices, most participants reported treating a wide age range of patients and clinical conditions, not exclusively specializing in older adults or chronic back pain.

Physiotherapists' Process of Creating and Disseminating Exercise Programs for Older Adults with Chronic Back Pain

Physiotherapist participants described the process of creating and implementing exercise plans as involving *listening to the patient's story, determining function, physiotherapy care, supported integration* and, ultimately, *returning back to living and life with chronic back pain* (Figure 1). There was a presumed chronological component to the process, with participants acknowledging progressions over time and considerations of treatment times with each patient as

occurring within a finite timeline. Participants worked through the five phases at different rates, often recurrently, when treating older adults with chronic back pain in outpatient physiotherapy settings. This temporal fluidity in time-spent in each phase is represented by circles, which may expand and contract to reflect each patient's progress and journey. Participants could move backwards in the process to earlier phases with follow-up appointments and setbacks in progress.

In order to enter the process, participants described a significant event affecting older adults' abilities to cope with their pre-existing chronic back pain, which led the older adults to seek physiotherapy aide. Participants acknowledged that their older adult patients with chronic back pain had previous episodes of back pain, and had hitherto managed to cope with the pain for the most part; however, an acute aggravation, which flared the back pain and decreased their ability to function, led older adults to seek physiotherapy treatment, thereby entering the process.

The phases sit within the context of a shared alliance between physiotherapy provider and patient, with a transfer of responsibility occurring throughout the course of treatment and follow-up sessions, progressing toward patient independence in living with chronic back pain.

I think it's all, from the very beginning, there's a transfer of responsibility. There's never just the onus on the physio, or the onus on the patient. If someone comes in and they're in severe pain, the onus is on caregivers to try and help them. And once that pain is reduced, the onus is on the patient to try and maintain their mobility. So, it's on a sliding scale for sure [...] depending on their needs and their capabilities. (Participant 1)

The relative overlap of circles over the center line demonstrates shifting of responsibilities in the therapeutic alliance between therapist and patient over the course of treatment. Successful outcomes and ending of the process were determined by patients reporting satisfaction with goals achieved, improved functional tolerance in activities of daily living and meaningful participation.

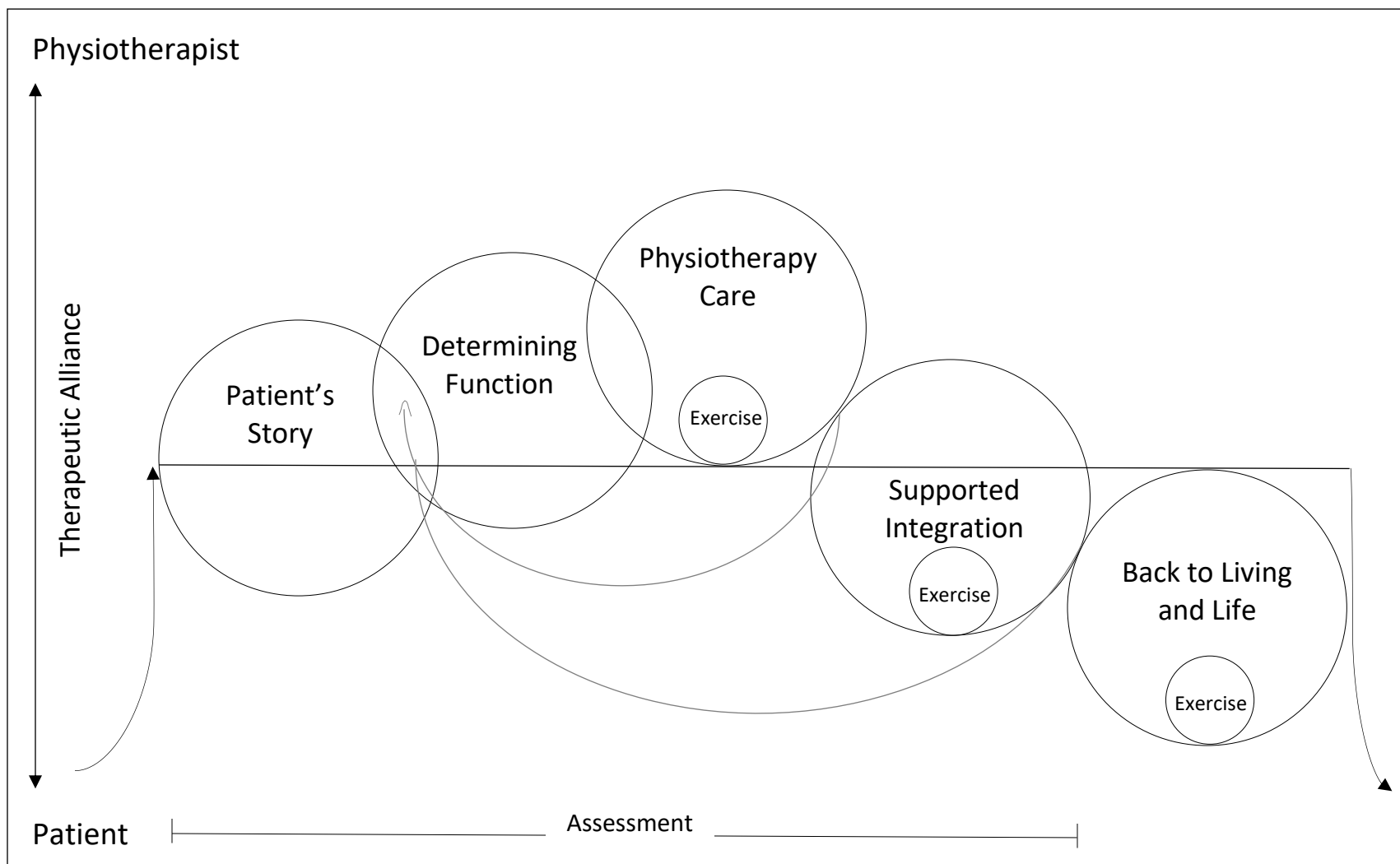


Figure 1. Physiotherapists' process of creating and disseminating exercise programs for older adults with chronic back pain.

Listening to the Patient's Story

Participants strongly emphasized the importance of spending time to listen to the stories of older adults with chronic back pain. Participants underscored the value in recognizing that older adult patients have lived a substantial portion of their lives and, thus, they tended to have a lot of information to share regarding their health history, previous activity level and preferences, and previous management of chronic back pain.

Their history, their story. It's not uncommon that individuals who are above the age of 65, they've lived a fair amount of their life. [...] For elderly patients, when they have a chronic presentation, they may have more thoughts about it because they have had a longer history or more to reflect on their life versus someone who's only lived 25 years. So they may have more to say about what's going on. So the more that they talk about what's going on, the more I find out what they value. And the more I find out what they value, the more likely I can make that connection Day One to what I'm finding. So that what I'm valuing from an assessment, they value as well. And we can then speak a language we are both comfortable with. I'll find out who they are, and they'll find out what I think. And hopefully we meet in the middle. [...] If it's chronic, I listen a lot more. If it's acute, there's not as much need to talk. We know when it started, why it started. We know a better timeline for what's going on for healing. We have a better sense of what the goals are going to be and how we can get there. It's much more straight-forward. In a chronic presentation, I let them talk a lot longer. (Participant 5)

The significance of elucidating patient preferences in activities and participation, both in their previous behaviours and their goals, could not be overstated. When describing the last older adult

patient they had treated with chronic back pain, each participant highlighted patient likes and dislikes, and the importance of factoring those in to treatment to keep the focus patient-specific.

Over the years, I've certainly increased my open-mindedness to the patient's story. Whether I agree with how they've come to understand their situation or not, how it relates to my understanding of the situation and with my knowledge base. I've become more open to trying to be willing to listen and a bit more empathetic. [...] Allowing people to say their story a bit more. [...] You can have 100 people with the same diagnosis but you're going to treat them all differently based on their age, their activities, their goals, their psychosocial, socioeconomic, all these different factors. [...] You want to find out like what their activity level is, and their history. So these folks are going to have a longer history, so I probably spend a bit more time on that because they have a *lot* more to be able to remember back that might be important. (Participant 7)

Participants described listening for nuances in patients' stories, which provided insight into past treatment experiences and preference for certain modalities. In addition to providing information about patient proclivities, physiotherapists picked out pieces of the patient's story in order to link clinical practices, treatment and exercise, to the patient. Participants spoke of making connections between patients' prior levels of function and activity to their future goals for successful treatment outcomes.

Figuring out what makes people tick and what drives them, and what they're striving for and why they're striving for it, I think just helps you frame your care in a more meaningful way. It gives them a reason – you're not necessarily going to give them different stuff to do – but it gives them a reason to do the stuff you're telling them they should be doing. (Participant 2)

In addition to utilizing patient preferences to shape goal setting, the physiotherapist participants described using their knowledge of patient particularities to create a constructive therapeutic alliance. Participant 1 described this as follows,

Probably the most important aspect would be listening to their concerns. And addressing each of them and how we're going to set goals on getting them to where they need to be. And as realistic as possible. And so as far as me trying to ensure that there's a really good therapeutic alliance – patient-therapist relationship, whatever you want to call it – I find people expect you to be on time, expect you to sit and listen to them, not rush them through their treatment.

Developing this therapeutic rapport was evidenced in my observational field notes, in which I wrote, *“He started with just sitting, talking – catch-up on symptoms, activities, and ‘sensitivity’ since last visit. The physio was very attentive, facing the patient with a wide-leg stance on the stool. [...] The patient herself brought up the things she wants to do this summer – gardening, painting, underwater swimming.”*

Participants acknowledged the chronicity of patients' back pain, and that most of their patients had sought prior treatment, physiotherapy or otherwise, in earlier attempts to manage their symptoms. Understanding patients' previous pain management attempts helped participants to elucidate qualities of treatment patients found to be helpful or unhelpful, and understanding of their patients' preferences for activities and treatments helped them to individualize treatment approaches based on each person.

Importantly, participants described that listening to the patient's story took a considerable amount of time, particularly in the initial interaction. A number of participants independently rose concerns regarding time allotted to patient interactions, and the importance of having a

suitable amount of time with the individual in order to understand their story for effective treatment. Participant 8 noted, *“We spent a lot of time talking. Her telling me her story. [...] But that’s fine because I enjoy listening to her story and just getting a sense of what mattered to her and what her concerns were.”* Experienced and reflexive physiotherapists described establishing rapport with patients, clarifying preferences, garnering buy-in to treatment, and developing realistic goals by beginning their interactions with listening to the patient’s story.

Overlap between patient’s story and determining function

Participants described their interactions with patients as beginning with a conversation. By first listening to the patient’s story, they could more efficiently determine the next steps of their assessment and treatment. With this progression, there was some overlap described with the patient’s story leading to more objective determination of function.

The story probably tells me about 80%. And then the objective tests really just confirm what they’ve probably already told me. [...] I go through a detailed clinical or subjective history so I understand what brought them there today, what kind of co-morbidities they might have, what kinds of medications they’re on, do they live alone? All the subjective questions that are essential for me to understand who they are as a person. And then of course how long they’ve had the problem, what kinds of activities it tends to curtail or what kinds of activities of daily living they are no longer doing because of it. Who they’ve seen. What kinds of success they’ve had and then, from that, again it goes to those objective findings. Their ability to walk safely, active range of movement, strength and straight leg raise. Again, sensation if it’s needed. So the process really is the same. All those questions and those kind of objective tests that will rule in or rule out what kind of issues might be at hand. (Participant 1)

Other participants similarly described specific questions they asked relating to safety, social support, and comorbid health conditions. Questions were part of a conversation with the patient; however, their purpose was to lead into an assessment and determination of function by first being informed by the patient's subjective report and then testing those theories and assumptions.

The overlap between the patient's story and determining function also served as a place for re-assessment when patients returned for follow-up appointments. The re-assessment component of follow-up visits was also described by Participant 7 as involving listening to the patient and examining objective, functional measures. He stated,

I think that on subsequent visits, you reevaluate objectively their physical exam, and then you talk to them. [...] I try to be as reasonably functional as I can with the stuff that they want to do and are having trouble with.

The initial stage of listening to the patient's story flowed into determining function when asking specific questions for clinical documentation and when patients returned for subsequent visits. This progression demonstrates the overlap between a patient's story leading in to the determination of function.

Determining Function

When describing how exercise programs were created, participants routinely spoke about designing assessment, exercise, and goals around function. Participants noted that many older adult patients with chronic back pain sought physiotherapy services not when they were in pain, but when they had noticed a substantial change in their ability to cope with functional activities in their daily lives. In maintaining due diligence for physiotherapy practice, participants did speak about clearing red flags and ensuring other comorbid health conditions were clarified prior to undertaking a detailed assessment of function. Conducting a thorough neurological screen and

testing range of motion and strength were considered standard routines of the orthopaedic physiotherapist participants in this study; however, it was made clear that their approach to assessment changed slightly when pertaining specifically to older adults with chronic back pain. Ultimately, a determination of impairment at the level of body structures was considered helpful only insofar as it related to the patient's overall function. Participant 8 stated, *“what is it that I think is the impairment, but also what is their functional goal? Like what do – what am I going to ask them on the next visit? Like, ‘hey, how’s walking?’ or ‘can you reach into your cupboard yet?’ I try to keep coming back to that stuff.”*

Maintaining a focus on function helped participants to pare down their assessments, which also reportedly reduced flaring patients' pain. Participants organized their approach to assessment and testing in an order of irritability so as to avoid provoking further symptoms. This approach allowed the physiotherapists to maintain a focus on making patients feel better, rather than proving or refuting hypotheses about particular diagnoses. Participant 5 stated,

Going from the least provocative to the most provocative task, to ensure we're not causing further aggravation. As well as to allow the patient as much breathing room and ability to talk on their own as possible. I never want to get into the mindset that, “I'm going to test you, but all my tests are going to see if they make you hurt or not”. We're going to test the person with chronic low back pain also to see if they feel better in a particular movement that is aggravating. And if they do, then that's where we look at the myriad of interventions that treat that.

When considering older patients with chronic back pain, participants also noted a shift in practice toward focusing more on function and how those patients live their lives, as opposed to strictly articular mobility or minute muscle imbalances. Participant 2 stated,

I'm probably more likely to base a lot of my assessment on watching them move. And do a lot more functional movements and seeing how they're moving. Seeing if they're avoiding – are they using their hands to push up in a sit-to-stand, so it's a lot more of those cues. I don't do as much of a biomechanical assessment, because I almost find that that's going to throw you off a little bit. There's going to be a lot of changes that have *nothing* to do with what their back feels like, right? It's not going to be uncommon that there's going to be arthritis. Is that why their back hurts? Maybe, maybe not. So I don't get too bogged down in the details maybe in an older patient with low back pain.

Similarly, other participants discussed broad approaches to maintaining a focus on the function and movement preferences of patients, with the understanding that patients moved to limit or avoid painful positions. Exercises offered as treatment often reflected the way patients preferred to move to alleviate their pain and findings on physical assessment. Continuing a focus on function set the stage for creating mutually agreed upon goals and treatment plans, which would be appealing to both the physiotherapist and patient.

Importantly, determining function was an ongoing, often revisited phase of the process. Participants continuously re-assessed patients and spoke about using functional outcome measures to add information to their appraisal. Interestingly, a component of utilizing the functional outcome measures was, for Participant 3, the notion that subjective ratings of pain for a patient with chronic back pain may not be reliable or useful. Instead, she found performance-based measurement tools as a helpful way of demonstrating meaningful change to her patients.

When we talk about chronic back pain or chronic pain, asking someone to rate their pain is a very poor way of sometimes saying, “how are you – like how are you doing?” You know, these people may never say “great, 100%, feel like I'm jumping out of bed”. So

yes, we may use something like a numeric pain rating scale or, you know, something like that. But definitely then I will use other outcome measures. So some self-reported but more often than not with this group, some performance-based measures, like Walk Tests, Sit-to-Stand tests, things that functionally can measure what their strength is like, what their endurance is like, what their balance is like. Because sometimes if we're just going on "how are you feeling", these people say you know "I don't really register much change". But then when we show them from a performance side of things, "you know what? You couldn't do this three months ago." Or "you could only do this many two weeks ago". Then it puts it in the perspective of, "oh, you know what, I am making improvements".

Participants highlighted that an important feature of developing exercise programs for older adults with chronic back pain was a determination of function. Physiotherapists employed a select set of objective measures for range of motion, strength, function and performance to establish patients' baseline function as well as to re-evaluate progress and success throughout treatment.

Overlap between determining function and physiotherapy care

Participants described an overlap between the second and third phases of this process by articulating the influence that their determination of patients' function had on directing their further physiotherapy care, both in terms of education and exercise.

After completion of the assessment, I went over what I would deem as being the 'golden tests' or the 'golden findings'. These were the things that I found in the initial assessment that reproduced her pain, and I reviewed each one with her. [...] So basically building the story in terms of what things I was able to find in terms of addressing her pain. Affiliated

with that in terms of what was improving or what got worse, then leading anatomically to what structure may be at fault. [...] If I can find the patient's improvement of pain in extension during the assessment and I can say to them, "when we did this, *you* felt better" not the pattern I think you're in, but "you felt better", it's much more successful. So the biomechanical exercise will piggyback on an assessment technique that demonstrated a reduction in pain. (Participant 5)

The focus on function over structural changes was also noted by several participants when discussing patients' findings on imaging. Specifically, several participants remarked that findings on imaging or the ways in which those findings are communicated to patients could have tremendous impact on the patient's pain experience and, thus, it was important to use imaging as only one component of the larger picture that was the patient's overall function.

I also spent the initial visit trying to decide how much, um, how much this imaging that she had brought with her and she was very concerned about – how much that was actually factoring into her experience of pain. And what factors could we change or modify? Versus those that we couldn't either because of the findings on imaging or because of her age. (Participant 7)

The overlap between determining function and physiotherapy care demonstrated the connectivity and fluidity between assessment and treatment, and helped to articulate links between patients' pain experiences, function and coping strategies, and to direct the plan of care.

Physiotherapy Care

Participants delivered physiotherapy care through various methods including education, manual therapy, exercise, and occasionally therapeutic modalities such as electrotherapy or heat. It was apparent that participants arrived at the modalities selected for treatment by first ensuring

they had listened to the patient's story and determined a baseline level of function. Importantly, participants were clear that their modes of delivering care to older adult patients with chronic back pain were not preset or standard; rather, each patient was considered unique and the modes of physiotherapy care were carefully selected to best match each individual's needs. Participants described a transition over the course of treatment from more passive or pain-focused treatment modalities toward more active, patient-led methods. Participants described having a skillset that could readily help in the early stages of treatment with managing acute flare ups of pain, which was interpreted as the reason why patients with chronic back pain sought physiotherapy services. Nevertheless, it was evident that all participants ultimately aimed to have their patients be independent and resume self-management for their own care. Providing manual therapy was described as a tool for early relief of acute pain. In understanding that the use of exercise was more of a long-term strategy for mobility and function, Participant 6 appeared to plan her care with offering methods of pain relief throughout.

I find that the hands-on treatment often gives them a bit of pain relief. So I like to incorporate that. [...] I try to do things that give them a bit of pain relief and then some exercises to hopefully help with pain relief but more long-term, right? Because it just takes time with exercises to correct movement patterns. [...] It's [exercise is] probably one of the main interventions I use. Like I said, I use manual therapy for pain relief and everything, but ultimately I think that exercise is medicine.

Participant 1 also described manual therapy as a tool for early pain relief and relaxation.

That was her first barrier to even doing exercises, because it was so sore, so we had to get the pain down first. And once the pain settled and she found she could move easier after that initial portion of the treatment, she could see really the value of doing exercises and

keeping loose. So she really was just quite grateful that the pain was settled and she then knew what exercises she needed to do.

When describing her interactions with one particular older adult patient with chronic back pain, Participant 8 supported the use of hands-on at the beginning of her treatment plan describing that her patient felt cared for with manual therapy to treat her acute flares of pain.

I did actually begin to do manual therapy with her as well, and she liked it. But I guess a lot of people do like to be touched and stretched, so I'm not going to say that that on its own was successful, but it seemed to be an adjuvant to exercise that was helpful. It certainly helped to encourage her and give her short-term comfort maybe.

Additionally, hands-on time during treatment offered an opportunity for the physiotherapists to educate patients on the cause(s) of their pain, the importance of movement, and the plan for care.

The person who's less receptive to that pain neuroscience education, I probably end up doing more manual therapy on those people. [...] Not necessarily because I think they need it more than the other person, but I think that gives me some time where getting there they know I'm addressing the issue and I'm getting down to it, where we can also be doing the manual therapy and talking about sort of what they're feeling. I think it takes me longer with those people to start exercise. Because I think they want the more passive treatment first. So I would say I'm probably a bit more passive with them early on, but ultimately I get them into exercise too, and they do the same thing. I think it's just a slower process. (Participant 2)

Participants spoke to the variation in time allotted to the different treatment tools or modalities the physiotherapists had to offer, depending on the patient and their condition or state at each appointment. Similarly, Participant 7 described his treatment style as 'multimodal' stating,

The multimodal treatment is kind of how I practice myself. So I try to then decide what ratio of each of those is appropriate for that individual. And that's [...] based on, you know, irritability and the time, and their goals, and what they can do and they can't do.

Oftentimes, participants described overlapping physiotherapy care modalities, which complemented findings in assessment of function, and would ultimately lead to transference of responsibility from provider-led care to patient-led management.

It's not uncommon that I'll do some manual therapy and then consider the use of exercise as follow-up. One of the reasons why I'll do that is I can test, and I can re-test. And if I'm doing manual therapy, I have a little bit more control with the patient. I'll direct the movement, the patient will give me feedback ensuring that it's comfortable. [...] If I can do that with my manual therapy, then I can piggyback that to the exercise. (Participant 5)

Patient education was another mode of delivering physiotherapy care. Education was provided in the form of conversations with patients with respect to physiotherapy scope, activity modification and positioning, pain neuroscience, self-management, and rationale for exercise. When describing an interaction with an older adult patient with chronic back pain, Participant 7 described education as an important, early part of his process of care delivery.

The first day, no matter who I treat, I think that I talk a lot. I think it's really important to try to make them understand what I think is going on, what we can or can't do, and how that relates to what they've come to as far as their expectations and goals. So there's tons of that and tons of education about real life stuff. [...] There's lots of that kind of practical talk, sleeping positions, and so on and so forth. I think on subsequent visits, those things are reiterated, but probably more in the context of doing exercise that kind of lines up with the education that was on the first day.

Other participants similarly described educating patients about activity modification, sleeping and sitting strategies to decrease aggravation throughout the day.

Gaining patients' understanding that the road to recovery for chronic back pain would involve buy-in and participation from patients through exercise was important and seemed to be covered in conversations with patients early on. The physiotherapists also utilized information about patients' prior treatment attempts to direct their physiotherapy care. For instance, Participant 9 seemed to feel it was important to communicate the rationale about treatment approaches – past and present – to his patients.

When I explained why I thought he was having his back pain and what we should do about it, he seemed to really buy in and be pretty committed to it. [...] I think with him understanding what was going on obviously has helped him kind of buy into it. I don't think anyone has explained it to him maybe properly or more simply to understand why there are some muscle imbalances with him. [...] With any of the research out there with lower back pain, exercise is a pretty significant component of it, right? And to be able to communicate with them that if they've only had a manual therapy, as to whether it's massage therapy or just spinal manipulations, and haven't done any exercises combined with it, then that could be a factor as to why they have continued back pain.

Several participants mentioned educational resources on pain neuroscience – such as educational brochures, online videos, and books – which were offered to patients as a means of educating them about chronic pain. It appeared that providing external, research-based resources was an effective means of providing support for the exercise-based component of care. Patient education was also provided as a form of reassurance that chronic back pain could be well-managed and return to living and life with chronic back pain was an important goal. Participant 4 noted,

What worked the best, I think, was first of all just education and reassurance that there are lots of things that can be achieved and I can help you with certain goals, definitely.

He wasn't sure about that part and he seemed to be very anxious about it. So I think just that reassurance helped him and education on what's happening in his back.

Interestingly, several participants spoke about education and exercise as treatment modalities employed to empower patients in such a way that they would feel confident enough in self-managing their chronic back pain that they would no longer need to rely on a practitioner, and thus would not feel the need to return for physiotherapy care for the remainder of their lives.

If they've been dealing with this pain for many, many years, it's a good chance that they'll have to deal with it for a long time, and I would like them to have some kind of tools that they can be more independent and they don't need someone else. So they can – no matter what happens in their life, they have some kind of tools that they can go back and use. (Participant 4)

Regardless of the therapeutic modality employed, the participants in this study made it abundantly clear that physiotherapy care was designed around the patient. Moreover, there was an apparent proclivity toward directing physiotherapy care to be exercise-based.

Giving exercise as a take-away

When participants spoke about exercise in the context of physiotherapy care, two things were apparent. First, exercise was specifically prescribed – type and parameters – for each patient, and was defined in a broad-sense of overall mobility or movement-based activities. Secondly, exercise was intended to be a take-away from physiotherapy, provided as a primary means for patients to continue to self-manage their chronic back pain. When discussing the importance of prescribing specific exercises for each patient, Participant 3 affirmed,

If a doctor said “just take these pills”, but didn’t tell them how many to take, then that’s an issue. So often what they’ve been told in the past is, “you need to be active” or “you need to exercise”. But they don’t know, what does that mean? And what type of exercise is going to be most appropriate for those patients – for that individual? So I think spending the time with them. Again, talking about the ‘what’, the ‘why’, the expectations. And then not overwhelming them with things to do. [...] I think I really talk to them about what stage they’re in, and why I’m giving them the dose I’m giving them.

The importance of ensuring exercise was specific to each patient was emphasized by all participants. Explanations surrounding dosage and selection of specific exercises was also highlighted by Participant 5. He described presenting rationale for exercise in the context of the physiological mechanisms for pain modulation and noted the explication for this connection is still quite novel, even to clinicians.

It’s not uncommon that you teach someone an exercise in clinic, but I usually link it in to – maybe I did some manual therapy or did some education. I never tell them, “do this, two times a day, 10 times per set” because they won’t do it. It’s got to have some context to it. Patients don’t appreciate that you can affect opioid levels or serotonin levels in the brain, partly because only clinicians are learning that in the last year that exercise does that. So try to educate or inform the patient about that so that they are more apt to participate.

The value of explaining to patients the rationale behind the exercise programs provided could not be overstated. For instance, Participant 4 stressed,

I always give exercises, no matter what. I always give exercises. And it would be their decision to do them or not. [...] If someone is like that and they prefer more passive

treatment, I have to spend a little bit more time on the rationale of the exercises. So for them, it makes more sense that why this exercise is important and how it can help them. So I spend a little bit more time on that. [...] Any information I can try – not only to explain, “well, this is what pain is”, but also explain “this is why I’m doing what I’m doing”. Um, so that they understand, “okay, if we’re looking at an exercise or manual therapy, this is what it influences”.

Participants also exemplified the importance of tailoring exercise programs to the individual. In one of my observational field notes, I recorded, *“the physiotherapist seemed to modify every exercise for this particular patient in order to ‘re-package’ it as ‘easy to work into the day’. The physio told the patient to do ‘five good ones’ instead of 10, or to stay ‘just within [her] comfort zone’, and provided lots of positive reinforcement – ‘that ‘a girl’, ‘beautiful’, ‘fantastic’ – when they were practicing the homework exercises.”*

Even in the context of generalized cardiovascular movement suggestions, the physiotherapist participants ensured they provided education to justify their propositions to patients to encourage adherence and understanding. Moreover, physiotherapy exercises for older adults with chronic back pain were often described as relating to functional activities of daily living. For instance, Participant 6 exclaimed, *“I want to make it as functional as possible toward maintaining and improving mobility and function as it relates to what their goals are, of course. And trying to make it a little less pain-focused, if possible.”*

Ultimately, the most comprehensible take-away message pertaining to exercise for older adults with chronic back pain appeared to be that general movement is important for maintaining mobility, and preventing stiffness and flare ups of pain. Participant 8 explained, *“I wanted to make sure I gave her things she’d take away and do. She seemed quite motivated to do things, so*

I wanted to give her an active approach to her care.” Participants detailed that exercise was intended to be a take-away from physiotherapy for patients to return to self-management of their chronic back pain and return to their lives, rather than a clinic-based tool. This is demonstrated in Figure 1 as an additional circle, introduced in the third phase of Physiotherapy Care and continuing through the remainder of the process.

Supported Integration

Participants often articulated the need to stress to older adult patients that treatment and management of chronic back pain was a slow and continual process, requiring patience and a long-term plan. Participants emphasized the need for a period of time for patients to trial their self-management through exercise, in a supported manner such that, as Participant 1 stated, *“so that they can take it home and reproduce what you’ve asked them to do. [...] Once they get going, helping them understand how to keep a routine for doing the exercises.”* Physiotherapist participants described the tools and manual therapy skills they used to provide pain management in the short-term; nevertheless, the inevitable aim was to ensure that their patients were able to integrate education and exercise taught during treatment sessions into their own lives at home.

If somebody has an acute mechanism, and they have damage, I think there’s more you can do for them immediately. I think there’s, there’s... as a physio, you have a bit more control over that. When something’s more chronic, having them come five times a week is probably not going to change anything, it’s going to happen slower. And I think you have to be really clear with the people that come in that it is going to be slow. If it’s been 25 years that this has been bothering you, don’t expect that in 12 weeks it’s going to feel great. It might, which would be great! But this is likely something that is going to take a longer time before it feels better. So... you have to keep that in mind. (Participant 2)

While the trial period of practicing exercises in the home setting could be considered as a foundational aspect of physiotherapy care in general, participants highlighted that the difference when treating older adults with chronic back pain was the longevity of the process of integration.

I think having different expectations or different kind of timeline as to how long it may take for them to get better. It may take them a little longer than would, potentially, a younger population. (Participant 9)

Participant 3 described a difficult conversation about the longevity of chronic back pain and determining realistic expectations for treatment, particularly surrounding long-term management.

In terms of expectations, so these people who are coming in with chronic problems, I really describe to them that, even if their onset of back pain happened on Wednesday, the reality is the tissue functioning and poor loading patterns have probably been happening for a long period of time. When people come to see us is when they're in pain. So, you know, describing to them that this is not something that happened yesterday even though maybe that's when you started to feel it. So how long is it going to take you to get better? Or how long is it going to take you to feel comfortable? Is it realistic that you're going to be 100% pain-free if you've been in pain for 20 years? I don't know that answer to that. But just sort of setting that stage, and really talking to them about, you know, here's what we're doing, here's why we're doing it.

Moreover, the influence of the longevity of chronic back pain on exercise and self-management was apparent when participants spoke about following up with their older adult patients. While participants understood that change and transition back to living with a manageable level of back pain would take considerable time, they maintained a touch-point with their patients during this time to ensure integration into the day-to-day lives of their patients was supported.

Several participants spoke to their preference for patient-led care and ambitions to ensure patients were independent in their care by the end of the physiotherapy interaction. In each participant interview, there was an emphasis on aiming for patient independence in treatment through adherence to home exercises.

Having them be more independent. Basically, independent in their own treatment, and I'm kind of there just to guide it, is usually what I try to do. And oftentimes they'll come up with their own strategies after I've talked about something. [...] They'll just kind of use what I gave them in a recommendation and actually apply it to things they actually have to do at home. [...] I'm just there to kind of guide the treatment, but really it's the patient who's kind of going to make the changes and really do the work, right? Because I can give them all these tips and strategies, but ultimately it's kind of them who's going to be independent in their own kind of care. (Participant 6)

Likewise, other participants highlighted a desire for patients to practice overcoming obstacles related to pain and impaired function in living their daily lives by utilizing tools they had learned from the physiotherapist, rather than feeling dependent on a clinician for help.

Participants described an organized approach of exercise progression for management of mobility and function. This approach seemed to be thoughtful and was often communicated to patients throughout the process to ensure a mutual understanding of the treatment plan and prognosis.

[I] reviewed with her Day One what I usually say to most patients. I go from pain to range, range to strength, strength to function, with the intention being that we try to isolate where we are in that spectrum and then proceed to try to get through step to step. (Participant 5)

Other participants also described an ordered approach to organizing their treatment plans in terms of frequency of visits and care modalities offered at subsequent visits. An example of this was described by Participant 9.

I would say more often at the beginning and more hands-on at the beginning as needed, and then definitely more hands-off as we go, as they get more independent with their home exercise program.

In a similar manner, Participant 1 also highlighted the transition toward more independence for older adult patients with their home program over time.

When everything goes well, the process really goes smoothly. They're progressing.

You're providing management, you're improving the management. You're making things a little bit harder so that, eventually, they can do all the things that they came there looking to do in the first place.

As with the other phases represented in Figure 1 as circles, the period of Supported Integration could expand or contract depending on patient goals. Participants spoke to progressing patients' home exercise programs on follow-up visits when certain milestones had been achieved in order to continue advancing toward patients' goals.

The interesting thing is, I tend to see people who are higher functioning longer than not. Or who have larger, um, goals because I find they just, they need more. Because the person who – people reach that level of being able to make a meal and do light housework fairly quickly, right? It's people who want to get back on the golf course, want to get back on the mountainside, want to ski again... they're sometimes the ones that actually need a little bit more. But they're also the ones that I can say, "here's your

program.” They’re very dedicated to it. “I’ll see you in a month and we’ll revamp it.”

And that works just fine. (Participant 3)

Participants described the continual process of supporting older adult patients as they learned to integrate exercise in to their everyday lives. Participants emphasized that treatment and management of chronic back pain would take time. It was important for physiotherapists to serve as reliable, consistent supporters to ensure older adult patients were safe in their self-management, exercises were appropriate and helpful, and patients felt supported if there were questions or setbacks along the way.

Return to Living and Life with Chronic Back Pain

The physiotherapist participants in this study were clear in articulating that their ambitions in treating older adults with chronic back pain were to ensure their patients ultimately became confident in returning to independent self-management of their condition, without reliance on an external healthcare provider. Indicators of success with treatments and timing for discharge from physiotherapy came from multiple sources including patients’ subjective reports of improvement and meeting their original goals, functional outcome measure scores, and clinician expertise on improvement of objective measures of strength and function. Participant 2 attested, “*Outcome measures for me are huge. Subjective report is huge. Reevaluating the goals, right? Are you doing what we set out to do? And making sure you go back to them and checking them.*” Correspondingly, when asked to explain how she knew her treatment had been successful, Participant 4 detailed:

Patient report of subjective pain. Patient report... of their function. If they feel like they are achieving their goals better. [...] I’ll also use some outcome measures, like Roland-Morris questionnaires. And then more objectively, I would focus, like I said, if they have

better motor control, if they have better range, if their strength is improving. If some of those functional assessments, like if they squat better. Those functional assessments.

The focus on function in the second phase of this process, *'Determining Function'*, was a trend that carried through to the final phase in recognizing achievement of goals. Participants discussed goal achievement in entering the final phase of the process, and elaborated about the complexity of amalgamating information from multiple avenues including incorporating goals, subjective report, and improvement or plateau in symptoms or function. Importantly, several participants noted that meeting goals was not necessarily synonymous with eliminating pain; rather, goals were designed around and attained through improving function and recognized improvement for patients in participating in meaningful functional activities in their lives.

On reassessment, becoming better at ensuring that the goals are their goals, not just mine. So if I don't get an extra five degrees of left side bend on the next session, I'm not disappointed as long as they are functionally moving better, they're happier, because I know it will come. So I'm not going to focus too much on "I have to get that to a better level", because then I'll lose the forest for the trees. (Participant 5)

Similarly, Participant 3 discussed managing both patient and provider expectations around eliminating chronic back pain.

Just managing the overall picture. I think, too – not sounding like we can't fix everyone, but when you feel like you have to fix everyone and you're the only thing that can help them and you're supposed to take care of their chronic back pain that they've had for 30 years... in four treatments... that becomes overwhelming for the therapist, and probably unrealistic. So I think becoming more realistic with, "okay, what's our prognosis for this

person?” [...] If you can take it to them having back pain once a month from every day, that’s a significant improvement.

Participant 6 further explained:

In terms of my goal, it’s to make them as independent as possible. The goal is not to have them coming back to see me for the rest of their life. [...] It’s not necessarily to cure their back pain or to, you know, make it go away completely, because that’s not always a realistic goal. Usually my goal is to help with their pain and help decrease it, and then give them strategies to help manage the pain after they’re done with the physio treatment. [...] You can’t always resolve pain completely. But when can we get it to a manageable level? When we can have them independent in a good exercise program? And that they have strategies like the pain management strategies to manage their pain, so even when they get those acute flare ups, they feel comfortable managing them on their own.

Furthermore, Participant 2 noted the importance of defining ‘success’ by virtue of increased satisfaction with activity participation, rather than strictly by decreasing pain.

For some people, ‘success’ is just like the slight lifestyle change of doing 20 minutes of exercise. They may still have back pain but, to me, if they have back pain but are able to do more with that back pain, and feel they have a higher quality of life, I still see that as a success. Because certainly in the older population, I never claim I’m able to get rid of it. I think that is setting yourself up for failure. But I think there’s lots you can do to improve the condition and improve the life with back pain.

Participants noted that recognition of improvement could be a difficult task when treating patients with chronic back pain. Participants empathized with patients who live with pain every day and the complexity of identifying meaningful changes if pain persists.

It might be frustrating. It can be frustrating for the patient. It can be frustrating for the clinician because, you know, you might be able to see gains that'll be in vain. Or you might be more patient than they are, because you've been working with them for two weeks, and they've had this pain for 10 years. But they've been managing this pain for 10 years. And now it's 10 years and two weeks, and you can see how they might become more frustrated over time and their patience may be more limited. (Participant 5)

Interestingly, the use of functional outcome measures proved helpful in assisting patients and physiotherapists to measure and communicate improvement from intake to discharge.

That's where the outcome measures come in. Whether it's the Oswestry Disability Index or the Patient Specific Functional Scale. And really just patient satisfaction. [...] On their first intake, I really document what activities and participations that they cannot do, or have altered, and we document those all along. We minimize – we stay away from pain-focused care, and try and say 'well, your pain may be the same, but you're now gardening and you couldn't garden 3 weeks ago', or you're walking for 40 minutes instead of 20 minutes. And really emphasize those activities of daily living that have now improved, even though their pain may have stayed the same. (Participant 1)

Ultimately, when entering the final phase of the process, the notion of recognizing improvement and indications for the return of patients to independent self-management required shared satisfaction between physiotherapist and patient.

There's a mutual agreement that things are under control. So I don't think, with any age, that symptom resolution is the reason for discharge; although that is a clear reason for discharge. Most of the time, most of the people I treat, don't necessarily – I'd say probably the majority would not be fully resolved of symptoms when I say, "okay, you

have this plan, these are my recommendations, this is what I would expect to happen, and then now you're going to go and do this." (Participant 7)

In cases of treating older adults with chronic back pain, a marked difference in treatment plans, as compared with more acute injuries, was the openness and fluidity surrounding discharge. Participant 7 stated, "*Discharge is a kind of very open-ended entity I think in my caseload*". Many participants noted that they would encourage patients to try managing on their own entirely, while adding that their door would remain open and they would retain their information close at hand, should the patients feel they need to return for further care. I witnessed one such open-ended discharge conversation during my field observation, which I described in a memo as follows: "*The physio said to his patient, 'have a seat young lady'. He went on to state, 'I'd suggest we keep it open-ended. If it's not going at the rate you want, come back. Don't hesitate to call.' He seemed to sense some apprehension from the patient and went on to tell her, 'I'm not suggesting you're free and clear, but it's going well'.*"

This open-ended discharge style differed from the phase of *Supported Integration* because in Supported Integration there were scheduled follow-up appointments, plans to re-assess and progress exercises, and continued work towards improvement in subjective and objective measures. In contrast, this last phase represented the balance in responsibility was being transferred back to the realm of the patient to be enacted through resuming their role in self-management and return to living with chronic back pain. The physiotherapist participants often verbalized an offer to serve as a touchpoint, if necessary; however, it appeared their understanding was that patients' physiotherapy goals had been met at the point of this last phase. This distinction was nicely articulated by Participant 5 who stated:

I have had people that will come back quote-unquote for a ‘follow-up’ or just to ensure maintenance. The frequency of that would be once every two months or once every three months. [...] I have had patients where we will discharge, and I will call them within a month’s time just to re-assess or re-evaluate how they’re doing. And more often than not, in that kind of scenario, they’re doing alright so they’re doing better and they’re maintaining well. But there have been times where they’ve requested to come back in just to double-check whether they’re doing the exercise okay or not.

In a similar vein, Participant 8 highlighted a few particularly motivated older adult patients with chronic back pain, who she continued to see periodically because of the patients’ expressed interest in maintaining that touchpoint to physiotherapy.

In my opinion, she has achieved her goals; she’s now walking with her husband. [...] She is better able to manage with the activities of daily living, like reaching and lifting. So I feel happy about what we’ve accomplished and I know that she’s adhering to her exercises. However, she finds it motivating to visit me periodically and maybe review certain things. Or discuss variations on what she’s doing. So, yes, to answer your question, she still comes every three to four weeks. It’s her choice to do this. [...] It seems to just work for the other – I can think of two right now who just kind of – they’re, again, people who are fairly motivated and I am confident are doing physical activity in the community or at home or in a gym. But they do seem to like to check in periodically. And I’m not always sure that I’m giving them anything new to do. But we discuss it and that is the plan of care that comes out of our discussion.

The final phase of the process was marked by the return of patients to living and life with chronic back pain. The physiotherapists articulated ways in which they could measure goal achievement,

functional improvement, and subjective reports of satisfaction and success in order to support physiotherapy treatment coming to an end. Importantly, participants underscored the value of emphasizing increased function over pain-centered conversations to offer encouragement to patients surrounding their improvements over time. Furthermore, participants often offered a more open-ended approach to the therapeutic relationship as compared to patients with acute injuries in order to support their patients and put them at ease in their return to self-management.

Discussion

The findings of this constructivist grounded theory study suggest that *creating and disseminating exercise programs for older adults with chronic back pain* was a process by which physiotherapists listened to, assessed, cared for, supported, and returned older adults to day-to-day living with chronic back pain. Findings from this study are contextually-linked to time and place, to the participants, and to myself (Charmaz, 2008). Although not ‘generalizable’ to all physiotherapists or older adults in larger contexts, several implications may be interpreted from this study for healthcare providers employing exercise for older adults with chronic back pain. Insights generated from this study enhance understandings of inherent values and assumptions underlying physiotherapists’ decisions. Moreover, knowledge gained may motivate healthcare providers to reflexively consider their own actions in presenting exercise to older adults with chronic back pain for improved overall health.

The importance of physiotherapist involvement in care for older adults has been highlighted in previous studies, from the acute care setting through transition to community settings, and for ongoing self-management programs (Falvey et al., 2016). Physiotherapists are experts in identifying impairments or dysfunction in physical function, mobility, and activities of daily living, and in creating individualized plans of care to address the needs of older patients

with chronic health conditions (Falvey et al., 2016). For patients with chronic pain conditions, including older adults, exercise can significantly improve patient-reported symptoms (Ambrose & Golightly, 2015). Nevertheless, there are no widely accepted guidelines for appropriate exercise modes and parameters. This ambiguity in exercise recommendations for older people with chronic pain provides physiotherapists with considerable choice when prescribing exercise (Ambrose & Golightly, 2015). The process by which physiotherapists conceptualize and care for older adults with chronic back pain not only affects how individuals are treated in one-on-one interactions, but also adds to larger, socially accepted understandings of chronic pain, aging, and ability, which are reified in social and professional discourses (Twigg, 2006).

Listening to Patients' Stories

Physiotherapist participants in this study stressed the significance of taking time to listen to the stories of older adults with chronic back pain. Listening to patients' stories involved attending to comments about the longevity of and self-management for their back pain, previous treatment by healthcare professionals, preferences for activities, and meaningful goals. In my theoretical model of this process, listening to patients' stories was situated as the first phase and, importantly, was located as the point of convergence in the therapeutic alliance between the physiotherapist and patient, and launched an alternating partnership of responsibility of patient-led and provider-led care, which proceeded through to discharge. In listening to patients' stories, participants attuned to specific cues, which would lead the new partnership in decisions for care.

Previous research has discussed the influence of the therapeutic alliance – or 'patient-therapist interaction' – in physiotherapy care, and has highlighted the import of communication, collaboration, and mutual agreement on goals and interventions for positive outcomes (Hall, Ferreira, Maher, Latimer, & Ferreira, 2010; O'Keeffe, et al., 2016). Communication skills,

including active listening and empathy to patients' stories, may be pivotal in influencing physiotherapists' and patients' perceptions of interactions in musculoskeletal (i.e., orthopaedic) settings (O'Keeffe et al., 2016). Notably, active listening in patient-therapist interactions requires patience, allowing patients to speak uninterrupted, and acknowledgement that patients' values are heard (O'Keeffe et al., 2016). Findings from a recent systematic review of qualitative research suggested that both physiotherapists and patients valued getting acquainted with the patient as a unique individual, which included learning about the patient's history, expectations, beliefs, preferences, motivation, and circumstances, and tailoring treatment and exercises for the individual patient (Wijma et al., 2016). For the physiotherapists in this study, attuning to patients' stories underscored the entire approach to treatment; their descriptions of patient interactions, rooted in the older adults' stories, highlighted a sensitivity toward maintaining each patient at the focus of their treatment. Information gained from the time spent listening to patients was employed throughout the physiotherapy interaction – to guide goal setting, to select specific exercise, to shape education and implementation, and to inform readiness for discharge – leading right up to the final phase of *return to living and life with chronic back pain*.

While there is research available discussing patient-centered care in physiotherapy practices, Miller (2016), for example, demonstrated client-centered practice by using theoretical models of disease process and behaviour change to substantiate person-centeredness, rather than incorporating individuals' stories. Recently published studies seem to be emerging, which do explore patient perspectives on care, for example with peripheral arthritis, spinal cord injuries, and stroke (e.g. Lütze & Archenholtz, 2007; Levack, Dean, Siegert, & McPherson, 2011; Hill, Balbale, Lones, & LaVela, 2017); however, there is limited published evidence of inclusion of older adults' perspectives in physiotherapy practice for chronic back pain. One study, which

investigated conversations between French-speaking physiotherapists and patients with chronic back pain on initial assessment, suggested dialogues centered on patients' pain experiences including past and present pain, aggravating and easing factors, recreational activities, and the influence of pain on function (Opsommer & Schoeb, 2014). Participants in the present study similarly discussed and demonstrated conversations with patients in the initial assessment about prior experiences. This study further adds insight into how gathering patients' stories early on may be utilized throughout later physiotherapy interactions for treatment and management of chronic back pain with exercise, through to return to self-management by patients themselves.

Recently, an approach to clinical reasoning, termed 'narrative reasoning', has been suggested as a process by which physiotherapists may gather and understand patients' stories, including patients' perspectives on meaning of illness experiences, beliefs, and context (Caeiro, Cruz, & Pereira, 2014). Specifically, it has been suggested that 'narrative reasoning' may offer help to clinicians to enhance recognition and interpretation of patients' stories, and to apply their understandings to clinical reasoning and practice. Moreover, it has been suggested that utilizing patient stories in physiotherapy education may enhance students' understandings about patients' experiences of illness and, thus, enhance the promotion of a (holistic) patient-centered approach (Lévesque, Hovey, & Bedos, 2013; Caeiro, Cruz, & Pereira, 2014). With regard to practical implementation, it was proposed that the use of arts and reflective writing in physiotherapy education may allow for clinicians to develop optimized observation, interpretation, and empathic listening skills to increase their own sensitivity toward the uniqueness of patients' experiences, contexts, and the meaning of illness in patients' lives (Caeiro, Cruz, & Pereira, 2014).

One concern that may impede the practical implementation of listening to patients' stories in physiotherapy practice is the requirement of devoting limited temporal resources to listening to detailed, complex, and longstanding histories of chronic conditions. In the aforementioned systematic review (O'Keeffe et al., 2016), physiotherapists described giving patients time to present their concerns as an essential component to providing quality care, and patients reportedly appreciated having ample time in appointments to discuss their case. Similar concerns were noted by physiotherapists in the present study. Several participants spoke about the significance of devoting time during clinical interactions to listen to patients' stories. With busy clinic schedules, fee-for-service models of compensation, and emphasis on time efficiency balanced with the provision of quality healthcare, one-on-one interactions between therapists and patients may be short in duration to encourage more patient throughput and evidence-based recommendations for practice may be compromised (Scurlock-Evans, Upton, & Upton, 2014; Hudon, Drolet, & Williams-Jones, 2015). However, it is important to consider the impact and indispensability of creating a foundational patient-therapist partnership for healthcare, rooted in patients' concerns, preferences, and goals. Thus, the findings from this study may insight dialogues among clinicians about the importance of considering conversations and education as treatment, particularly when treating older individuals with chronic back pain.

Focus on Function

In this study, the physiotherapist participants repeatedly described designing exercise programs to promote function, versus to relieve back pain. Physiotherapists observed that most of their older adult patients with chronic back pain sought physiotherapy services when they had noticed that their pain significantly reduced their ability to complete functional activities in their daily lives. Although each participant noted the necessity of performing neurological screening

examinations and doing their due diligence in ruling out sinister pathologies, when proceeding with assessment and treatment, participants described attuning to each patient with a lens intent on maximizing optimal function.

Assessment was first informed by patients' subjective reports and then substantiated through participants' testing of their theories and assumptions. Participants discussed specific questions they would ask in order to document factors relating to patients' safety, social support, and comorbid health conditions, which ultimately directed their assessment and determination of their patient's function. Through ordered and selective questions and testing techniques, participants were able to recognize patterns, which allowed for more focused assessment and treatment. Participants spoke about the benefits of recognizing patterns in presentation when determining function, in that they could perform fewer tests, reduce the likelihood of flaring the patients' pain, and more readily allocate time to other pieces of the therapeutic interaction.

Pattern recognition in physiotherapy care has been suggested as a skill of expert clinicians who may employ both recall from previous cases and reasoning through related domain knowledge in order to recognize patterns and focus their practice (Doody & McAteer, 2002). Interestingly, the qualitative investigation by Doody and McAteer (2002) suggested that expert physiotherapists generated most of their theories during the subjective history, which they devoted considerable time to; thus, experts had clearer ideas than novices before beginning the physical examination about possible problems to search for. While my study did not specifically investigate the impact of physiotherapists' expertise on the process explored, it is conceivable that the efficacy and reliability of physiotherapists' determination of function for older adults with chronic back pain may be influenced by their respective levels of expertise. The study by Doody and McAteer (2002) further suggested that clinical reasoning was informed by both

assessment and treatment in physiotherapy. Similarly, in the present study, participants spoke about assessment as an ongoing process, integrating assessment and treatment throughout care, and focusing on function in both assessment and treatment through exercise and education.

The focus on function – as compared with attention to minute muscular imbalances or particular structures at fault – could be considered a reflection of the physiotherapist participants’ internalized understandings of previously successful interventions with similar cohorts, which focused on strength for function. Alternatively, it may reflect orthopaedic physiotherapists’ education and clinical training, whose foundational framework emphasizes focus on function over impairment. According to the Essential Competency Profile for Physiotherapists in Canada (NPAG, 2009), the description of physiotherapy practice outlines that its contribution to healthcare is through maximizing function and improving quality of life. Similarly, the Canadian Physiotherapy Association suggested that the value of physiotherapy for chronic conditions was in targeting mobility, improving functional ability and exercise capacity, enhancing and maintaining physical well-being, and improving quality of life (CPA, 2012). Globally, other governing bodies for registered physiotherapists are promoting a shift in focus away from impairment- or disease-focused treatment toward empowerment for maximized function (CSP, 2015; APTA, 2016), which may suggest that the focus on optimizing function and mobility is central to the physiotherapy profession, not solely a reflection of Canadian approaches.

Enacting Physiotherapy Care through Education and Exercise

Despite asking the physiotherapists questions specific to the role of exercise as treatment, participants offered numerous approaches in their answers about providing physiotherapy care including manual therapy, education, exercise, and occasionally therapeutic modalities such as heat or electrotherapy. Participants described selection of modes for treatment by first ensuring

they had listened to the patient's story and determined a baseline level of function. Participants also stressed that their methods of delivering care to older adults with chronic back pain were not predetermined or standardized. Instead, participants were attuned to each patient and carefully selected modes of physiotherapy care to best match each individual's unique needs.

A recent randomized controlled trial of physiotherapy modalities for treatment of chronic back pain concluded that specific motor control exercises and spinal manipulation may have slightly better outcomes in the short-term for patient-perception of treatment effectiveness and short-term function; however, when comparing medium and long-term effects, broad-based exercise was equally as impactful in patients with chronic low back pain (Ferreira et al., 2007). In the present study, physiotherapists discussed utilizing modalities, such as manual therapy or electrotherapeutic treatments, in earlier stages of treatment to help decrease patients' initial pain, to gain their trust, and to establish a therapeutic relationship as patients took time to understand and 'buy in' to the education and justification for exercise. This revelation may reflect clinicians' beliefs that hands-on care and one-on-one attention in initial stages of treating chronic back pain is more effective or better received by patients in the short-term. Nevertheless, participants in this study described providing one-on-one treatment to patients throughout their interventions, and exercises were to target specific muscle groups necessitated for function based on each patient's presentation. In this study, participants were adamant that long-term benefits for function, self-management, and independence would come as a result of the function-based stretching and strengthening exercises provided to the older adult patients to perform at home.

The physiotherapist participants in this study often acknowledged emerging evidence in support of exercise for management of chronic back pain when justifying their treatment approach. In a frequently cited review article investigating the effects of exercise for chronic low

back pain, exercise was suggested as being both safe and an effective means to improve impaired back function, by increasing flexibility, strength, and endurance (Rainville et al., 2004). Moreover, there was moderate evidence supporting that regular exercising could directly reduce the intensity of back pain, and may also have benefits on peoples' attitudes, beliefs, and fears about pain (Rainville et al., 2004). Another study proposed improved benefits for older adult women when exercising in a functional-task exercise program – which included carrying weighted objects, transitional movements, and walking – over a traditional resistance strength-training plan (De Vreede et al., 2005). At the end of a 12-week intervention period, the functional-task exercisers demonstrated greater lower body strength, balance, coordination, and endurance than the resistance-training group. Strength for function was proposed as having more enduring positive effects than the resistance-training group at 6- and 9-month follow-ups (De Vreede et al., 2005). This is intriguing support for clinicians to offer more function-based exercises for older adult patients; however, the study did not incorporate impacts on individuals managing chronic back pain and, thus, this is an area for future research.

Finally, participants induced an interesting component of physiotherapy treatment, as an adjuvant to manual therapy or exercise, in the form of patient education. Each participant independently initiated a story or discussion pertaining to the important influence of providing patients education on the nature of chronic conditions, the neurophysiology of pain, and the benefits of exercise to manage pain. It has been suggested that psychosocial impacts of chronic pain, if not understood or acknowledged, may serve as barriers to improved function and quality of life (Moseley, 2002). Moreover, the method of providing education to patients about their chronic back pain may be important to ensure effectiveness; specifically, emphasizing cognitive-behavioural and neurophysiological aspects of pain may have the greatest impacts on reducing

disability and increasing self-efficacy in patients (Moseley, 2002). A physiotherapy plan involving education about the neurophysiology of pain as a component of treatment has been demonstrated as effective in improving symptoms and function for patients with chronic back pain. Furthermore, a combined physiotherapy treatment incorporating manual therapy, exercise, and education may be more effective than the components administered in isolation (Moseley, 2002). Participants in our study spoke about successful interventions when they incorporated education with patients who appeared open to learning about the nature of pain. The findings of this study further suggest that education as treatment may be provided throughout physiotherapy care, in small increments and utilizing external resources, so as to prevent overwhelming patients, to promote patients' perceptions that providers recognize and respect their pain experience, and to support patients integrating the new information into their lives.

Supporting Integration

In their treatment of older adult patients, participants emphasized that treatment and management of chronic back pain was a slow and continual process, which necessitated patience and a long-term plan. Participants stressed that these patients would require a period of time to trial their exercises as a self-management strategy at home, in a supported manner that would enable them to return with questions and for progression of the exercises. The physiotherapists' tools, such as manual therapy and electrotherapeutic modalities, enabled them to provide pain management in the short-term; however, the expected goal was to ensure patients could integrate their learned tools of education and exercise into their own lives at home. While the trial period of practicing exercises in the home setting might arguably be considered as a standard aspect of physiotherapy care in all cases, participants in this study highlighted one difference when treating older adults with chronic back pain was the longevity of the situation. The influence of

the chronicity of back pain on exercise and self-management was apparent when participants spoke about following up with their older adult patients. Although participants understood that change and transition back to living with a manageable level of back pain would take time, they maintained a touch-point with their patients during this time to ensure integration was supported.

During this *Supported Integration* phase, patients were expected to return home and reproduce exercises, as prescribed by the physiotherapists, to improve strength and function; however, patient adherence to exercise, particularly among older individuals and people with chronic conditions, is not always optimal (Sun, Norman, & While, 2013; Bundon, Hurd Clarke, & Miller, 2011). Although reasons for poor adherence to exercise plans in physiotherapy practice may be varied, continued adherence is likely dependent on patients' perception of their symptoms, their beliefs about their ability to incorporate exercise into everyday life, and support from physiotherapists (Campbell et al., 2001). Furthermore, patients' adherence to exercises at home may be highest immediately following their physiotherapy session, and may decrease with time. For improved adherence to home exercise programs, it has also been suggested that physiotherapists should explore patients' perceptions and allow patients to participate in physiotherapy decisions (Campbell et al., 2001). Participants in my study spoke about including patients' initial beliefs as well as feedback on follow-up visits into their decisions surrounding home exercise prescription. Furthermore, participants highlighted to patients that they would remain available as a support while patients worked to incorporate exercise into their daily lives. Understanding older adults' beliefs pertaining to exercise adherence following physiotherapy treatment for chronic back pain may be an area for future research.

A review article investigating adherence to advice and exercise among patients with chronic back pain suggested similar insights; specifically, patients' attitudes and beliefs, pain,

and psychosocial factors were among the complexity of factors suggested to influence patient adherence (Middleton, 2004). Other factors were also proposed, including patients' exercise history, motivation, perceived lack of time, forgetfulness, and frustration when immediate benefits are unlikely (Middleton, 2004). In addition to concerns regarding patient adherence to home exercise, participants noted that their older adult patients may face other concerns when striving to integrate exercise into their everyday lives. For instance, older adults were often caregivers for loved ones at home and, thus, setting aside time for oneself could be challenging. Furthermore, participants noted that not all of their older adult patients were lifelong exercisers and, in fact, the idea of regular exercise was altogether novel for some individuals. As such, it was expected that uptake into everyday routines may be a gradual process. Thirdly, participants recognized that attaining a manageable, yet beneficial, balance of exercise selections and parameters may require additional fine-tuning with feedback from patients. For each of these reasons, participants highlighted the importance of maintaining a connection with patients and the necessity of allowing time for a smooth transition back toward patient independence in self-management.

Return to Living and Life with Chronic Back Pain

Participants in this study were adamant that their goal in treating older adults with chronic back pain was to ensure their patients returned to self-management of their condition independently, without reliance on an external healthcare provider. Successful interventions and indication for discharge came from various sources including patients' subjective reports of symptom or functional improvement and goals being met, functional outcome measure scores (e.g., Roland-Morris Disability Questionnaire and Patient Specific Functional Scale; Roland &

Morris, 1983; Stratford, Gill, Westaway, & Binkley, 1995), and the physiotherapists' own judgement of change on measures of strength and function based on their expertise.

One study employed a descriptive qualitative approach to explore factors physiotherapists consider for discontinuation or discharge of patients from outpatient orthopaedic settings (Pashley et al., 2010). Physiotherapists who were more adept at recognizing and treating a variety of conditions, which was often associated with accumulated years of clinical experience, were also more confident in discharge decision-making (Pashley et al., 2010). Physiotherapists also described patients' funding sources as impacting treatment and discharge planning; namely, that limited private coverage may complicate discharges if therapists were forced to end treatment early due to lack of funding. As in our study, a complex combination of strategies for broaching discharge were employed, which included using patient education, objective findings, negotiating patient goals and expectations, and encouraging self-management (Pashley et al., 2010). Physiotherapists highlighted patient self-management as both an end-goal and a strategy for discharge, which was reinforced by early encouragement of patients' active participation in treatment in-clinic and at home. Interestingly, physiotherapists noted differences and difficulties when considering discharge and self-management for chronic versus acute conditions; specifically, chronic conditions required that patients could cope when symptoms were present and understand that life without symptoms may be unrealistic (Pashley et al., 2010). Similar sentiments regarding the challenges of treating chronic back pain were raised by the participants in my study. In this study, several participants highlighted that meeting goals for 'successful' outcomes was not synonymous with eliminating chronic pain; instead, goals were achieved through improving function and recognized improvement for patients in participating in meaningful functional activities in their lives. The most notable difference in the findings of our

study was that participants often did not employ the term ‘discharge’ directly, unless specifically prompted using probes during the interviews. Participants noted that transitions *back to living and life with chronic back pain* were an open-ended and often fluid part of the process. The last phase of this theoretical process represented when responsibility was transferred back completely within the realm of the patient for resumed self-management of their chronic back condition, and an understanding that patients’ physiotherapy goals had been met; however, the physiotherapist participants often verbalized an offer to serve as a touchpoint, if necessary. Although patients were encouraged to try managing on their own entirely, several of the physiotherapists in my study stated that they would remain available and would retain their information close at hand, should the patients feel they needed to return for further care. A definitive ‘discharge’ was not described by participants and rather was understood as a phased out role for the physiotherapist in supporting the patient to resume *back to living and life with chronic back pain*.

Conclusion

This study presents the process by physiotherapists of creating and disseminating exercise as treatment for older adults with chronic back pain. This research highlights the importance physiotherapists place on listening to patients’ stories, including their history of pain, previous treatments, preferences, and values, when engaging in physiotherapy care. Furthermore, ideas of focusing on function, providing education and exercise as components of care, and supporting integration of exercise into everyday life, are considerations for providing care for older adults with chronic back pain in physiotherapy practice and for, ultimately, returning patients to living and life with chronic back pain. With aging populations and increasing prevalence of chronic conditions, healthcare providers will be confronted with considering how to approach exercise and treatment with this cohort and, as such, how they will impact the health

and quality of life of those older adults living with chronic back pain. Insights generated from this study highlight a process, which physiotherapists' experiential knowledge has led them to pursue in treating older adults with chronic back pain. Insights may encourage other physiotherapists and healthcare professionals to reflect upon older adults' beliefs, goals, and functional priorities when managing chronic back pain to support older adults to participate in physical activity for maintained or improved overall health.

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Chapter Six: Discussion

The overall aim for the two studies described herein was to enhance understanding and provide insight into the realm of exercise for older adults with chronic back pain. The first study was positioned to encourage reflective awareness of the inherent meaning of exercise for older adults with chronic back pain. The second study aimed to explore the process physiotherapists engage in when creating and disseminating exercise plans for older adults with chronic back pain as part of their programs of care. By undertaking these two studies, I hoped to further reflective clinical practice in managing chronic back pain for older adults with exercise – fostering consideration of older adults’ stories, preferences, and lived experiences for meaningful exercise interventions – and to provide insight and illuminate practices of physiotherapists working with older adults with chronic back pain.

Adults aged 65 years and older with chronic back pain living in the community of a mid-sized city in southwestern Ontario who were continuing to exercise at a moderate intensity for greater than 150 minutes per week participated in the first study. Physiotherapists, who treated older adults with chronic back pain residing in or near the same city, participated in the second study. While the findings from these two integrated studies are not intended to be generalizable across contexts in the same way that positivistic, quantitative research may be interpreted and applied, they offer interesting insight into pre-reflective meanings and physiotherapy processes, which characterize exercise for older adults with chronic back pain. The purpose of this Discussion chapter is to review the findings and key insights arising from the two integrated studies, and to discuss implications for practice and future research.

Summary of Study Findings

In the first study, active older adult participants with chronic back pain described that exercise offered *relief* from pain, both in terms of mental and bodily respite. Exercise experiences were intricately linked with their experiences of chronic back pain; participants exercised *because* of a connection between their back pain and exercise, rather than despite it. The *relief* from pain with exercise offered the older adults a means of reconnecting with important lived identities as active and able, which became only accessible to them during, and for a short time after, exercise. Awareness of and limitations secondary to their chronic back pain fluctuated with periods of physical exercise and sedentary activities. Movement lifted the physical and mental burden of chronic back pain; while periods of inactivity from sitting or sleeping stiffened and slowed them. Participants did highlight their awareness for ‘doing too much’ and the importance of balance between rest and activity to optimize day-to-day living. Back pain, often in combination with age-related changes in physical function, backgrounded participants’ senses of self as able and active individuals, which were highly valued. The essence of *relief* from pain offered by exercise was underscored by two major themes, *mind* and *body*, as well as six themes of *enjoyment*, *social engagement*, *gratitude*, *learned limitations*, *maintaining mobility*, and *aging*.

In the second study, physiotherapist participants described the ‘*process of creating and implementing exercise plans*’ in a series of overlapping phases for their patients with chronic back pain: *listening to the patient's story*, *determining function*, *physiotherapy care*, *supported integration* and, ultimately, *returning back to living and life with chronic back pain*. Participants worked through the phases at different rates when treating older adults with chronic back pain in outpatient physiotherapy settings, often revisiting steps in the process as needed. Participants

described a significant event or ‘tipping point’ overwhelming their older adult patients’ abilities to cope on their own with their pre-existing chronic back pain; their older adult patients needed help to return to taking care of themselves and so sought physiotherapy aide and, thus, entered the process of creating and implementing exercise plans. The phases occurred within the context of a shared alliance between physiotherapist and patient, with a transfer of responsibility occurring throughout the course of treatment and follow-up sessions, progressing toward patient independence in *returning back to living and life with chronic back pain*. Participants did not use the language of ‘discharge’ but rather spoke of patients achieving their goals and reporting satisfaction with improved function and a drift away from physiotherapy intervention. Participants were very clear in describing an ‘open door policy’ emphasizing ongoing support for their older adult patients as they returned to independently managing their chronic back pain.

Key Insights

The key insights reflect the integrated findings of the two studies, and will lead to a discussion of the implications for physiotherapy clinical practice and future research. The first key insight is the *centrality of a holistic approach* to exercise – involving mind and body, beliefs and behaviours – for management of older adults’ chronic back pain. The second insight highlights the importance of *maintaining a focus on function through exercise*; both older adults and physiotherapists recognized benefit from emphasizing the capabilities, mobility, and function that could be maintained with exercise despite the persistence of chronic back pain. The third key insight is the importance of *allowing time for supported integration into the every day*; older adults described the importance of learning that exercise made them feel better, which often required a process of trial and error, and physiotherapists reiterated the importance of supporting integration of exercise into older adults’ lives over time, by having regular follow-up

appointments to revise exercises. Finally, *experiential learning for empathic understanding* is the fourth key insight reflecting themes arising from the findings of both studies; older adults spoke about their previous experiences relating to exercise, and the physiotherapist participants described the extended time they devoted to listening to their older adult patients' stories and experiences as well as drawing on their own experiential learning with previous older patients.

The Centrality of a Holistic Approach

Both older adults and physiotherapists discussed the importance of incorporating older adults' preferences and values into specific modes of exercise. Older adults participating in the first study recounted stories of previous failed attempts at exercise when those exercise types did not suit their desired selves; for instance, yoga was cited by participants as a recommended form of exercise but, for several, did not fulfill their desire to feel active and able. When older adults enacted exercise that was inspired by their personal preferences, such as social group fitness classes or biking, they were more apt to enjoy the exercise experience, embody the experience as an expression of self, and feel relief and reprieve in mind and body from the burden of chronic back pain. Physiotherapist participants highlighted their implicit understanding of the importance for incorporating patient preferences and stories in their approach to prescribing, supporting and reengaging their older adult patients with exercise. Physiotherapists dedicated a substantial portion of their time to listening to older adult patients' stories in order to tailor their approach and present exercise in a meaningful way, such that patients would 'buy in' or engage, and adhere to their exercise program. As such, exercise needed to fit not just with the older individual's physical needs but with a more holistic view of their actual life worlds.

Understanding the experience of exercise and the process of prescribing exercise for older adults with chronic back pain involved an essential appreciation of older adults' beliefs and

behaviours related to chronic pain, exercise, and aging, which required an acknowledgement of the impacts of pain on both mind and body. For the older adults in the first study, chronic back pain was thoroughly understood as impacting upon both their mental and physical well-being; by contrast, exercise provided a relief for their minds and bodies from the ever-present feelings of pain. In this research, older adults with chronic back pain were keenly aware of how their pain influenced their lived sense of being-in-the-world (van Manen, 1990), their participation in meaningful activities and their presentations of themselves in various contexts. The older adults highlighted that their pain had initially deteriorated their perceived abilities to engage in meaningful activities and, subsequently, altered their perceptions of themselves as evidenced by their interpretations of embodied experiences and comparisons made to their younger, former selves. The older adult participants emphasized a sense of relief provided through exercise from the emotional weight of chronic pain; specifically, participants experienced exercise as reprieve from pain and felt a positive influence on mood and mind. The physiotherapist participants in the second study seemed to appreciate the need to address the ‘bigger picture’ of the impact of chronic back pain on the lives and functional ability of their older adult patients. The physiotherapists emphasized the importance of listening to patients’ stories to understand how patients perceive pain, to what extent meaningful aspects of their lives had been impacted by pain, and to direct treatment selection.

The significance of employing a holistic, patient-centered approach when considering chronic conditions in older adults is becoming increasingly appreciated in other areas of healthcare, such as nursing, health promotion and mental health (for example, Berg & Sarvimaki, 2003; Jormfeldt, 2011; Whitehead, 2011). My understanding of a holistic, patient-centered approach is that it extends beyond technical considerations of a patient and, rather, focuses on

the person as a ‘whole’, inclusive of his or her experiences and the meaning of illness or impairment in his or her life (Berg & Sarvimaki, 2003). From this perspective, biopsychosocial approaches – which tend to emphasize disease and dysfunction components that are observable or quantifiable in biomedical, psychological and sociological factors – remain insufficient for understanding the complexity of chronic health conditions. Rather, a holistic, patient-centered approach focuses on understanding the impact of illness on the person from a bodily, mindful, experiential, and contextual perspective (Berg & Sarvimaki, 2003).

A number of other qualitative studies exploring individuals’ experiences with chronic back pain and exercise have highlighted preferences from prior exercise encounters to be a central concern in understanding the meaning of chronic back pain and exercise (Slade, Molloy, & Keating, 2009; Bunzil, Watkins, Smith, Schutze, & O’Sullivan, 2013; Slade, Patel, Underwood, & Keating, 2014). Currently, biopsychosocial models are popularly considered as foundational and best practice for physiotherapy in Canada (CCPUP, 2009; CPA, 2017); however, there remains limited evidence that this advice is implemented within clinical practice (Sanders, Foster, Bishop, & Ong, 2013). Moreover, this study may be the first to suggest adoption of a holistic, patient-centered approach – extending more broadly than biopsychosocial models into consideration of contextual and experiential factors – in physiotherapy practice. Despite wide acceptance that chronic back pain is multidimensional, and that division of biomechanical from psychosocial factors is ineffectual, previous research has noted that physiotherapists may feel underprepared to address the broader contextual factors which shape peoples’ responses to chronic illness (Sanders, Foster, Bishop, & Ong, 2013; Synnott et al., 2015). Furthermore, chronicity of back pain, unrealistic patient expectations and illness beliefs

may be considered as further ‘obstacles’ to overcome for successful physiotherapy treatment, rather than considerations for different approaches (Sanders, Foster, Bishop, & Ong, 2013).

In a recent systematic review of quantitative and qualitative research, it was suggested that physiotherapists prioritized biomedical approaches to chronic pain and disability when working with all types of patients with chronic back pain – not specifically older adults – leading to treatment orientations directed at tissue damage and avoidance of aggravating activities (Gardner et al., 2017). The review suggested that biomedical approaches may be a reflection of patients’ expectations for manual therapy and pain relief; thus, physiotherapists’ biomedical focus may be interpreted as attempts to maintain good therapeutic alliances and care centered around the patient (Gardner et al., 2017). However, these findings also suggest that physiotherapists may inadvertently neglect best practice evidence for encouragement of physical exercise and the importance of empowering individuals for self-management and, ultimately, highlight how physiotherapists’ attitudes and approaches may reinforce and impact upon patients’ understandings and health outcomes.

While previous studies have recommended that inclusion of individuals’ preferences is an important consideration for encouraging exercise for older adults with chronic back pain, they also suggest that implementation into clinical practice may be complicated by balancing peoples’ beliefs and expectations with evidence-informed best practices. The findings of this dissertation research, thus, do not fit with previous research showing largely a biomedical focus in physiotherapy practice. Rather, the findings herein suggest that the physiotherapists may extend beyond a biomedical model, and suggest a process by which physiotherapists include patients’ stories into their care. Physiotherapists underscored the significance of taking time to listen to the stories of older adults with chronic back pain. Listening to patients’ stories involved attending to

comments regarding the longevity of and self-management for their back pain, previous treatment by healthcare professionals, preferences for activities and meaningful goals. Physiotherapists acknowledged that pain influenced more than strictly physical, bodily processes for their older adult patients; thus, treatment required a variety of tools to address the bodily, mental, contextual, and experiential impacts on older adults' abilities to independently self-manage their health condition. The findings of this research highlight the importance of encouraging an exchange of beliefs, experiences, and expectations between older adult patients and physiotherapists to optimize the therapeutic alliance, for success and satisfaction with clinical encounters, and enhanced engagement in meaningful exercise for management of chronic back pain.

Maintaining a Focus on Function through Exercise

In the first study, older adults emphasized a sense of gratitude for the capabilities, mobility, and function they retained despite living with chronic back pain, and the independence and abilities maintained were attributed to continued engagement in physical exercise. Similarly, the physiotherapist participants in the second study noted that successful interventions involved participants recognizing significant improvement in day-to-day function and returning to independently self-managing their chronic back pain. With acceptance of pain as an ever-present, albeit fluctuating, symptom for older adults living with chronic back pain, both the older adults and physiotherapists in these studies turned their focus toward maximizing functional capacity for maintaining independence, continuing engagement in meaningful activities, and improving quality of life.

The findings of this research highlighted the significance of focusing on optimizing function for older adults as well as physiotherapists in the context of chronic back pain

management. Older adults highlighted a sense of enjoyment and gratitude from the continued capabilities, mobility, and function of their bodies, which was attributed to ongoing engagement in regular physical exercise. Physiotherapists underscored the importance of focusing on function through both assessment and treatment in order to increase mobility, improve functional ability and exercise capacity, encourage physical well-being, and enhance quality of life for their older adult patients with chronic back pain. Importantly, determining function was an ongoing, often revisited phase of the process. Participants continuously re-assessed patients and spoke about using functional outcome measures to add information to their appraisal. Continuing a focus on function could set the stage for creating mutually agreed upon goals and treatment plans, which would be appealing to both the physiotherapist and patient.

Maintaining a focus on function is important on many levels. Firstly, for individuals who have chronic back pain, lasting three or more months, which has impacted on their activities in daily life, it is highly likely the pain will persist or recur (Hoy, Brooks, Blyth, & Buchbinder, 2010). Furthermore, research has indicated that older adults may be at greater risk than younger individuals of becoming highly impacted with high levels of dysfunction and depression at correspondingly lower levels of pain (Corran, Farrell, Helme, & Gibson, 1997; Gibson & Lussier, 2012). In contrast, *acceptance* of chronic back pain, which may lead to improved emotional and physical well-being, requires that individuals diminish ineffective efforts to target pain and, instead, concentrate on enhancing participation in appreciated activities and working toward meaningful goals (McCracken, Vowles, & Eccleston, 2004).

Current best practices in physiotherapy recommend adopting a framework, which emphasizes function over impairment, shifting away from treatment of impairment or disease and toward empowerment for optimized function and mobility (CPA, 2012; CSP, 2015; APTA,

2016). A review of best practices for physiotherapy management of back pain recommended early encouragement to return to usual activities as well as education surrounding the nature of the condition, which can be an opportunity to discuss the multifactorial nature of persistent pain as well as to address patients' concerns about injury, exercise, and self-management (Moffett & McLean, 2006). Importantly, this requires that physiotherapists embrace their scope of practice as encompassing more than strictly therapeutic modalities and exercise (Schneider & Cristian, 2008), but as inclusive of education as well (Kokorelias, & Ali, 2017).

The individuals participating in this research seemed to have internalized an understanding of the importance of exercise and focusing on function for well-being despite persistent pain. Both the older adults and physiotherapists in these studies acknowledged that chronic back pain would persist regardless of intervention and, thus, they turned their focus toward maximizing functional capacity for maintaining independence, continuing engagement in meaningful activities, and improving quality of life. The findings of this dissertation research provide insight into the potential positive influences of focusing on function for older adults. Shifting focus from pain to function may empower older adults to emphasize the capabilities they maintain despite living with persistent pain, which could ultimately have the power to improve individuals' self-efficacy, gratitude, and quality of life.

Allowing Time for Supported Integration into the Every Day

Among the older adults in the first study, each participant spoke about learning their limitations with exercise and discovering a safe mode, amount, and intensity to offer relief without aggravation of pain. Older adults described the importance of learning for themselves that exercise made them feel better, through improved mobility and peace of mind, and this realization was often arrived at after a lengthy process of trial and error with various exercise

types and intensities within the context of their chronic pain condition. The physiotherapists in the second study echoed the importance of supporting integration of exercise into older adults' lives over time, by having regular follow-up appointments to modify, progress, or revise exercises. Exercise prescription was largely dependent on patients' feedback about how the exercises were going, and the benefit to function and symptom relief they were receiving. Furthermore, 'discharge' was an open-ended concept enacted as drift away from physiotherapy intervention, which allowed physiotherapists to remain as a touchpoint for these older adults to ensure they were safe in their return to self-management, integrating exercise again into their day-to-day, and supporting their questions or setbacks.

A recent qualitative study employed content analysis to understand how individuals with chronic musculoskeletal pain experienced receiving prescriptions from physicians for physical exercise (Joelsson, Bernhardsson, & Larsson, 2017). Participants in the study by Joelsson and colleagues (2017) emphasized similar sentiments to our findings in that clinicians must take patients' circumstances into consideration, including symptoms, interests, and previous experiences in order to direct specific exercise suggestions. Importantly, their participants also stressed the need to feel secure and supported, and suggested that physiotherapists would be appreciated to create limitations and set appropriate parameters for exercise (Joelsson, Bernhardsson, & Larsson, 2017). Increased activity levels resulting from exercise engagement may also improve patients' self-efficacy beliefs, and create a virtuous cycle encouraging uptake of new types of exercise and realization of unrecognized capabilities (Joelsson, Bernhardsson, & Larsson, 2017). The study principally highlighted that individuals living with chronic pain may wish for additional support – including time to describe their previous experience, consideration

of their health situation, and guidance in implementing and following up on exercise instructions – in order to feel understood and supported (Joelsson, Bernhardsson, & Larsson, 2017).

An interpretative phenomenological analysis of patients' and physiotherapists' experiences with exercise for treatment of low back pain, although not specifically chronic back pain, highlighted the importance of individuals' perceptions of time as a commodity, which influenced peoples' views of adherence and uptake of exercise, as well as future pain (Dean, Smith, Payne, & Weinman, 2005). The findings suggested that physiotherapists may inherently believe it is the patient's responsibility to allocate time in their daily routines to engage in physical exercise; however, there may be a role for physiotherapists to help patients to manage their time. Moreover, interventions aimed at helping people to manage their back pain should center on clarifying patients' priorities and assisting them in establishing a routine, which includes an exercise program that aligns with their priorities (Dean, Smith, Payne, & Weinman, 2005).

Each of the studies previously discussed adds substantiation for the importance of supporting integration for exercise into the lives of individuals with chronic back pain. However, no research was found specifically exploring the implications of integrating exercise for older adults. Older adults may have additional lifestyle factors, which impact upon their ability to successfully implement exercise and education into their lives. For instance, older adults may serve as caregivers for a partner, which could impede upon prioritization of their own health. Moreover, older adults have lived a substantial portion of their lives and, as such, it may be reasonable to assume that for those who have not previously engaged in regular physical exercise, the integration of exercise into daily routines may pose a significant challenge. Insights from this research highlight aspects of exercise experiences, which may help to facilitate uptake

and engagement in exercise for older adults specifically. For instance, understanding that older adults must find enjoyable exercise activities and also learn limitations on exercise in order to experience bodily and mind-ful *relief* from pain may encourage older adults to be patient while navigating this process of trial and error, rather than feeling frustrated or defeated. Moreover, encouraging physiotherapists to maintain open-mindedness and patience while supporting older adults to integrate exercise into their lives may facilitate conversations between patients and providers regarding expectations for change in pain and encouragement for persistence in exercise participation.

Experiential Learning for Empathic Understanding

Older adults spoke about their previous experiences relating to exercise and the physiotherapist participants described the extended time they devoted to listening to their older adult patients' stories and experiences with exercise. Given the meaning of exercise as understood by older adults involved both mental and bodily aspects, it was important for physiotherapists and the older adult participants to 'listen to' and 'be heard', respectively. Revisiting their *experiential learning* and the meanings of those experiences was important for these older adults and physiotherapists; understanding 'pathic' or 'felt' ways of experiencing chronic back pain and exercise in the lives of older adult patients may facilitate empathy and tactful care in physiotherapy practice. Moreover, physiotherapists also drew on their own practitioner-based experiential learning with previous older patients when making decisions for treatment. Gaining an understanding of the significance of older adults' experiential learning about exercise as it features in their day-to-day living with chronic back pain may be critical for self-management over the long term and for healthcare providers to better understand and support these older adult patients through the time frame of the 'tipping point' and resuming

living and life with chronic back pain. Taking the time to understand the previous experiences for older adults with chronic back pain, as well as taking time to reflexively consider their previous clinical experiences, may be instructive for physiotherapists and healthcare providers to focus their assessment, treatment and support of older adults with chronic back pain.

The findings of this research suggested that the meaning of exercise was understood by older adults in both mind-ful and bodily respects, suggesting that both chronic back pain and exercise activities influenced the ‘felt’ status of the workings of the older adults’ minds and bodies. For the older adults participating in the first study, the *meaning* of the experience of exercise – ‘knowing’ for themselves that exercise could offer mental and physical relief from chronic back pain – was learned through their immediate experiences in engaging in exercise. The onset of chronic back pain had disrupted older adults’ lived identities as active and able. However, through exercise, older adults could embody the active individuals they strived to be and that they truly ‘felt’ they were, which contrasted the immobile, or pained bodies they knew to exist if they were to stop exercising. It may be essential for physiotherapists to explore their older adult patients’ previous experiences relating to exercise and their internalized understanding of those experiences in contexts of treating chronic back pain. The phenomenological methodology employed in the first study aimed to consider ‘pathic’ or ‘felt’ ways of knowing, and offers insight from older adults’ lived experiences, which may facilitate “tactful thoughtfulness” (p. 156) by physiotherapists to guide understanding and acting with care and discernment (van Manen, 1990). Previous research has investigated experiences of chronic low back pain from the perspective of the patient (Bunzil, Watkins, Smith, Schutze, & O’Sullivan, 2013) as well as adults’ – although not specifically older adults – beliefs about exercise for individuals with nonspecific chronic low back pain (Slade, Patel, Underwood, &

Keating, 2014); however, to my knowledge, this is the first research which offers insight into the experience of exercise in older adults with chronic back pain. As healthcare professionals, it is imperative that we carefully consider the ‘lifeworlds’ of our patients, which extend far beyond the clinical diagnoses or biomechanical underpinnings of dysfunction. Gaining insight into the meaning of the everyday lived experiences of older adults with chronic back pain, offered herein, may contribute to more meaningful patient-practitioner relationships and more meaningful delivery of physiotherapy care for improved overall health.

Recent research is emerging, which focuses on exploring meaning-making, lived experience, and ‘pathic’ approaches to practice in physiotherapy. These studies highlight the centrality of ‘pathic’ knowledge, as a ‘sense’ of the body, relational perceptiveness, and tact, to physiotherapy knowledge and practice (van Manen, 2006; Chowdhury & Schroder Bjorbaekmo, 2017). In addition to suggesting insights, which may be appreciated through reflexive practice, some authors suggest ‘pathic’ care as fundamental to competent and ethical practice in physiotherapy (Greenfield & Jensen, 2010; Chowdhury & Schroder Bjorbaekmo, 2017). Developing ‘pathic’ understanding involves consideration of meaning as unique, contextual, and person-bound. Moreover, ethical principles, such as beneficence and autonomy, may be important for guiding healthcare treatment only insofar as they incur specific meaning for the patient (Greenfield & Jensen, 2010). To apply in physiotherapy practices, therapists must intentionally engage with their patients’ experiences to develop deeper understandings about the meaning of those aspects of human ‘being’ in the world, such as chronic back pain (van Manen, 1990). In valuing the exploration of experiences in context, and centralizing the importance of everyday experiences and the meanings people ascribe to them, it may be appreciated that patients’ values emerge, not in ethical principles or theory, but as a result of their perceptions,

interpretations, and meaning of their experiences for their every day. Greenfield and Jensen (2010) poignantly described a starting point for employing a phenomenological perspective toward healthcare stating, “*In health care, the meaning of phenomenology is understood best when we differentiate between disease and illness*” (p. 92). In other words, physiotherapists may begin to develop empathic understanding toward their older adult patients by differentiating between ‘having’ chronic back pain and the meaning of chronic back pain in their lives.

Developing this empathic understanding and open-mindedness to patients’ individual experiences may be especially important in circumstances of chronic illnesses as the persistence of illness or pain may interfere with patients’ previous identities and social roles (Greenfield & Jensen, 2010; Charmaz, 2016). Through ongoing communication and allowing time for older adult patients to tell their stories about the meaning of chronic back pain and exercise, physiotherapists may be able to identify patients’ goals and confirm the importance of those goals in the care of their patients. This *care-ful* listening would involve attending to patients’ comments about the longevity of and self-management for their back pain, previous treatment by healthcare professionals, and activity preferences, which may provide insights into important identities for patients and meaningful goals. Moreover, when prescribing exercise, physiotherapists may draw on the patient’s story to sensitively and tactfully present exercise as a means to maintaining meaningful identity and participation.

Employing experiential learning for empathic understanding also involved physiotherapists’ reflexive consideration of their previous practical experiences with older adult patients with chronic back pain to enhance their clinical expertise and caring practices. It has been previously suggested that physiotherapists with greater years of clinical experience may be more adept at recognizing and treating a variety of conditions with more confidence in their

practical decision-making processes (Pashley et al., 2010). The physiotherapists in the present study appeared to draw on previous experiences with former patients, which informed their understandings of successful strategies for assessment and treatment. For instance, several physiotherapists highlighted that they had learned to shift focus from pain to function early, which effectively allowed for patients and physiotherapists to work toward achievable, meaningful end-goals of patient self-management and active participation in treatment. Several physiotherapists had contrasting stories from prior experiences, wherein the focus of treatment remained centered on pain management, which eventually led to patient dissatisfaction and, in some cases, premature discharge. A number of the physiotherapists also described disappointments from their assessment strategies earlier in their careers; reflecting on their novice practices, several physiotherapists noted they had previously felt compelled to employ every tool and tactic they knew. Alternatively, with greater clinical experience, the physiotherapists reflected they had learned to pare down and focus their practices, so as to effectively determine risk and function, while maintaining patient comfort and trust. Practical experiential learning allowed the physiotherapists to ‘take apart’ the older adults’ conditions to determine the ‘right amounts’ of assessment and treatment; they focused on function rather than mechanism and understood that there had to be time in each visit with the older adults for checking in, pacing, and listening to their stories. The physiotherapists seemed to *leave space* in their treatments for patients to provide their input, rather than feeling a responsibility to fill the entire time with their professional opinions, which reflected a truly holistic, patient-centered approach. Finally, the physiotherapists in this study reflected on differences in discharge strategies for older adults with chronic back pain, which they had learned through practical experience could differ from management of acute conditions in outcome objectives and

timeline. Physiotherapists noted that transitions *back to living and life with chronic back pain* were an open-ended and often fluid part of the process.

In consideration of chronic back pain, and understanding the complex, multidimensional nature of pain, it is imperative that physiotherapists employ more than a strictly biomedical perspective for assessment and treatment. More broadly, to account for the complexity of pain experiences and the multifaceted nature of physiotherapy practice, it may be important for physiotherapists to question what counts as physiotherapy knowledge and how that knowledge is employed in clinical contexts (Edwards & Richardson, 2008; Shaw & DeForge, 2012). Rather than discounting traditional physiological and biomechanical understandings to impairments, a newer notion is to recognize that physiotherapy practice is situated within a complex context, which requires multiple ways of knowing, rather than prioritizing one mode over another (Shaw & DeForge, 2012). In physiotherapy contexts, accepting an array of knowledge sources may involve interweaving traditional diagnostic reasoning with more nuanced understandings of individuals' lived experiences and the meanings imparted therein (Shaw & DeForge, 2012). Thus, consideration of the 'lifeworld' may require that physiotherapists recognize both they and their patients have past experiences, which form the social, cultural, and historical contexts that will influence how they 'feel' and 'know' the nature of the body and chronic back pain.

The findings from the present research suggested that recurrent, daily pain had initially deteriorated older adults' perceived abilities to engage in meaningful activities and had altered their perceptions of themselves. Physiotherapists may appreciate how chronic back pain is experienced as an impediment on the mind and body, and recognize, by contrast, that exercise may offer relief for older adults from the ever-present thoughts and feelings of pain, and that exercise participation may suspend older adults' 'felt' pain-related limitations on their bodies.

For the older adult participants in this research, it was essential to learn through experience the limitations of their bodies as indicated by pain, to maintain movement, and to adapt their exercise participation within the combined effects of their chronic condition and aging. Continued involvement in exercise as a meaningful activity required internalization of and ‘actively remembering’ the positive impacts of exercise on the ‘felt’ pain in their bodies, coupled with a *care-ful* awareness of pacing themselves and respecting their limitations in activity, and experiences of liberation from the confines of ‘felt’ pain with exercise. Consideration of the impact of chronic back pain on the everyday lives of older adults through sensitive attention to patients’ stories and actions, coupled with reflexive consideration of our own inherent presuppositions as physiotherapists about aging, pain, and exercise, may facilitate empathic understanding to enhance meaningful and compassionate care.

Implications of Key Insights for Practical Care

Allocating More Time

Thoroughly listening to patients’ values, beliefs, and prior experiences requires that physiotherapists allocate time to enable patients to tell their stories. Furthermore, acknowledgement of patients’ stories may be important, not only in the initial assessment, but also through subsequent follow-up visits to direct goal setting, select exercises, shape education, and inform readiness for discharge. Understanding the importance of older adults’ lived experiences of chronic back pain, as well as their prior exercise experiences, may enhance the quality of therapeutic alliance and successful outcomes between the physiotherapist providers and patients. Moreover, if *allocating more time* is understood as an imperative component for thorough, empathic care of older adults with chronic back pain, we must consider how this need

for extra time has implications for funding models and service delivery in private, outpatient physiotherapy practices.

Previous research has highlighted the integral influence of therapeutic alliance on patient outcomes. A recent systematic review suggested communication skills, including active listening and empathy to patients' stories, was pivotal for good outcomes in musculoskeletal physiotherapy settings (O'Keeffe et al., 2016). Moreover, therapeutic alliances, understood as collaborative and supportive relationships between patients and therapists, have been suggested to be predictive of clinical outcomes such as pain, disability, and perceived effectiveness of treatment for individuals with chronic back pain in the context of physiotherapy treatments also employing manual therapy and exercise (Ferreira et al., 2013; Fuentes et al., 2014). The findings of this dissertation research highlight that both older adults as well as physiotherapists value integration of older individuals' experiences when addressing management of their chronic back pain. As such, it is reasonable to believe that openly allowing for older adults to tell their stories of their pain experiences – including the longevity of and self-management for their back pain, previous treatment by healthcare professionals, preferences for activities and meaningful goals – would facilitate improved therapeutic alliances and therefore improved patient outcomes in physiotherapy care. Moreover, to truly address the influence of chronic back pain on older adults' lived experiences, physiotherapists must remain open-minded to insights about effects of pain on both the mind and body, and extend their clinical reasoning beyond strictly biomedical views.

The insight of *allocating more time* extends beyond the temporal duration of a single appointment time as well. More specifically, participants in these studies highlighted that there was no immediate hurriedness to successful treatment of chronic back pain in older adults.

Although it may be important to address pain relief through manual therapy or modalities in the short-term, both older adults and physiotherapists alike highlighted the importance of developing an active self-management strategy, including physical exercise, which fulfilled their needs to maintain function and meaningful roles. Finding appropriate, enjoyable, and meaningful exercise required a process of trial and error for the older adults participating in the first study. Similarly, physiotherapists described the importance of follow-up appointments to modify and fine-tune exercise routines to older adults, after they had a period of trialing implementation in their own daily lives.

Successful adherence to home exercise programs has previously been linked with the time provided by physiotherapists for exploration of patients' perceptions and encouraging patients to participate in physiotherapy decisions (Campbell et al., 2001). It is also understood that, for older adults in particular, there may be extenuating circumstances which interfere with or prolong their abilities to uptake and integrate exercise into their lives. For instance, older adults may be caregivers for loved ones at home and, thus, setting aside time for caring for oneself may be challenging. Moreover, not all individuals living with or managing chronic back pain share the same philosophy. Older adults with 'flare ups' of persistent back pain may seek physiotherapy services to address the pain; these interactions provide opportunities for physiotherapists to provide education in the form of conversations with patients with respect to activity modification, pain neuroscience, self-management, and rationale for exercise for maintaining function and independence. As such, it is crucial that physiotherapists appreciate the uptake of exercise into everyday routines as a gradual process, allowing time to maintain a connection with patients and to facilitate a smooth transition back toward patient independence in self-management.

In current practice, with demanding clinic schedules and various compensation models, as well as the emphasis on time efficiency balanced with the provision of quality healthcare, one-on-one interactions between physiotherapists and patients may be cut short to encourage more patient throughput and evidence-based recommendations for practice may be compromised (Scurlock-Evans, Upton, & Upton, 2014; Hudon, Drolet, & Williams-Jones, 2015). Pressures on time and increasing patient throughput has been mentioned elsewhere as a potential impediment to successful implementation of exercise for management of back pain (Dean, Smith, Payne, & Weinman, 2005); as such, this change to allow more time may be difficult to put into action. However, it is important to consider the influence and indispensability of creating a quality, foundational patient-therapist partnership for healthcare, rooted in patients' concerns, preferences, and goals. Empathic understanding may require more sensitivity and time than the process of assessment and treatment might be reflected in typical scheduling practices and length on active patient lists than other musculoskeletal health conditions – lending a closer reflection to care practices and durations in chronic pain conditions.

Practical implementation of the notion of *allocating more time* in outpatient physiotherapy practices will require that physiotherapists review clinical schedules and reorganize their limited temporal resources when treating older adults with chronic back pain. This may involve longer appointment times for listening to detailed, complex, and longstanding histories of chronic conditions, as well as less frequent, longer duration follow-up appointments to ensure older adults feel supported as they integrate exercise into their self-management strategies. Although, in private outpatient clinics, physiotherapists may have the ability to direct and control their patient scheduling, this freedom for individual therapists is dependent upon their employer and payment structure. For instance, if physiotherapists are compensated by

salary, they may feel more freedom to block larger timeslots for older adults with chronic back pain, versus therapists who are compensated in a fee-for-service model. Thus, while there may be some opportunity for individual physiotherapists to initiate *allocating more time* in their practices, it is important to highlight the challenges within existing, larger funding and service systems which may restrict others from implementing such changes. If *allocating more time* to interactions with older adult patients negatively impacts individual physiotherapists' financial income, it is doubtful that the notion will be taken up on a large scale. In contrast, if the importance for allowing time is reflected in improved outcomes and understood as imperative for thorough patient care, it may be a change that physiotherapy associations and other regulatory bodies can advocate for. It is my hope that the findings from this research will insight conversations among clinicians about the importance of considering patients' stories and experiences, particularly when treating older individuals with chronic back pain.

Emphasizing Meaningful Function for Well-being in Everyday Life

Both the active older adults and physiotherapists participating in this research acknowledged acceptance of the 'fact' that chronic back pain would likely persist or recur at some level regardless of intervention. As such, there was a notable shift in focus away from pain control toward maximizing functional capacity for maintaining independence, continuing engagement in *meaningful* activities, and improving quality of life. Findings from this research offer insight into the potential positive influences of focusing on function for older adults, as well as a theoretical process depicting how function is determined and informs physiotherapy treatment of older adults with chronic back pain. Shifting attention from pain to function may empower older adults to emphasize the capabilities they maintain despite living with persistent pain; moreover, it may serve to re-connect older adults with their 'able' selves, which could

ultimately have the power to enhance perceived self-efficacy, gratitude, and quality of life. From the physiotherapists' perspectives, maintaining a focus on meaningful function may help to pare down physiotherapy assessments, thereby reducing the likelihood of flaring patients' pain, and allowing therapists to concentrate on making patients feel better, rather than proving or refuting hypotheses about particular diagnoses. Furthermore, continuing emphasis on meaningful function may facilitate creation of mutually agreed upon goals and treatment plans, appealing to both physiotherapists and older adult patients.

Emphasizing meaningful function may enable both physiotherapists and older adults with chronic back pain to keep in mind the 'bigger picture' of *living and life with chronic back pain*. Practical implementation of centering on meaningful function requires that physiotherapists develop an understanding of the meaning of function – or impairment – in the lives of their older adult patients. Successful treatment in physiotherapy practice, especially with chronic conditions, requires that therapists look beyond their traditional diagnostic reasoning processes to understand how the patients find meaning in their treatment (Chowdhury & Schroder Bjorbaekmo, 2017). Unsuccessful treatment attempts, described by older adults and physiotherapists in this study as those narrowed in focus to biomechanical sources of pain, may reflect failures in the therapeutic interaction to 'put the pieces together' to understand meaning in older adults' experiences of chronic back pain and exercise for self-management. It has been suggested that success or failure in physiotherapy interactions center on "the therapist's ability to engage with the patient on multiple levels, imparting meaning to the patient's dysfunction and supporting their efforts to improve their engagement with the world" (Chowdhury & Schroder Bjorbaekmo, 2017, p. 558). The findings from the first study of this research emphasized that exercise may offer a meaningful experience for older adults in the form of both mind-ful and bodily relief from

chronic back pain. Importantly, the findings were representative of a cohort of older adults who were highly ‘successful’ in terms of ongoing activity. While these active older adults may differ tremendously from the ‘typical’ older adult patient with chronic back pain, there may be captivating insights to be gained from understanding how exercise is perceived by individuals who are routinely engaged. Physiotherapists and other healthcare professionals may reflect on the findings from the first study to encourage a new perspective for older individuals struggling with exercise engagement. In particular, emphasizing aspects of exercise that specific patients may find meaningful – such as emotional relief with exercise, maintaining mobility, social engagement, and gratitude – may serve as a starting point to add insight to practical care and offer novel approaches to care with individual patients.

Employing an approach to physiotherapy care which acknowledges and appreciates multiple sources of knowing – including patients’ lived experiences; their social, cultural and historical contexts; and their interpretations of meaning – may be essential in caring for older adults with chronic back pain, as the condition and its management require a broader approach to understanding than a strictly biomedical lens. The findings of my research provide additional support for the importance of ‘critical reflexivity’ in professional practice, including the need to consider various sources of ‘knowledge’, to critically understand broader contextual issues influencing care, to recognize inherent taken-for-granted assumptions, as well as to encourage continued consideration of the patients’ stories in our work (McCorquodale & Kinsella, 2015). In social sciences, people who employ multiple sources of knowledge for understanding have been termed ‘bricoleurs’ (Shaw & DeForge, 2012). As Shaw and DeForge (2012) eloquently articulated,

Rather than seeking to understand the world in terms of individual (isolate) phenomena severed from their context, a bricoleur seeks to understand the world in terms of contextual relatedness (e.g. treating a person and their functional activities as opposed to a specific joint). (p. 422)

Embracing multiple forms of physiotherapy knowledge also requires that physiotherapists remain open-minded to listening to patients' stories and, specifically, to accept that patients may understand and value different perspectives than the therapists (Shaw & DeForge, 2012).

Ultimately, emphasizing meaningful function in treatment of older adults with chronic back pain requires that physiotherapists continue to embrace views of pain as a multidimensional construct and as thoroughly subjective in its experience (Younger, McCue, & Mackey, 2009). Therefore, physiotherapists may need to foster reflexive consideration of how patients' lives are truly impacted by chronic back pain, the meaning of the illness as well as the meaning of treatment, exercise and self-management. The physiotherapists in this study spoke to employing a holistic approach, centering around the patient, which expanded beyond strictly biomedical perspectives that have traditionally informed clinical attributions for individuals with chronic back pain (Daykin & Richardson, 2004). Taking this idea one step further, it may be important for physiotherapists to understand that clinical interactions represent an intersection between attitudes, beliefs, and expectations of both providers and patients (Daykin & Richardson, 2004). Therefore, for successful treatment outcomes, physiotherapists must remain 'open' to the deeper meaning of chronic back pain and exercise in the lives of their older adult patients, and create a shared understanding by fostering patients' experiences and providing education, and targeting treatment at enhancing function and meaningful activity participation.

In addition to embracing patients' stories to understand meaningful function, physiotherapists may utilize clinical interactions to provide education as treatment in order to enhance patients' understandings of realistic expectations, the scope of physiotherapy practice, and self-management strategies. Recently published research suggests patients with chronic back pain, although not specifically older adults, want to gain a greater understanding surrounding the nature of their back pain from physiotherapy interactions (Stenner, Swinkels, Mitchell, & Palmer, 2016; Calner, Isaksson, & Michaelson, 2017). Evidence suggests there remains opportunity for improvement among physiotherapists to enhance patient education and support for self-management of chronic back pain (Cooper, Smith, & Hancock, 2009; Liddle, Baxter, & Gracey, 2009). For patients with chronic back pain, developing knowledge involves an understanding of their illness as well as future expectations for improvement (Stenner, Swinkels, Mitchell, & Palmer, 2016). Therefore, it is imperative that physiotherapists allow for open communication with patients to elicit those questions; to develop an understanding of the meaning of chronic back pain and exercise in their lives; to facilitate individualized, empathic care and tactful presentation of management options; and to co-create realistic, meaningful goals.

Future Research

This research is the first to my knowledge to suggest that older adults may continue to engage in regular exercise *because* of their chronic back pain and, more specifically, because of the associated *relief* from that pain offered by exercise. The notion that exercise may offer a physical and mental reprieve from feelings and thoughts of chronic back pain is a novel contribution. Future research may explore the extent to which this idea of 'relief' resonates with exercise experiences of other populations and in other contexts. Another novel contribution is the lesson from these expert physiotherapists to physiotherapists developing their clinical skills – to

focus on function in older patients with chronic back pain versus pain reduction or a biomechanical mechanism. In this research, the experienced physiotherapists drew upon their experiential knowledge, gained through years of clinical interactions, within their practice to improve care for this population. Future research may explore how to translate this experiential knowledge from experts to more novice clinicians.

In available published literature, there is support for the benefits of regular exercise in reducing the intensity of back pain, and improving individuals' attitudes, beliefs, and fears about pain (Rainville et al., 2004). One previous study specifically explored a functional task-based exercise program for older women – although not specifically older adults with chronic back pain – and suggested the functional-task exercisers had improved lower body strength, balance, coordination, and endurance than strictly resistance-trainers (de Vreede, Samson, van Meeteren, Duursma, & Verhaar, 2005). The study offered intriguing support for clinicians to provide more function-based exercises for older adult patients; however, the study did not incorporate impacts on individuals managing chronic back pain, thus, this is an area for future research. There appears to be a wealth of literature in the field of occupational therapy relating to functional-based exercises versus rote exercise, which supports the importance of meaningful, purposeful, function-based tasks (for example, Law, 1993; Trombly, 1995). Future studies addressing functional task exercises for older adults with chronic back pain could review research that has already taken place in occupational therapy, to consider implications for interdisciplinary care.

Finally, previous research has suggested that the management of patients with chronic back pain may vary dependent on physiotherapists' level of experience; specifically, that novice physiotherapists lacked confidence in predicting treatment outcomes or held unrealistic outcome expectations in trying to 'cure' all patients (Daykin & Richardson, 2004). In my research, it

appeared as though experienced physiotherapists were particularly reflexive in describing how they established rapport with patients, clarified preferences, garnered buy-in to treatment, and developed realistic goals, particularly in listening to the patient's story. As a novice clinician myself, with fairly little clinical exposure to older adults with chronic back pain, I was particularly drawn to the notion of differences with years' experience. I explored this theme further through theoretical sampling and evolution of the interview guide for later interviews in the second study; however, it was not a primary objective of the research undertaken herein. Future research may explore differences in the process of exercise creation and dissemination, or physiotherapy treatment overall, between novice and experienced physiotherapists when treating older adults with chronic back pain, or perhaps older adult patients' perspectives on treatment by novice versus more experienced clinicians.

Limitations

The two studies discussed herein were completed within a particular social and cultural context at a particular time in a mid-sized city in southwestern Ontario and, therefore, must be understood within that context. The findings of each study are considered as co-constructions created between the researchers and participants; as such, the findings should not be grossly generalized or simply translated to all older adults with chronic back pain or all physiotherapists in other contexts. In the first study, participants included ten older adults who lived independently in their own homes in the community and continued to participate in exercise at moderate intensities, greater than 150 minutes per week, not specifically those who were seeking physiotherapy care during the time the study took place. The second study involved nine physiotherapists treating older adults with chronic back pain who also lived independently and were able to travel to the physiotherapy clinics for care. Insights arising from this research may

inform physiotherapy practice in ambulatory, outpatient settings, but do not wholly represent the experiences of all older adults with chronic back pain or other physiotherapists in Ontario.

For the sake of reference, in this research I employed the term ‘older adults’ to define my study population as it overlies inclusion criteria as well as finding relevant, related literature. However, an important consideration of this cohort is that older adults over 65 years of age are arguably the most heterogeneous age group when taking into account physical, functional, psychological, and social characteristics (Schmader et al., 2010). The heterogeneity of older adults will ultimately result in variable perceptions of pain, assessments and treatments, and goals of care. Thus, an essential thought to respect when treating older individuals is to individualize treatment to the person, rather than assimilating all ‘older adults’ into one category.

In addition, I must recognize my application of a constructivist paradigm to this research. At the outset of my journey through this research process, I had no clinical background in physiotherapy. My assumptions about chronic back pain and were based upon anecdotal observations of the potential benefits of exercise for reducing physical pain or immobility. However, listening to older adults’ first-hand stories of the impacts of both chronic back pain and exercise on their lives, I was challenged to broaden my horizons to understand how ‘lifeworlds’ and human experiences extend beyond strictly physical into realms of mind, context, and experience. Moreover, in undertaking constructivist research, I have become much more cognizant of my views on the relative nature of ‘knowledge’ and ‘truth’. I have a deep appreciation now for how important it is in a ‘people profession’, such as physiotherapy, to remain open-minded to the perspectives and lived experiences of other people. It was important for me to remain open to topics highlighted by participants, and to base my interpretations on the data and perspectives presented to me in the research process. However, in so doing, I also

recognize the findings are ‘co-constructions’ from my lens and, thus, may never truly represent the full extent of the meaning of the lived experiences, values, beliefs, and behaviours as lived and understood by the participants. Through iterative analysis and evocative writing, I have attempted to demonstrate trustworthiness and authenticity and, ultimately, I hope to achieve resonance with both research participants and readers.

Conclusion

This research sought to develop a thoughtful and meaningful understanding of the meaning of exercise in older adults with chronic back pain, and to explore the process undertaken by physiotherapists in creating and disseminating exercise for older adults with chronic back pain. In the first study, older adults described exercise as *relief* from chronic pain, a ‘welcomed blankness’ in mind and body from the feelings of aching, discouragement and frustration might typically infiltrate their every day. Freedom from bodily ‘felt’ pain during exercise allowed participants to return to their ‘active’ lived selves as understood prior to – or without – pain. Internalization of and ‘actively remembering’ the positive impacts of exercise on the ‘felt’ pain in their bodies fostered continued involvement in exercise as a meaningful activity. Physiotherapists’ processes of creating and implementing exercise plans were comprised of *listening to the patient's story, determining function, physiotherapy care, supported integration* and, ultimately, *returning back to living and life with chronic back pain*. The phases were embedded within the context of a shared alliance between physiotherapist and patient, with a transfer of responsibility occurring throughout the course of treatment and follow-up sessions, progressing toward patient independence in living with chronic back pain. Successful ending of the process was determined by patients achieving their goals and reporting satisfaction with improved functional tolerance for and meaningful participation in daily activities.

Key insights from the findings of this research included: *the centrality of a holistic approach* to exercise – as involving mind and body, beliefs and behaviours – for management of older adults’ chronic back pain with open communication between older adults and physiotherapists and incorporation of older adults’ preferences and values into exercise; *maintaining a focus on function through exercise* to emphasize remaining mobility, independence, and abilities even with the continued presence of chronic back pain; the importance of *allowing time for supported integration into the every day* for older adults to integrate exercise into their life, to ensure they were safe in their self-management, exercises were appropriate and helpful, and patients felt supported if there were questions or setbacks; and, finally, the importance of *experiential learning for empathic understanding* of the meaning of exercise for older adults with chronic back pain, which may be instructive for physiotherapists in fostering compassionate care. These key insights may be grafted into practical care through consideration of the differences between acute and chronic conditions, understanding that developing an understanding of the patient’s story and experiences with chronic back pain as well as with exercise, and internalizing an understanding of exercise as meaningful in the lives of older adults with chronic back pain takes time; this may require *allocating more time* when scheduling assessment and treatment, as well as remaining open-minded to the potentially open-ended nature of discharge with these patients. Secondly, *emphasizing meaningful function* as the basis for treatment, to understand patient preferences and as a means of empowering older adults, may allow for more successful outcomes in that both physiotherapist providers and patients can prioritize participation over persistent pain or dysfunction.

The findings of this research provide important, novel information for physiotherapists who prescribe exercise to maintain and improve health as a component of chronic pain self-

management. Insights gained may challenge physiotherapists' inherent, taken-for-granted assumptions about exercise habits and attitudes of older adults with chronic back pain, and may inspire more reflexive approaches to clinical practice. Furthermore, understanding the lived experiences of older adults who continue to exercise despite chronic back pain has important implications for clinical practice enabling healthcare professionals to more tactfully shape the presentation of exercise. If I can mobilize the findings of this research in ways that will reach older adults, such as writing of the findings in publicly-accessible 'grey' literature, insights from this research may also motivate older adults with similar characteristics to increase or maintain participation in regular exercise for improved overall health. With these insights, I hope I can inspire a more sensitive, empathic approach to shaping the presentation of exercise in order to support older adults to participate in physical activity for maintained or improved overall health.

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Appendices

Appendix A: Ethics Approval Notice for Study One



Principal Investigator: Dr. Denise Connelly
File Number: 103753
Review Level: Delegated
Approved Local Adult Participants: 10
Approved Local Minor Participants: 0
Protocol Title: Exploring the Experience of Exercise in Older Adults with Chronic Back Pain
Department & Institution: Health Sciences/Physical Therapy, Western University
Sponsor:
Ethics Approval Date: June 24, 2013 **Expiry Date:** July 31, 2014
Documents Reviewed & Approved & Documents Received for Information:

Document Name	Comments	Version Date
Other	Interview Guide for Qualitative Interviews	2013/03/21
Recruitment Items	Recruitment poster	2013/04/18
Western University Protocol		2013/04/19
Recruitment Items	Recruitment Poster (with suggested revisions)	2013/05/27
Revised Letter of Information & Consent	Letter of Information and Consent Form (with suggested revisions)	2013/05/27
Instruments	Telephone Cognitive Screen (T-CogS)	2013/06/05
Recruitment Items	Telephone Script	2013/06/05
Other	Reference List	2013/06/04
Instruments	RAPA Tool (for assessment of physical activity among older adults)	2013/06/04
Instruments	The Rapid Assessment of Physical Activity Among Older Adults (Topolski et al., 2006)	2013/06/04

This is to notify you that The University of Western Ontario Research Ethics Board for Health Sciences Research Involving Human Subjects (HSREB) which is organized and operates according to the Tri-Council Policy Statement: Ethical Conduct of Research Involving Humans and the Health Canada/ICH Good Clinical Practice Practices: Consolidated Guidelines, and the applicable laws and regulations of Ontario has reviewed and granted approval to the above referenced revision(s) or amendment(s) on the approval date noted above. The membership of this REB also complies with the membership requirements for REBs as defined in Division 5 of the Food and Drug Regulations.

The ethics approval for this study shall remain valid until the expiry date noted above assuming timely and acceptable responses to the HSREB's periodic requests for surveillance and monitoring information. If you require an updated approval notice prior to that time you must request it using the University of Western Ontario Updated Approval Request Form.

Members of the HSREB who are named as investigators in research studies, or declare a conflict of interest, do not participate in discussion related to, nor vote on, such studies when they are presented to the HSREB.

The Chair of the HSREB is Dr. Joseph Gilbert. The HSREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 03000940.



Ethics Officer to Contact for Further Information

_____ Erika Bowle ebowl@uwo.ca	_____ Grace Kelly gkelly@uwo.ca	_____ Vicki Tran vtran@uwo.ca	_____ Sheryl Walker Swalker@uwo.ca
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This is an official document. Please retain the original in your files.

Appendix B: Ethics Approval Notice for Study Two



Western
Research

Research Ethics

Western University Health Science Research Ethics Board HSREB Delegated Initial Approval Notice

Principal Investigator: Dr. Denise Connelly
Department & Institution: Health Sciences/Physical Therapy, Western University

Review Type: Delegated
HSREB File Number: 108705
Study Title: Investigating the Process of Exercise Prescription by Physiotherapists for Older Adults with Chronic Back Pain

HSREB Initial Approval Date: February 24, 2017
HSREB Expiry Date: February 24, 2018

Documents Approved and/or Received for Information:

Document Name	Comments	Version Date
Western University Protocol	Received 2017/01/11	
Letter of Information & Consent		2017/01/09
Other	Interview Guide	2017/01/09
Recruitment Items	Poster	2017/01/09
Recruitment Items	Telephone Script	2017/01/09
Recruitment Items	E-mail to Gatekeepers	2017/02/22

The Western University Health Science Research Ethics Board (HSREB) has reviewed and approved the above named study, as of the HSREB Initial Approval Date noted above.

HSREB approval for this study remains valid until the HSREB Expiry Date noted above, conditional to timely submission and acceptance of HSREB Continuing Ethics Review.

The Western University HSREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), the International Conference on Harmonization of Technical Requirements for Registration of Pharmaceuticals for Human Use Guideline for Good Clinical Practice Practices (ICH E6 R1), the Ontario Personal Health Information Protection Act (PHIPA, 2004), Part 4 of the Natural Health Product Regulations, Health Canada Medical Device Regulations and Part C, Division 5, of the Food and Drug Regulations of Health Canada.

Members of the HSREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB.

The HSREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000940.

Ethics Officer, on behalf of Dr. Joseph Gilbert, HSREB Chair

EO: Erika Basile ___ Nicole Kaniki Grace Kelly ___ Katelyn Harris ___ Nicola Morphet ___ Karen Gopaul ___

Western University, Research, Support Services Bldg., Rm. 5150
London, ON, Canada N6G 3G9 t. 519.661.3035 f. 519.850.2466 www.uwo.ca/research/ethics

Appendix C: Letter of Information and Consent for Study One

Project Title: Exploring the Experience of Exercise in Older Adults with Chronic Back Pain

Principal Investigator:

Dr. Denise Connelly, PhD, MSc, BScPT
Associate Professor, School of Physical Therapy
The University of Western Ontario

Co-Investigator:

Melissa Hay, B.Sc., M.Sc. candidate

Letter of Information

You are invited to participate in a research study because you are a regular exerciser over the age of 65 living in the community with chronic back pain. This study is being done in order to understand the experience of exercise in older adults with chronic back pain living in the community. The purpose of this letter is to provide you with information required for you to make an informed decision regarding participation in this research.

Physical activity behaviour is a crucial component of health, particularly in older adults with chronic health conditions. Given the prevalence of chronic pain in older adults, it is important to gain an understanding of the experience of self-implemented, continued, regular physical activity from the perspective of this cohort. Findings from this investigation may help healthcare professionals to more appropriately shape the presentation of exercise to older adults with chronic back pain to increase participation in physical activity and improve overall health.

Purpose of the Study

The purpose of this study is to explore the experiences of exercise from the perspective of older adults living and exercising in the community with chronic back pain.

Participant's Initials: _____

Inclusion Criteria

For inclusion in this study, we are looking for men and women aged 65 and older living in London, Ontario. Participants must have chronic back pain, self-described as occurring most every day for the last three months or longer that impacts on an activity of daily life. Finally, participants must engage in at least 150 minutes per week of moderate-intensity exercise.

Exclusion Criteria

Individuals whose chronic back pain is cancer-related or trauma-induced will not be eligible for this study. Furthermore, older adults who are awaiting surgery for their pain will be excluded from the study. Finally, participants must not exhibit cognitive impairment, as demonstrated by a mini mental telephone screen, prior to being invited for an interview.

Study Procedures

If you agree to participate in this study, you will be asked to engage in two separate interviews with the co-investigator to discuss stories of your exercise experiences. The interview will also include questions about your general health and social network. With your permission these interviews will be audio recorded and transcribed to be read by the researchers. Each interview is expected to last approximately 60 minutes, and may be conducted either at your home or at Elborn College at Western University, or another location you prefer. Between 6 and 10 people will be participating in this study.

Possible Risks and Harms

You will be discussing personal information that may make you think about your daily routine and social and physical activities, as well as your experience with chronic back pain. Each interview will end with a question on your overall general health and support network. You will have the opportunity to ask any questions you may have about exercise at the end of both the first and second interviews.

Participant's Initials: _____

Possible Benefits

You may not directly benefit from participating in this study. However, information gathered may provide benefits to society as a whole in enabling healthcare professionals to more appropriately shape the presentation of exercise to older adults with chronic back pain, in order to increase participation in physical activity and improve overall health.

Compensation

There will be no compensation for participating in the research project. Parking at the university can be provided free of charge, and no other costs to the participants are anticipated.

Voluntary Participation

Participation in this study is voluntary. You may refuse to participate, refuse to answer any questions or withdraw from the study at any time during the interview(s). You may also withdraw your interview data at any point up to one month after your final interview. By the time one month has passed after your final interview, data coding to create anonymity will have already occurred.

Confidentiality

Recorded interviews and typed transcripts will be examined by only the two members of the research team for data analysis. The identities of all participants will be kept strictly confidential in any analysis of the interviews by using a code that will be assigned to the interview information instead of your name. The research may be published, but participant names are never reported in any presentations, posters, thesis or publications. The interviews and transcripts will be stored in a locked filing cabinet in a locked lab at Western University. Representatives of Health Sciences Research Ethics Board at Western University may require access to your study-related records or may follow up with you to monitor the conduct of the research.

Participant's Initials: _____

Consent to be Contacted for Future Studies

Finally, the research team would like to know if you are willing to be contacted in the future for any other related research projects that might arise. This would require the research team to keep your name and telephone number on file. If you agree to be contacted this in no way signifies a commitment on your part to participate in future projects, only to be informed of them and asked to participate. Your participation in these future studies would be completely voluntary as well. A check-box is available on the consent page for any participants who are willing to be contacted in the future regarding new research projects.

If you have any questions about your rights as a research participant or the conduct of the study you may contact the Office of Research Ethics.

If you have any questions regarding this study, please contact:

Dr. Denise Connelly

Publication

If the results of this study are published, your name will not be used. If you would like to receive a copy of any potential study results, please contact Dr. Denise Connelly.

This letter is yours to keep for future reference.

Participant's Initials: _____

Consent Form

Study Title: Exploring the Experience of Exercise in Older Adults with Chronic Back Pain

Principal Investigator:

Dr. Denise Connelly, PhD, MSc, BScPT
Assistant Professor, School of Physical Therapy
The University of Western Ontario

Co-Investigator:

Melissa Hay, BSc, MSc candidate

I have read the Letter of Information, have had the nature of the study explained to me and I agree to participate. All questions have been answered to my satisfaction.

Participant's Name: _____

Signature of Participant: _____

Date: _____

Name of Person Obtaining Informed

Consent: _____

Signature of Person Obtaining Informed

Consent: _____

Date: _____

Secondary Consent

Are you willing to be contacted in the future for any new research projects that may arise?

If yes, place a checkmark in the box:

Appendix D: Letter of Information and Consent for Study Two

Project Title: Investigating the Process of Exercise Prescription by Physiotherapists for Older Adults with Chronic Back Pain

Principal Investigator:

Dr. Denise Connelly, PhD, MSc, BScPT
Associate Professor, School of Physical Therapy
Elborn College, University of Western Ontario

Co-Investigator:

Melissa Hay, BSc, MPT, PhD candidate

Letter of Information

You are invited to participate in a research study because you are a physiotherapist working clinically with a caseload that may include older adults over the age of 65 living in the community with chronic back pain. This study is being done in order to understand and explore physiotherapists' processes of creating and disseminating exercise programs for older adults with chronic back pain. The purpose of this letter is to provide you with information required for you to make an informed decision regarding participation in this research.

Physiotherapists are often involved in the care of older adults, from acute care through to community settings, and for ongoing self-management programs. Physiotherapists are experienced at identifying issues or changes in function and mobility, and can create plans of care to address patients' ongoing needs. For older adult patients who participate in physiotherapy in the community, there are several potential roles for physiotherapists, including educational references, therapeutic modalities, and exercise. Given the prevalence of chronic pain and the growing number of older adults with chronic health conditions, it is important to understand the process physiotherapists undertake when creating and disseminating exercise programs for older adults with chronic back pain as part of physiotherapy treatment plans. Insights generated from this study will enhance understandings of inherent values and assumptions underlying physiotherapists' decisions.

Purpose of the Study

The purpose of this study is to explore the process physiotherapists undertake when creating and disseminating exercise programs for older adults with chronic back pain.

Participant's Initials: _____

Inclusion Criteria

For inclusion in this study, we are looking for male and female physiotherapists working clinically in London, Ontario. Participants must be members in good standing with the College of Physiotherapists of Ontario. Eligible participants must work at least 20 hours per week in clinical practice and have a caseload which includes treating individuals with back pain aged 65 years and older.

Exclusion Criteria

Age and gender are not exclusionary for the purposes of this study; neither is number of years in practice. Due to the nature of interviewing as a data collection method participants must speak English.

Study Procedures

If you agree to participate in this study, you will be asked to engage in two separate one-hour interviews with the co-investigator to discuss stories and decision making processes surrounding exercise prescription for older adults with chronic back pain. With your permission these interviews will be audio recorded and transcribed to be read by the researchers. Each interview is expected to last approximately 60 minutes, and may be conducted either at your place of employment or at Elborn College at Western University, or another location you prefer. The research process will also involve an observational component. With your permission, the Co-Investigator will quietly observe clinical processes and interactions between yourself (the physiotherapist) and your older adult patients. You would make it clear to the patient(s) that no data or notes will be written about the patient, but rather the actions of the physiotherapist. The physiotherapist and site are also anonymous in the observational memo-taking process. The language about patients or clients will be neutral in the memos as well (e.g. "patient" or "client"). No identifying or confidential information will be documented about any individuals observed. The focus is to observe and record impressions of the physiotherapist's actions including, for example: elements of communication, patient education, demonstrations, timelines, elements of exercise prescription, delegation, time of day, use of space and resources. Between 10 and 20 people will be participating in this study.

Possible Risks and Harms

You will be asked to provide your personal opinions that may deviate from standards in physiotherapy treatment of older adults with chronic back pain. Various approaches are welcomed and would not be judged on merit. You will have the opportunity to ask any questions you may have about exercise at the end of both the first and second interviews.

Participant's Initials: _____

Possible Benefits

You may not directly benefit from participating in this study. However, information gathered may provide benefits to society as a whole in enabling healthcare professionals to more appropriately shape the presentation of exercise to older adults with chronic back pain, in order to increase participation in physical activity and improve overall health.

Compensation

There will be no compensation for participating in the research project. Parking at the university can be provided free of charge, and no other costs to participants are anticipated.

Voluntary Participation

Participation in this study is voluntary. Participants do not waive any legal rights by signing this consent form. You may refuse to participate, refuse to answer any questions or withdraw from the study at any time during the interview(s). You may also withdraw your interview data at any point up to one month after your final interview. By the time one month has passed after your final interview, data coding by pseudonym to maintain anonymity will have already occurred.

Confidentiality

Recorded interviews and typed transcripts will be examined by only the two members of the research team for data analysis. The identities of all participants will be kept strictly confidential in any analysis of the interviews by using a pseudonym that will be assigned to the interview information instead of your name. The research may be published, but participant names are never reported in any presentations, posters, thesis or publications. Interviews and transcripts will be stored in a locked filing cabinet in a locked lab at Western University. Representatives of Health Sciences Research Ethics Board at Western University may require access to your study-related records or may follow up with you to monitor the conduct of the research.

Consent to be Contacted for Future Studies

Finally, the research team would like to know if you are willing to be contacted in the future for any other related research projects that might arise. This would require the research team to keep your name and telephone number on file. If you agree to be contacted this in no way signifies a commitment on your part to participate in future projects, only to be informed of them and asked to participate. Your participation in these future studies would be completely voluntary as well. A check-box is available on the consent page for any participants who are willing to be contacted in the future regarding new research projects.

Participant's Initials: _____

If you have any questions about your rights as a research participant or the conduct of the study you may contact the Office of Research Ethics.

If you have any questions regarding this study, please contact:
Dr. Denise Connelly

Publication

If the results of this study are published, your name will not be used. If you would like to receive a copy of any potential study results, please contact Dr. Denise Connelly.

This letter is yours to keep for future reference.

Participant's Initials: _____

Consent Form

Study Title: Investigating the Process of Exercise Prescription by Physiotherapists for Older Adults with Chronic Back Pain

Principal Investigator:

Dr. Denise Connelly, PhD, MSc, BScPT
Associate Professor, School of Physical Therapy
Elborn College, University of Western Ontario

Co-Investigator:

Melissa Hay, BSc, MPT, PhD candidate

I have read the Letter of Information, have had the nature of the study explained to me and I agree to participate. All questions have been answered to my satisfaction.

Participant's Name: _____

Signature of Participant: _____

Date: _____

Name of Person Obtaining

Informed Consent: _____

Signature of Person Obtaining

Informed Consent: _____

Date: _____

Secondary Consent

Are you willing to be contacted in the future for any new research projects that may arise?

If yes, place a checkmark in the box:

Appendix E: Older Adult Participant Characteristics

Table 1.

Characteristics and exercise activity of older adult participants (n=10; all retired)

Participant	Age	Sex	Duration of Back Pain (years)	Exercise Frequency (per week)	Type(s) of Exercise	Exercise Setting
1	73	F	30	4	Aquafit	Club
2	97	F	70	4	Weights, swim, walk	Club
3	68	M	50	5	Squash, bike, yoga	Clubs
4	68	F	40	3	Aquafit, strengthening	Club, home
5	74	F	12	6	Walk, aquafit	Home, clubs
6	70	M	10	5	Bike, weights, golf	Club
7	71	F	17	3	Aerobics class	Club
8	66	F	40	5	Spin, aerobics class, weights	Club
9	87	F	20	3	Aerobics class, walk	Club
10	86	M	10	3	Bike, weights	Club

Appendix F: Physiotherapist Participant Characteristics

Table 1.

Characteristics of physiotherapist participants (n=9)

Participant	Sex	Years in Practice (total)	Highest Level of Education
1	F	30	MSc, MSK specialist
2	F	6	MPT
3	F	16	Post-graduate diploma
4	F	1	MPT
5	M	13	DPT
6	F	0.7	MPT
7	M	17	Post-graduate diploma
8	F	18	Post-graduate diploma
9	M	10	Post-graduate diploma

Appendix G: Interview Guide for Study One

1. Tell me about exercise in your life.
2. Tell me about the choices you make about exercise.
 - a. What are your most important priorities around exercising?
3. Can you tell me about where you exercise? (e.g. gym, outside, at home)
4. What changes, if any, have you noticed in your physical activity over time?
5. Tell me about what you anticipate in your physical activity levels going forward.
6. When are you typically active?
 - a. Are there certain days or times when you typically exercise?
7. Tell me what you think about before you start exercising.
8. What sorts of things do you think about during exercise? Can you describe the things you do that you consider exercise?
9. Tell me about a time that stands out in your mind that shows what it is like to exercise with chronic back pain?
10. Can you tell me about a time when you felt you were not successful in exercising?
 - a. What makes your exercise successful?
 - b. How do you approach exercise in order to be successful?
11. Could you please tell me about other things in your life?
 - a. E.g. living environment, family and friend relationships, general health
12. Tell me about your back condition.
 - a. How does pain impact on your daily activities?
 - b. How does your back feel before/during/after exercise?

Appendix H: Initial Interview Guide for Study Two

1. Tell me about the last patient you had who was over 65 years of age with chronic back pain.
 - a. What happened?
 - b. Why? (Why did you do ____?)
2. What seemed to work?
 - a. What didn't work?
3. What actions do you take when an older adult with chronic back pain comes in to see you?
 - a. What influences you to ____?
 - b. How do you know when to _____?
4. What factors play into assessment of older adults with chronic back pain?
 - a. Do other therapists do it the same way?
 - b. What factors play into treatment of older adults with chronic back pain?
5. How has your approach to treating older adults with chronic back pain evolved with your knowledge and experience?
 - a. How has the promotion of patient-centered (or holistic or ICF model) care influence your practice?
 - i. Social and environmental factors?
 - b. Have there been changes in funding or regulations which have influenced your approach to care for older adults with chronic back pain?
6. What role does exercise play in your interventions for older adults with chronic back pain?
7. How would you determine your approach/intervention?
 - a. Tell me about a patient when you knew you had success?
 - b. Tell me about a time when your treatment failed?
7. Is there something you would like to add?

Appendix I: Sample Reflexive Memo

Memo –

Thursday, May 25, 2017

I completed another participant observation session this morning.

It was considerably longer than I anticipated – for two reasons; firstly, the physiotherapist spent a full hour with the patient, while delegating and multitasking other clients with support personnel and, secondly, because the patient and I crossed paths on the way out of the clinic and she wanted to continue chatting with me. I felt unsure as to whether I should be interacting with the patient, as the observation was intended to focus on the physiotherapists' actions; although, the conversation was friendly and, surprisingly, largely unrelated to the topics of my research.

The clinic setting for this particular observation seemed much more business-y than the clinic setting I am familiar with; I counted upwards of 25 people in the clinic, including physiotherapists, support personnel, patients, and staff. Most of the people who were employed at the clinic wore clinic-branded apparel, which contributed to a more formal setting with 'us' healthcare providers versus 'you' patients, in my opinion. My impressions about the physiotherapist I was observing were quite favourable. He seemed very friendly, chatty, and smiling. Of course I wondered how much of his charisma was amped up under the circumstances of being *observed* for research – everyone would put their best foot forward, wouldn't they? I was surprised that the follow-up appointment took place entirely in the open, communal area of the clinic; I suppose, based on my previous observations with other participants, I expected part of the appointment to take place in a private room before entering the gym area.

The appointment was really quite informal in terms of the conversational communication style between physio and patient. There was evidently a level of rapport between them that was previously established. The physio established that the patient was feeling well, improving. He treated her back with manual therapy techniques for fewer than ten minutes. She had questions about a sit-to-stand exercise, so he spent quite a long time reviewing her form, practicing on different surfaces, constantly correcting minute compensations until she 'got it'. He made a point towards the end of the appointment to mention that he felt the electrode modality they typically used was no longer necessary, since her pain was improving, and the patient seemed to agree.(?)

After the patient had left, the physio acknowledged that he did not typically spend quite as long with his patients, but he wanted to have a thorough appointment since I had taken the time to come observe. Part of me wished I'd seen a 'true' appointment – more like a fly on the wall.



User

The conversation with the patient began with her singing her praises about the physiotherapist; his attentiveness to her ongoing needs, his patience, and his skillset in helping her to feel better. She was adamant in her appreciation of the fact that he "pushed her", that he was strict on how he wanted her to perform the exercises and that he made sure she always took something home to work on. The conversation interestingly went on with the patient talking about different neighbourhoods in the city, and her children and their interests, and a variety of colloquial stories. Very nice lady.



User

Was this a pre-judgment I made thinking that it would be more respectful for an older patient to be treated in a private room? Or that older patients might have a harder time hearing in a busy, loud, open clinic setting? There seemed to be no difficulty here...

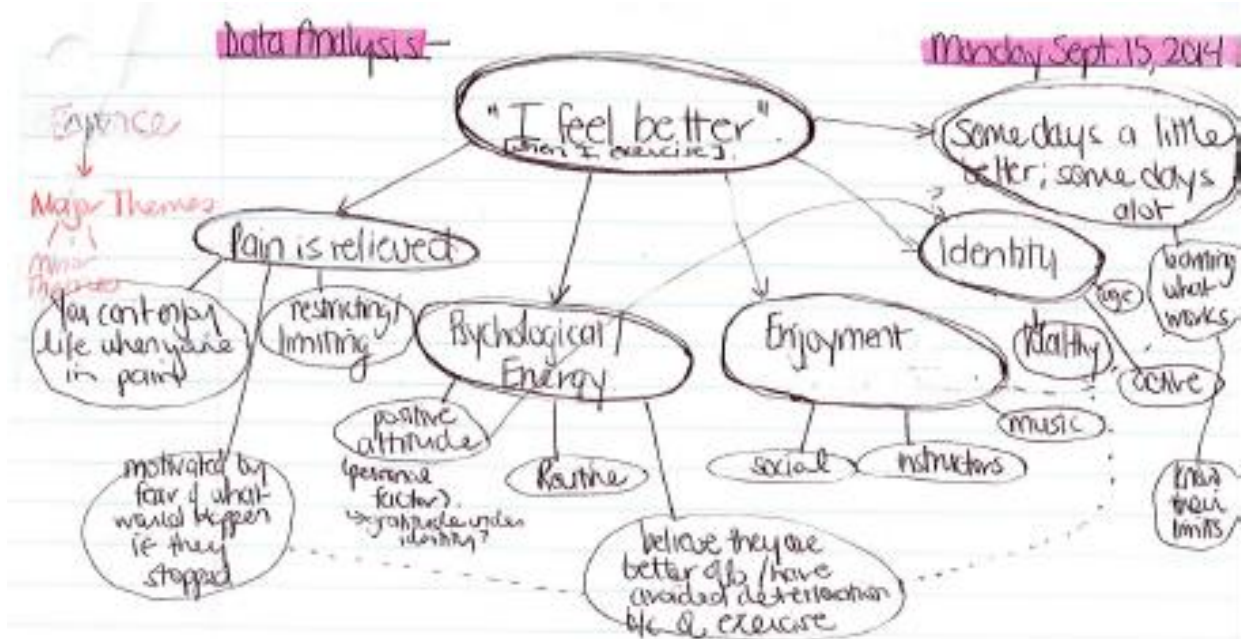
Now that I think about it, I was surprised to see the physio treated his patient 'just like everyone else'. Had it been a teenaged athlete coming in for a follow-up appointment, undoubtedly they would have been sitting on a plinth out in the open, just as we were.



User

It might be hard for patients to disagree with physios when they're told how the treatment session is going to go.

Appendix J: Sample Mind Map for Study One



- note:**
- ① I considered 'gratification' or 'enjoyment', and wondered whether that could be the essence. However, some people noted they weren't always excited about going but they knew they would feel better if they did.
 - ② Pain relief is a big motivator/contributor; however, there is potential for pain relief from other means (medications) and that was not sufficient to be the essence b/c people didn't always feel better w/ meds. In fact, many noted not wanting to be on medications because of their side effects.
 - ③ temporal context of "some days a little better, some days alot" is a contributor/modifier but they always feel better in some form for having exercised.
 - ④ This arrangement will allow me to talk about the lifeworld aspects (lived time, lived space, lived body, lived other) without having the analysis arranged around it. (i.e. The lifeworld fits to my analysis, not the other way around).

Appendix K: Sample Excerpt from Methodological Journal

Presuppositions, Beliefs, Values (September 12, 2013)

Aging

- Old age associated with negative connotations? (burden, decline, senility, dependency, slow, inactive, unproductive, downward slope, over the hill, it's all downhill from here).
 - Are older people devalued in culture/society?
- My experience with my granddad, granny, mom
- I may still have some distance from the idea of aging; I haven't entirely internalized it. I may still have mental defenses up to 'protect' the young me from the old them. In my head, I can still validate reasons why I'll live past 90 and be healthy (good genetics, middle-class, reasonably healthy and active, generally happy and optimistic, a bit stressed but I can work on that)...
- I have not had a lot of regular interaction with older adults, except my own grandparents. I had all four grandparents alive when I was born. I have one granny left, so have seen three become ill and pass way.
 - Will that make me more susceptible to holding stereotypes against older people? (I think I'm aware of ageist stereotypes that exist to stigmatize older people, but I don't think I [consciously] perpetuate them in my interactions with older people, do I?
 - Investigate opinions / views / perspectives on aging in contemporary literature?
- I can acknowledge that my idea of aging/retirement/old age is a reflection of my upbringing and socioeconomic status and society. (e.g. retirement, travel, golf, happy, relaxed, lots of time for leisure activities, settled and happy with life choices and relationships, less stressed). This vision of aging and old age would also certainly depend on one's health status.
- In general, I'm beginning to think I have two views of aging – (1) negative association of aging as a downward slope to senility and illness; (2) my idea of how I'm going to age which is (probably overly) optimistic and enticing
- DC's idea: COMPARING AND CONTRASTING – You're either trying to separate yourself from the herd or you're identifying yourself with the herd. Prejudice against aging that we all perpetuate stereotypes even though we're all going to age anyway.
 - Temporality – Heidegger (past, present, future), people make meaning of age by comparing with others, stories they know of other people, how they used to be, how things are changing
 - Perception of aging for DC isn't number, it's capability. She's seen 80 year olds do better with total knee replacements than 60 year olds. Probably from her experience of working with people and having stories of people of all ages and capability levels.
- Does exercise / exercise choices make you acutely aware of your age?
 - DC's experience in triathlons – they write your age in marker on your calf!

User

This notion is part of what directed me to focus research on older adults... older adults are often left out of research studies. Everyone is aging. People are living longer and with more illnesses. It's an important group to understand and value.

User

Denise had grandparents for longer; spent every Saturday with Grandpa and Sunday with Grandma for one hour. On the farm, older people are always mixed in. Events are with everyone from young to old.

User

Direction for Independent Study / Reading Course
Comprehensive Exam / Essay?

User

There seems to be a point at which age becomes a good thing; good genetics.

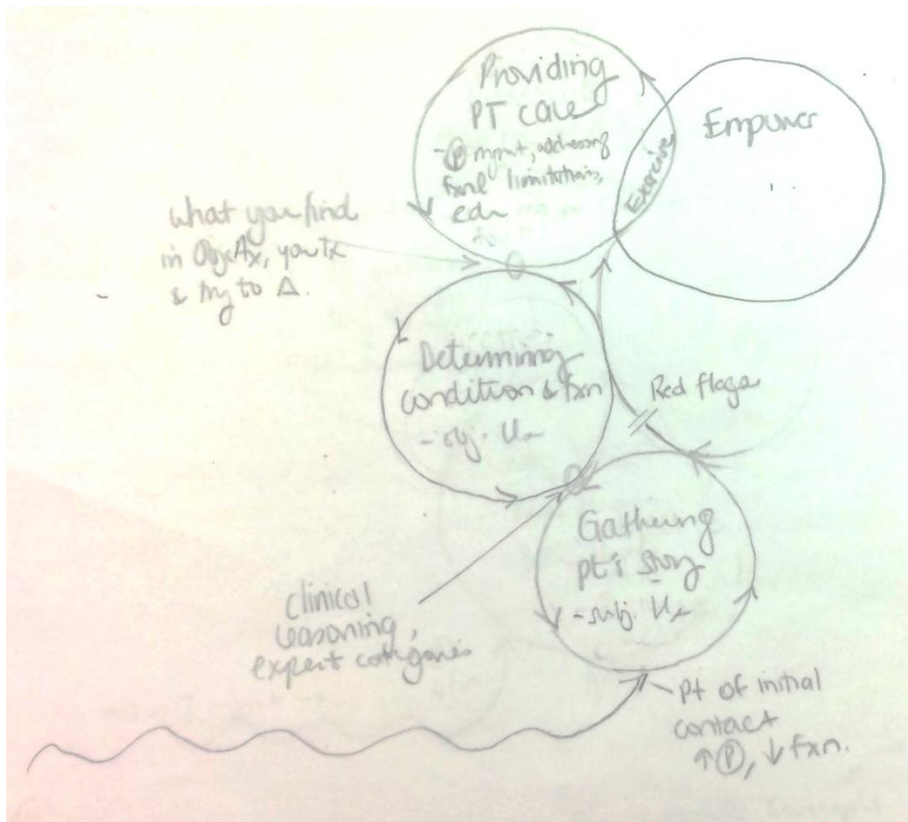
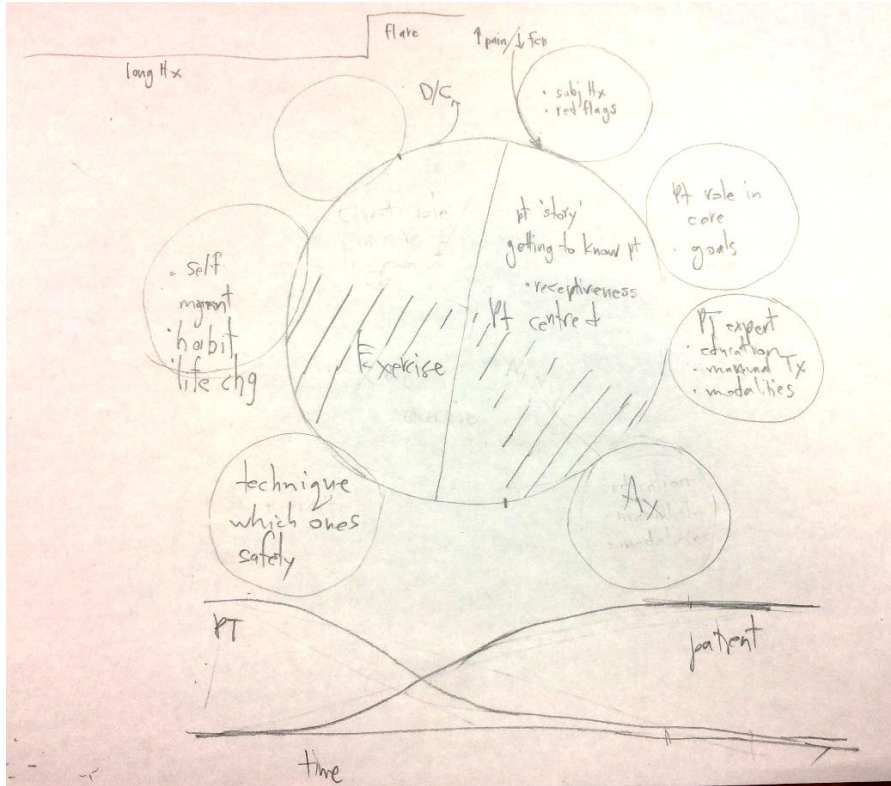
Good when you're doing well, bad when you've got ailments ("Well I'm getting old").

User

Need to listen for what the participants themselves are saying... how are they experiencing aging? Not how am I interpreting that or imposing my lens on age...

If it differs from my preconceived notions, I need to ask for elaboration / clarification

Appendix L: Preliminary Renderings of the Process for Study Two



Curriculum Vitae – Melissa Hay

EDUCATION

1. September 2013 – 2018. Doctorate of Philosophy – Health and Rehabilitation Sciences, Physical Therapy field. Western University, London, Ontario.
2. September 2014 – 2016. Master of Physical Therapy. Western University, London, Ontario.
3. September 2012 – August 2013. Master of Science – Health and Rehabilitation Sciences, Physical Therapy field. Western University, London, Ontario.
4. September 2007 – April 2011. Bachelor of Science – Honors Specialization Biology, Minor Psychology. The University of Western Ontario, London, Ontario.
5. September 2003 – June 2007. International Baccalaureate and Ontario Secondary School Diploma, Cameron Heights Collegiate Institute, Kitchener, Ontario.

PEER-REVIEWED PUBLICATIONS

1. Gutmanis, I.A., Hay, M., Shadd, J., Byrne, J., McCallum, S., Bishop, K., Whitfield, P., & Faults, C. (2017). Understanding bladder management from a nursing perspective on a palliative care unit: A grounded theory study. *International Journal of Palliative Nursing*, 23(3), 144-151.
2. Hay, M.E., Connelly, D.M., & Kinsella, E.A. (2015). Embodiment and Aging in Contemporary Physiotherapy. *Physiotherapy Theory and Practice*, 32(4): 241-250.
3. Hay, M. & Nebel, S. (2012). The use of biotelemetry in the study of animal migration. *Nature Education Knowledge*, 3(12): 5. Available at: <http://www.nature.com/scitable/knowledge/library/the-use-of-biotelemetry-in-the-study-96639422>
4. Mason, M.*, Hay, M.E.*, Connelly, D.M., Maly, M., & Rudman, D. (2017). Pathways of participation in long-term care: A constructivist grounded theory study. *Activities, Adaptation & Aging*. (Submitted).
[*co-first authors]

PEER-REVIEWED PRESENTATIONS

1. Hay, M.E., & Connelly, D.M. "Exploring the Experience of Exercise in Older Adults with Chronic Back Pain". (Poster). *2016 Canadian Association on Gerontology Conference: Fostering Innovation in Research on Aging*", Montreal QC (National), 22 October 2016.
2. Hay, M.E. & Connelly, D.M. "Exploring the Experience of Exercise for Older Adults with Chronic Back Pain". (Oral). *2014 Qualitative Analysis Conference: The Social Construction of Boundaries*, Brescia University College at Western University (National), 25 June 2014.

NON PEER-REVIEWED PRESENTATIONS

1. Hay, M.E. & Connelly, D.M. "Exploring the Experience of Exercise for Older Adults with Chronic Back Pain". (Oral) "2015 Health & Rehabilitation Science Graduate Research Forum", Western University (Institutional), 4 February 2015.
2. Hay, M.E. & Connelly, D.M. "Exploring the Experience of Exercise for Older Adults with Chronic Back Pain". (Poster) "Aging, Rehabilitation & Geriatric Care Research Centre and Faculty of Health Sciences Symposium - Partnerships and Possibilities in Health Research", Lawson Health Research Institute, 7 February 2014.
3. Hay, M.E. & Connelly, D.M. "Exploring the Experience of Exercise for Older Adults with Chronic Back Pain". (Oral) "2014 Health & Rehabilitation Science Graduate Research Forum", Western University (Institutional), 5 February 2014.
4. Hay, M.E. & Connelly, D.M. "Exploring the Meaning of the Experience of Exercise in Older Adults with Chronic Back Pain". (Poster) "2013 Health & Rehabilitation Sciences Graduate Research Forum", Western University (Institutional), 6 February 2013.
5. Hay, M.E. & Connelly, D.M. "Exploring the Meaning of the Experience of Exercise in Older Adults with Chronic Back Pain". (Poster) "Aging, Rehabilitation & Geriatric Care Research Centre and Faculty of Health Sciences Symposium - Research to Action: Technology, Innovation and Health" (Institutional), Lawson Health Research Institute, 1 February 2013.

INVITED PRESENTATIONS

1. February 2017. Master of Physical Therapy program, London ON. Guest lecturer for integrated assessment and treatment case of foot and ankle injuries to graduate students in the Master of Physical Therapy program, in order to facilitate problem-solving for clinical physiotherapy scenarios.
2. November 2013. Health & Rehabilitation Sciences program, London ON. Guest presenter for panel discussion intended to expose graduate students to different types of research designs and methodologies, as well as considerations and expectations with respect to conducting graduate level research.

RESEARCH ASSISTANTSHIP

January 2016 – September 2016. Part-time Research Associate (qualitative data analysis for constructivist grounded theory study). Lawson Health Research Institute at St. Joseph's Health Care, Parkwood site.

TEACHING ASSISTANTSHIPS

January 2017 – February 2017. Physical Therapy 9522X ("Treatment of Regional Conditions"), Western University. Position included supervising and assisting with lab material, serving as an

examiner for both the midterm and final practical OSCE examinations, and grading the midterm and final written examinations.

January 2013 – April 2013. Health Science 1001B ("Personal Determinants of Health"), Western University.

WORK EXPERIENCE

November 2016 – Present. Registered Physiotherapist. Stonetown Physiotherapy and Sports Injuries Clinic, St. Marys ON.

June 2015 – August 2016. Clinical Practical Placements for Professional Master of Physical Therapy Program. Placements included outpatient neurological rehabilitation, acute inpatient surgery, community care in rheumatology and chronic pain, and outpatient orthopaedic and sports injuries settings. Kitchener-Waterloo, St. Marys, and London ON.

NON-ACADEMIC WORK EXPERIENCE

August 2011 – August 2012. Corporate Marketing Associate. Septimatech Group Inc., Waterloo, Ontario. Assumed responsibility for advertisement creation, service kit creation, tradeshow planning, and customer relationship maintenance; helped to design new product brochures. Involved in interview process for hire of new Marketing Associate, August 2012.

Summers 2006 – 2010. Marketing Assistant, Septimatech Group Inc., Waterloo ON. Assisted with advertisement creation, tradeshow planning; compiled and edited Annual Shareholders' Report; planned Annual General Meeting; winner of 'Customer Experience Reward Program', July 2010.

VOLUNTEER & SERVICE ACTIVITIES

April 2017. External Reviewer for MPT Applications (School of Physical Therapy, University of Western Ontario, London ON). Professional service to review applicants' personal submissions, volunteer activities, and letters of reference for acceptance to Western University's Master of Physical Therapy program for 2017 enrolment.

September 2013 – March 2016. Toastmasters International (Campus Communicators chapter), London ON. Practice competent communication and leadership skills through public presentations and participation on the executive committee. President July 2014 – June 2015; Vice President Membership Dec. 2013 – June 2014.

January 2013 – August 2014. Multiple Sclerosis Society of Canada, London ON. Assist with running weekly exercise program for adults with Multiple Sclerosis.

August 2011 – August 2012. Traverse Independence, Kitchener ON. Assisted adults with acquired brain injuries and physical disabilities to complete exercise programs in the pool.

August 2011 – June 2012. Leadership Waterloo Region's "Youth on Board" program, Kitchener ON. Observed board governance for Canadian Mental Health Association - Grand River branch, and discussed Canadian health policy pertaining to mental health programs in Ontario.

January 2010 – April 2011. Laboratory Assistant for Dr. Bryan Neff (MoBEES: Molecular studies in Biodiversity, Ecology and Environmental Sciences), University of Western Ontario, London ON.

SCHOLARSHIPS

2015. Ontario Graduate Scholarship, Western University, \$15000.

2013. Ontario Graduate Scholarship, Western University, \$15000.

2013. Annie Kirshenblatt Memorial Scholarship for work in the field of gerontology, Toronto Rehabilitation Institute, \$2000.

2007. Western Scholarship of Excellence, University of Western Ontario, \$2000.

2007. Queen Elizabeth II "Aiming for the Top" Scholarship, Government of Ontario - Ministry of Training, Colleges and Universities, \$1000.

2007. Ontario Scholar, Government of Ontario - Ministry of Education, \$100.

DEAN'S HONOUR ROLL

Sept. 2013 – 2017. Doctorate (Year 2, 3, 4, 5), Western University.

Sept. 2013 – Aug. 2013. Master of Science program (Year 1), Western University.

2009 – 2011. Bachelor of Science program (Years 3 and 4), Western University.