

**Older Adults' Perspectives on Adopting and Maintaining Long-Term Physical
Activity as a Serious Leisure Interest and their Experiences with Aging**

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Abstract

The existing literature suggests that long-term involvement in physical activity (PA) in the later years can support the health and wellbeing of older adults. However, a more detailed understanding of what influences older adults to initiate and maintain PA over a prolonged period of time would be beneficial. The purpose of this dissertation is to examine the relationship between commitment to physical activity and aging. Specifically, the objectives of this dissertation are threefold: (1) To identify factors influencing older adults to adopt PA earlier in life, that may have shaped their behavior in the later years; (2) To examine factors associated with maintaining long-term involvement in PA as a serious leisure interest after age 50; and (3) To determine the effects of long-term involvement in PA on older adults' perceptions of wellbeing. In-depth interviews were conducted with 30 participants (8 females and 22 males; aged 50-78 years; Mean = 60.5) who have been continuously physically active for the past 10 years, or more. Results found that the most significant predictor to later involvement in PA after age 50 was high participation early in life, particularly from childhood to late adolescence or early adulthood. Further, the analysis revealed three types of older exercisers with varying degrees of seriousness or commitment (Stebbins, 1992) about their physical activity regimen—high, moderate, and low. High exercisers were the most serious or committed type of exercisers. They perceived exercise as a meaningful central life interest and spent the majority of their leisure time involved in physically challenging sports and fitness activities, often exercising 6 days or more per week. They pursued exercise for personal development, self-fulfillment, and for maintaining optimal physical performance. Moderate exercisers were moderately committed to PA and regarded exercise as an important aspect of their life, but not the most dominant one. They engaged in sports and fitness activities at least 3 days per week and pursued exercise primarily as a necessity for good health, enjoyment, and social benefits. Low exercisers were the least committed type of exercisers. They engaged in exercise irregularly and perceived it more as a chore or task than a meaningful and enjoyable pursuit, often skipping workouts in the face of other interests and demands. They stressed the importance of social interactions, managing weight, and improving overall physical appearance as reasons to engage in exercise. Additionally, this study showed that as the degree of seriousness or commitment about exercise increased, the perceived benefits derived from exercise increased as well. The findings highlight the importance of considering intervention programs to increase motivation and encourage older adults to exercise more frequently, particularly in those struggling to adopt exercise as a sustainable lifestyle approach.

Keywords: Commitment to physical activity, aging, perceived wellbeing, older exercisers

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Chapter 1: Introduction

In the decades following the 1950s, the proportion of mature adults aged 65 and older has increased in most world regions due to declining fertility rates and increasing life expectancy. Currently, there are 703 million adults over the age of 65 worldwide. By 2050, this figure is projected to nearly double to 1.5 billion (United Nations, 2019). In the case of Canada, the number of adults aged 65 years and older has more than tripled from 5 percent to 17.2 percent since the 1920s to nearly 6.6 million in 2019, surpassing that of children aged 14 years and under (Turcotte & Schellenberg, 2006; Statistics Canada, 2019). By 2050 the proportion of Canadian older adults is expected to increase by 50 percent, with the “oldest old” cohort (≥ 85 years) being the most rapidly growing segment.

As the older population increases and ages, the focus on promoting lifestyle interventions becomes salient to enhance the aging experience. Specifically, researchers in the leisure studies field have documented that engagement in meaningful and enjoyable leisure activities has the potential to impact positively the aging process (Chodzko-Zajko, 1999; Chodzko-Zajko, Schwingel, & Park, 2009; Gibson & Singleton, 2012; Gravelle, Paré, & Laurencelle, 1997; Karlis, 2016). Aging is a highly complex, universal, and irreversible process involving the interaction of various factors including biological, psychological, social, cultural, political, and behavioral, which can influence how individuals age (McPherson, 1983; McPherson & Wister, 2008). More recently, however, aging has been conceptualized in the leisure studies field and other

interdisciplinary fields of research outside of leisure as a ‘plastic’ process, — meaning that it can be manipulated through lifestyle choices to postpone age-related declines (Kane & Sinclair, 2019; Magalhaes, Wuttke, Wood, Plank, & Vora, 2012; Ocampo et al., 2016). Physical activity (PA) in particular has been consistently shown to be a promising intervention for decreasing premature aging and vulnerability to chronic diseases including coronary heart disease, diabetes, breast cancer, colon cancer, osteoarthritis, osteoporosis, and dementia (Gibson & Singleton, 2012; Gravelle, 1992; Gries et al., 2018; Karlis, 2016; Karlis, Stratas, Locke, Gravelle, & Arora, 2018; Lagacé, 2015; Paterson, Jones, & Rice, 2007; Paterson and Warburton, 2010; Pollock et al., 2018).

More specifically, older adults who maintain a physical activity habit for decades during their leisure time report better overall health, fewer physical limitations, higher social engagement, and lower health care expenditures than their inactive counterparts (Morey, Schmader, & Givens, 2020; Tremblay et al., 2015; Warburton, 2006). For example, a recent study comparing lifelong exercisers (average age of 70 years) with sedentary seniors, and physically active young adults (average age 27) found that older exercisers who performed physical activity routinely over a period of three decades in their leisure time had similar muscle mass and strength to those of young adults in their twenties and thirties than those of age-matched sedentaries (Zampieri et al., 2015). This suggests that commitment to long-term physical activity can attenuate age-associated losses.

When a leisure activity is personally meaningful, intrinsically motivated, and pursued over a prolonged period of time, it has been linked to a concept in the social and leisure sciences literature known as “serious leisure”. Serious leisure is understood as “the systematic pursuit of an amateur, hobbyist, or volunteer core activity that people find so substantial, interesting, and fulfilling that, in the typical case, they launch themselves on a (leisure) career centered on acquiring and expressing a combination of its special skills, knowledge, and experience” (Stebbins, 2017, p.5). In the past two decades, the concept of serious leisure has been increasingly applied in the leisure and aging domains to explore motives of long-term involvement and commitment to a meaningful leisure activity among agers including golfing (Siegnthaler & O’Dell, 2003), swimming (Hastings, Kurth, Schloder, & Cyr, 1995), surfing (Wheaton, 2017), scuba diving (Gregory & Dimmock, 2019), gardening (Cheng, Stebbins, & Packer, 2016; Cheng & Pegg, 2016), shag dancing (Brown, 2007), ballroom dancing (Stevens-Ratchford, 2016), and in the context of master athletes (Bowness, 2020; Heo & Kim, 2005).

Although research in the context of serious leisure and aging has accelerated in recent years, additional studies are needed to further our understanding of factors influencing older adults to adopt and maintain long-term involvement and commitment to physical activity, particularly at a time when only 37.7% of Canadians over the age of 65 years are attaining the recommended weekly amount of 150 minutes of moderate-to-

vigorous physical activity¹, making those highly active a unique cohort of aging adults (Statistics Canada, 2020).

Purpose and Objectives:

The purpose of this dissertation is to closely examine the relationship between commitment to long-term PA as a serious leisure interest and perceptions of wellbeing among older adults over the age of 50 who have been pursuing a physical activity routine on a weekly basis for the past 10 years or more, in order to assess their degree of seriousness or commitment towards physical activity, and to enhance understanding of factors leading older adults to adopt and maintain a PA behavior over a prolonged period of time.

Specifically, the objectives of this dissertation are threefold:

1. To identify factors influencing older adults over the age of 50 to adopt physical activity earlier in life, that may have shaped their PA behavior in the later years.
2. To examine factors associated with maintaining long-term involvement in PA as a serious leisure interest after age 50.
3. To determine the effects of long-term involvement in PA on older adults' perceptions of wellbeing.

To address the stated objectives, this qualitative study relied on a phenomenological research design in an effort to enhance understanding of the lived experiences of participants who have been committed to a physically active lifestyle for

¹. The percentage is based on self-reported physical activity measures from 2018 by the Canadian Community Health Survey (CCHS) from Statistics Canada:
<https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1310009613>

the past decade, or more, and to explore their perceptions of wellbeing surrounding aging. In-depth interviews were conducted with 30 participants (8 females and 22 males; aged 50-78 years; Mean = 60.5) who have been performing physical activity routinely for the past 10 years, or more. This dissertation is framed by Stebbins' Serious Leisure theoretical perspective (Stebbins, 1982; Stebbins, 1992) and focuses on older adults who have developed a commitment and long-term interest in PA as a meaningful and enriching form of leisure pursuit. The term PA in the context of this research refers to intentionally planned and structured activities that are performed and repeated on a weekly basis as part of a workout routine such as any fitness and/or sport activity involving aerobics, muscle strengthening, balance, and/or flexibility. Thematic analysis (TA) was employed in this research for the purpose of identifying, analyzing, and reporting themes within data that emanate from participants' experiences surrounding their PA behavior and perceptions of wellbeing ((Braun & Clarke, 2006, 2017).

Importance of Dissertation

Given that the aging population will be nearly doubling over the next three decades, and that the priority of most agers in general is to maintain both good physical and cognitive functioning, findings from this dissertation will make a unique contribution to the scant research produced in the last few decades examining physical activity adherence in older age (see Allen & Morey, 2010; Grant, 2000; Genoe & Singleton, 2006; Gibson & Chang, 2012; Kluge, 2002; Minello & Nixon, 2015; Nimrod & Jenke, 2012; Phoenix & Grant, 2009; Rivera-Torres, Fahey, & Rivera, 2019; Weaton, 2017). The maintenance of PA as a serious leisure behavior in the context of aging is a relatively

evolving area of study, with research focused mainly on master athletes and younger active cohorts in mid-adulthood and earlier years (see Baker, Horton, & Weir, 2010; Dionigi, 2006; Dionigi, 2015; Dionigi, Horton, & Baker, 2013; Brown, McGuire, & Voelk, 2008; Geard, Reaburn, Rebar, & Dionigi, 2017; Gries et al., 2018; Lamont, Kennelly & Moyle, 2014). In particular, few studies have inquired into the specific benefits stemming from long-term involvement in PA among agers who have developed a serious interest in PA as a core hobby in their leisure time (see Brown, 2005; Gregory & Dimmock, 2019; Hastings et al., 1995; Kim et al., 2014; Stevens-Ratchford, 2016; Lee, Heo, Chun, & Lee, 2020; Siegenthaler & O'Dell, 2003). Therefore the results of this dissertation will contribute to the scarce research available on factors related to initiation and adherence to long-term PA among committed older exercisers.

The significance of this dissertation is that it examines an area of research that has been largely overlooked, and that has come to the forefront in the past decade as seniors age more actively and with a greater fitness ethic (see Dionigi, 2006; Dionigi, Horton, & Baker, 2013; Grant, 2001; Nimrod & Adoni, 2006; Karlis, 2016; Webb, Stratas, & Karlis, 2017). That is, this dissertation seeks to investigate a cohort of adults (over 50 years of age) with a long history of exercise participation to reveal their perspectives on factors affecting their decisions to adopt and maintain a physically active lifestyle for over a decade. More specifically, this dissertation sheds light on the past and present experiences of committed older exercisers beginning from childhood to later adulthood, to gain deeper understanding of mechanisms influencing their consistent and serious involvement in PA over the past 10 years.

Moreover, this dissertation is important as it will inform the service industries of healthcare, physical activity, and recreation about the existence of a unique population of highly active older exercisers. Findings from this study will be of interest to leisure and recreation practitioners, physical educators as well as health and wellness practitioners and public health authorities to enhance their knowledge of older adults' earlier and continuing exercise patterns in order to better assist those struggling to adopt exercise as a sustainable lifestyle approach, as well as those experiencing difficulties in maintaining adherence to a PA routine or program in older age. Further, few existing studies have focused on inquiring into how older exercisers maneuver around injuries, illnesses, and other life challenges while managing to maintain long-term involvement in their PA routine (Emery, Kiecolt-Glaser, Glaser, Malarkey, & Frid, 2005; Louis, Nosaka, & Brisswalter, 2012; Mullen & Whaley, 2010; Patelia, Stone, El-Bakri, Adli, & Baker, 2018; Laitakari, Vuori, & Oja, 1996). The findings of this study will inform leisure and recreation practitioners, health care professionals as well as older exercisers of effective coping strategies on how to safely and carefully maintain PA participation while negotiating challenges.

The overall impact of this dissertation can be redefining perceptions surrounding exercise in later adulthood, in particular socially-accepted beliefs and deep-rooted myths associated with being “too old”, “too frail”, or “too late” to exercise in the later years (Lagacé, 2015; Phoenix, 2010; Phoenix & Smith, 2011; Webb, Stratas, & Karlis, 2017). Lastly, this dissertation is important as it depicts a unique and different perspective of aging adults over 50 years of age, a perspective based on fitness and exercise as serious

leisure. Aging adults, particularly those who have reduced their work commitments or have retired from work, have more free-time for leisure – both serious and non-serious leisure. This dissertation brings to the forefront the significant role serious leisure plays on maintaining an active and fit lifestyle after the age of 50 through a commitment to PA.

Definitions of Terms

The following section presents the definitions of key terms and explains their meaning in relation to the research objectives.

Serious leisure (SL) is a concept coined by sociologist Robert A. Stebbins (1982) to emphasize the important role a leisure activity can play in individuals' daily lives (Stebbins, 1992, 1997, 2001, 2007, 2015). Stebbins (2017) defines SL as “the systematic pursuit of an amateur, hobbyist, or volunteer core activity that people find so substantial, interesting, and fulfilling that, in the typical case, they launch themselves on a (leisure) career centered on acquiring and expressing a combination of its special skills, knowledge, and experience” (p. 5). In the context of this research, the concept of serious leisure is used to study the experiences of committed older exercisers who have been pursuing PA as a serious leisure habit for the past decade, or more.

Commitment to physical activity is related to the serious leisure concept and refers to older exercisers' degree of seriousness or devotion towards their physical activities. Commitment to PA can vary between high, moderate, and low. Those in the high category are the most committed and serious types of older exercisers due to their ability to persevere and apply a great deal of time and effort over the past decade, or more, to overcome obstacles and failures while still managing to ‘stick’, or adhere, to the physical

activities they practice on a daily basis (Seigenthaler & O'Dell, 2002; Stebbins, 2007, 2017). High exercisers tend to exercise at least 6 days per week and virtually never skip workouts, as will be explained later in chapter 4. Those in the moderate category are moderately committed to PA. They tend to exercise at least 3 days per week and skip workouts on rare occasions, whereas, those in the low category have a low degree of commitment to PA. They tend to exercise on a casual or infrequent basis and skip workouts regularly in the face of other interests and demands. The degree of commitment to PA—high, moderate, low, will be used in this dissertation to assess participants' degree of commitment or seriousness towards PA based on Stebbins Serious leisure concept, which will be explained in greater detail in Chapter 3.

Physical activity and exercise are terms often confused with one another but describe different meanings. Carpensen, Powell, and Christenson (1985) define PA as “any bodily movement produced by skeletal muscles that result in energy expenditure” (p.126). This includes a wide range of activities requiring any motion performed during one's leisure or working-time, family, or commuting-time such as household chores, gardening, and stair climbing. PA is often used as a catchall term that describes any type of movement performed at any intensity level, time, and place. Conversely, exercise is a more restrictive concept. It is considered as a sub-category of physical activity “that is planned, structured, and repetitive and has as a final objective the improvement or maintenance of physical fitness” (Carpensen et al., 1985, p.126). Exercise can be split into four categories: endurance or aerobics (e.g., running), muscle strengthening (e.g., weight training), balance (e.g., Tai Chi), and flexibility (e.g., stretching). These categories are

characterized by intensity, duration, and frequency, and are intended to achieve a specific fitness outcome (e.g., losing weight, achieving a toned body, etc.) (Chodzko-Zajko, Schwingel, & Park, 2009; Dasso, 2019). Although the two terms, physical activity and exercise, signify different things, both concepts are used in this study interchangeably as most literature often employ them jointly and synonymously due to the close resemblance between them, and for reducing confusion for study participants who often fail to distinguish between them (Beggs, Kleparski, Elkins, & Hurd, 2014; Karlsson, Gerdle, Takala, Andersson, & Larsson, 2018; Langhammer, Bergland, & Rydwik, 2018). In addition, interviews with my study participants found that the majority often intermingled the two terms in their conversations. Therefore, for the sake of simplicity, both terms will be employed in this study to explain the PA behaviour and experiences of participants who intentionally plan or set time aside to perform regularly any sport or fitness activity involving aerobics, muscle strengthening, balance, and/or flexibility.

Long-term maintenance of PA is defined here as habitual involvement in PA for a period of at least 10 years, or more.

Perceived wellbeing is viewed a dynamic concept that places emphasis on older adults to define and interpret their lived experiences with aging from their own perspectives, based on their unique circumstances, social environment, and physiological changes (Deiner, 1984; Diener, Scollon, & Lucas, 2003; Ryan & Deci, 2001; Stathi, Fox, & McKenna, 2001, Taef, 1990). Rather than considering concepts such as “successful aging”, “quality of life”, and “life satisfaction”, which remain open to criticism in the gerontological and health promotion literature for reducing the natural aging process to a series of

measurements for public policy ends that seek to quantify wellbeing, this study considers the notion of perceived wellbeing to provide participants the ability to judge how they feel and think about aging from their own point of views, and whether their physically active lifestyle plays a role in influencing their experiences of aging (Martin et al., 2014; Whyte & Fortune, 2015).

Physical activity barriers are constraining factors that can influence disengagement and impede individuals' abilities to participate in PA (Jackson, 1997; Jackson, 2000; Jackson & Henderson, 1995; Kennelly, Moyle, & Lamont, 2013). Commonly reported PA barriers to participation among older adults include lack of time, real or perceived poor physical and mental health, insufficient motivation, inadequate financial means, embarrassment, medication side effects, low perceived competence, fear of falls, exercise injuries, and the availability, accessibility, and quality of facilities (see Booth, Bauman, & Owens, 2002; Bowles, Morrow, Leonard, Hawkins, & Couzelis, 2002; Jackson, Crawford, & Godbey, 1993; Jackson, 1997, 2000; Pearson & Geran, 2014; Sallinen, Leinonen, Hirvensalo, Lyyra, Heikkinen, & Rantanen, 2009; Smith & Sparkes, 2012). Leisure research into how individuals develop strategies to overcome barriers is known as "negotiating constraints" (Jackson, 1993; 2000; Jackson & Henderson, 1995; Moyle, & Lamont, 2013).

The process of aging is described in the social gerontology literature as a process involving "physical, psychological, and social change and adaptation throughout the lifecycle" (McPherson, 1983, p. 5). Aging is commonly understood as a complex, progressive, and universal process that individuals experience at different rates based on

the interplay between genetic, physical, psychological, environmental and social factors that directly or indirectly impact how and when each individual ages (Wister & McPherson, 2019; McPherson, 1993). Although the aging process is inevitable, there is a growing body of evolving literature suggesting that the process of aging is malleable and might be modified by lifestyle choices and daily habits, including physical activity (Kane & Sinclair, 2019; Magalhaes, Wuttke, Wood, Plank, & Vora, 2012; Ocampo et al., 2016). This study uses the concept to explore how participants' physically active lifestyle plays a role in influencing their personal experience of aging and perceptions surrounding it.

Chapter 2: Literature Review

The current chapter provides a review of literature in three specific areas directly related to the subject matter of this dissertation. Specifically, this review of literature is divided into three parts: (1) key predictors influencing the adoption and maintenance of PA in the early years of life that may shape later behaviour, (2) factors associated with long-term maintenance of PA in the later years, and (3) the role of PA as serious leisure in supporting aging. Additionally, this chapter presents the Serious Leisure (SL) theoretical framework and explains its relevance to this research study.

Key Predictors Influencing the Adoption and Maintenance of PA in the Early Years of Life that May Shape Later Behaviour

It is well-established in the literature that one of the most important predictors of later PA behaviour is intensive involvement in sport and PA at a young age (Gunter, Almstedt, & Janz, 2012; Hirvensalo & Litunen, 2010; Kuh & Cooper, 1993; Makela, Aaltonen, Korhonen, Rose, & Kaprio, 2017; Powell & Dysinger, 1987; Telama, 2009; Telma et al., 1997). In particular, evidence from longitudinal studies shows that older adults with high participation in various sports and physical activities throughout their early years of life, from childhood to early adulthood, were more likely to be physically active in older age than those who were less active in their early years (Gordon-Larsen, Neslon, & Popkin, 2004; Nelson, Neumark-Stzainer, Hannan, Sirard, Story, & Nelson, 2006; Stephan, Sutin, & Terracciano, 2014; Wall, Carlson, Stein, Lee, & Fulton, 2011).

For example, in an 8-year longitudinal study investigating the continuity of lifespan physical activity among older adults aged between 65 and 84 years, Hirvensalo, Lintunen, and Rantanen (1999) found that those who engaged in competitive sports from 10 to 19 years of age were those who maintained high participation in PA after age 65. Similarly, in a 32-year follow up longitudinal study by Smith, Gardner, Aggio, and Hamer (2013), their results reported that sports involvement at age 10 was associated with physical activity at age 42.

In a related study, Dohle and Wansink (2013) found that frequent participation in high school sports or athletic club opportunities predict a physically active behaviour after age 70. Thus, a correlation was found to exist between participation in sports at a young age and continued participation in physical activity in the later years. This correlation highlights not only the importance of sport involvement at a young age, but also how value for sport and PA can be acquired early in life that could lead to involvement in PA in the senior years.

Moreover, according to research on long-term physical activity, childhood and adolescence represent critical learning periods in one's life to develop the necessary skills, knowledge, and attitudes required to establish a PA habit that could persist as an individual grows older (Tofler & Butterbaugh, 2005; Webb & Karlis, 2017; Camiré, 2008). Expressed differently, the essential qualities acquired in the early years of life through frequent sports and PA participation increases the likelihood of maintaining a physically active lifestyle over time, or to start participation again after taking a break (Hirvensalo & Lintunen, 2011).

In another study investigating the effects of childhood physical activity on adult participation in a sample of 3,300 males and females aged between ± 13 and 36 years, Kuh & Cooper (1992) found that those who were most active in older age had been above average at sports in high school, were more outgoing socially in adolescence, and had fewer health problems when they were younger. These findings lead to the interpretation that excelling in physical education, being socially engaged and physically healthy in the early years may increase individuals' likelihood of being physically active in the later years.

Other studies have focused on the role of intrinsic motivation as a psychological factor in facilitating the adoption and long-term adherence to PA (Sierra-Diaz, Gonzalez-Villora, Pastor-Vicedo, & Lopez-Sanchez, 2019; Ryan, Frederick, Lepes, Rubio, & Sheldon, 1997; Teixeira, Carraça, Markland, Silva, & Ryan, 2012; Wang, Biddle, & Stuart, 2003). In a systematic review of literature by Biddle, Whitehead, O'Donovan, and Nevill's (2005) on correlates of sports and PA participation among youth aged 10 to 18 years, their findings reported that adherence to sports and PA is directly associated with intrinsic motivation—that is, the desire to engage in an activity for its own sake and for enjoyment and pleasure. Specifically, Biddle et al. (2005) found that perceived competence, high self-efficacy (belief in one's ability to be physically active), and enjoyment increased intrinsic motivation and intentions to continue participating in PA. Indeed, research shows that youth with higher intrinsic motivation levels and interest towards PA and sports are more likely to repeat their behavior over time and develop a PA habit, which might influence their behavior in the senior years (Barnekow-Bergkvist,

Hedberg, & Jansson, 1996; Bélanger, Caissie, Beauchamp, O'Loughlin, Sabiston, & Mancuso, 2013; Douglas, Lu, & Barrett, 2014).

In addition, parental support was found to play an important role in contributing to the development and maintenance of children's PA behavior that may shape their future behaviour. For example, Wilk, Clarck, Maltby, Tucker, and Gilliland (2018) relied on a large sample of 936 elementary students in 99 Canadian schools and reported that children who received greater parental support and encouragement—in the form of attending their children's sports games, providing transportation to and from sporting activities, and playing sports and PA with their children—were more physically active than those who received less support from their parents.

Additionally, literature findings on the early adoption of PA indicate that parental socioeconomic status (SES), namely income, education, and occupational status, affect later physical activity patterns (Anderson & Bakken, 2018; Mutz & Albrecht, 2017; Telama, Laakso, Nupponen, & Pere, 2009). For instance, evidence from a longitudinal study by Yang, Telama, and Laasko (1996) that followed a large sample of 1881 youths aged between 9 to 15 over a 12-year period reported that those with fathers with high SES had more opportunities to become involved in sporting activities, and were more likely to maintain habitual sport participation as they age. In addition, Yang et al.'s (1996) findings revealed that children of physically active parents, especially active fathers were more likely to be active than those with passive fathers, while physically active mothers' were shown to have a greater influence on their daughters' physical activity behaviour. In a comparable study by Rodrigues, Padez, and Macho-Rodriguez

(2017) on the relationship between active parents and active children, in a sample of 834 parents and their offspring's (aged 6-10 years), confirmed that having both parents physically active was significantly associated with frequent participation in more physical activities both in girls and boys, but found strong differences in terms of gender. In particular, the likelihood of boys practicing more than one sport and more frequently per week was higher if they had an active father, whereas girls with physically active mothers, particularly those with mothers practicing organized sports on a regular basis, were engaged in more sport activities and practiced more frequently per week. In any case, more up-to-date studies are needed to clarify the association between paternal and maternal influences on girls and boys' participation in PA and the effects this may have on children's later PA behaviour as they develop into older adults.

In terms of SES, qualitative and quantitative studies in Canada and the U.S. suggest that youth from higher SES tend to participate more in sports and PA than those of lower SES, as less affluent parents tend to face greater barriers such as having less disposable income to invest in their children's sporting activities (Eime, Charity, Harvey, & Payne, 2015; Hambert et al., 2006; Woodfield, Duncan, Al-Nakeeb, Nevill, & Jenkins, 2002).

Other studies have suggested that personality traits such as risk-taking, adventure-seeking, and self-efficacy were linked to PA involvement in the later years (Allender, Cowburn, & Foster, 2006; Dishman et al., 1985; Nutthoff, Reich, & Gerstorff, 2017; Rhodes & Smith, 2006). For instance, Dohle and Wansink (2013) collected data from 712 World War II veterans (aged 70+) to study their patterns of PA over a 50-year period

(from 1940 to 2000), and found that personality traits such risk-taking, adventurous, spontaneous, dominance, and restlessness were key characteristics correlating with being physically active after age 70.

In summary, several key predictors were found in the literature to influence the process of adopting PA behavior early in life and that effect patterns of PA over the subsequent life stages, including old age.

Factors Associated with Maintenance of PA in the Later Years

The following section reviews existing literature on factors affecting long-term maintenance of physical activity in the later years of life. The section begins by defining the concept of “maintenance” of PA and proceeds by identifying important determinants that lead to maintaining long-term PA behavior in the senior years. These factors include socio-demographic variables as well as personal, social, and environmental factors.

Maintaining a physically active lifestyle on a long-term basis in older age is a complex and less understood phenomenon, as most research on long-term maintenance of PA has predominantly focused on self-reported data, observational measurements, or objective measurements often assessing participants at a brief interval of time (e.g., over the last 4 weeks or previous 6 months) and rarely over several consecutive years (Fjeldsoe, Neuhaus, Winkler, & Eakin, 2011; Kahlert, 2015; Marcus et al., 2000; Linke, Gallo, & Norman, 2011). The concept of “maintenance” has been loosely defined in the physical activity and behavioral change literature as the persistence of PA behaviour over the duration of at least 6 months within both a structured and non-structured PA program (Dishman, 1982, 1990; Emery, Hauck, & Blumenthal, 1992; Laitakari, Vuori, & Oja,

1996; Brehm, 2014). The duration of 6 months has been agreed upon by researchers for the reason that it provides a sign of permanency, given that 50% of individuals who initiate exercise tend to drop out in the first 3 to 6 months (Dishman, 1982, 1990; Mackinnon, Ritchie, Hooper, Abrnethy, 2003). Various factors explain the lack of adherence to exercise beyond the 6-months period, including a lack of one (or more) of the following: time, motivation, self-efficacy, exercise companion, and access to transportation, facilities, or equipment (Dunlap & Barry, 2011; Linke et al., 2011; Overend, Lattanzio, Petrella, 2004; Schutzer & Graves, 2004).

In contrast, however, successful maintenance of physical activity over the long-term,—that is beyond the 6 months period, has been attributed to various factors in the leisure and physical activity literature (Backman and Crampton, 1991; Dishman, 1983; Gabriele, Gill, & Adams, 2011; Gravelle, 1995; Gravelle, Paré, & Laurencelle, 1997). According to Rabinowitz, Melamed, Weisberg, Tal, and Riback (1992), knowledge and awareness of the benefits of physical activity increases intentions to be physically active and adherence to enduring involvement in physical activity over time. Individual's beliefs, perceptions, and attitudes about PA are other important factors in fostering commitment to PA (Harrison, Lord, Asongwed, 2020; McAuley, Szabo, Gothe, & Olson, 2011; Traff, Cedersund, & Nord, 2017). Several studies on personal factors of long-term maintenance of PA have focused primarily on Bandura's concept of Self-efficacy (McAuley and Jacobson, 1991; McAuley et al., 2005; McAuley et al., 2011; Warner, Schüz, Wolff, Parschau, Wurm, & Schwarzer, 2014). Self-efficacy for PA and positive outcome expectancies as a result of engaging in PA have been linked with stable

involvement in PA within social cognition theory and qualitative research on aging adults (Quicke, Foster, Ogollah, Croft, & Holdren, 2017). Self-efficacy is linked to the belief that an individual has in her or his own ability and resources to perform a behavior successfully to reach desired outcomes, and is an influential factor in motivating individuals to act and persevere in the face of adversity (Bandura, 2004; Quicke et al., 2017). Literature also reveals that having a history of high participation in formal and informal sports activities in childhood and youth influenced maintenance of PA in the later years (Hirvensalo, 2008; Hirvensalo & Lintunen, 2011; Kjonniksen, Torsheim, & Wold, 2008; Morseth, Jorgensen, Emaus, Jacobsen, & Wilsgaard, 2011). In addition, qualitative studies that take a life-course perspective for physical activity and sport participation often associated maintenance of PA in the later years with the continuation of past activity patterns that older adults develop in the early and middle years (Chatfield, 2015; Dishman, Sallis, & Orenstein, 1985; Hirvensalo & Lintunen, 2011; Kuh & Cooper, 1992; Peel, McClure, & Barlett, 2005). The most common explanation for this dominant finding is often linked to the continuity theory, which stipulates that the activities and interests that were once important and meaningful to individuals earlier in life may still be important to them as they grow older, unless there is a reason for change (e.g., weak health) (Heinz, Cane, Rosa, Bishop, & Finchum, 2017; McPherson, 1983; Nimrod & Kleiber, 2007). The continuity theory was proposed by Robert C. Atchley (1989) and takes a life-course perspective in which the aging process is influenced by past patterns of behaviour and social constructs. This theory assumes that as individuals move throughout different life stages, they internalize meaningful habits, activities, and experiences from

their social and historical environment that are subsequently incorporated into their lifestyle and sense of identity as they age to better adapt to the aging process (Atchley, 1989; McPherson, 1983; Parker, 1995). This is especially important with respect to leisure-time activities since these tend to play a more significant role as older adults approach or enter retirement and seek meaningful activities that provide them with a sense of stability, nostalgia, and comfort (Atchley, 1989; Gibson & Singleton, 2011; Grant, 2001; Karlis, 2016; Lagacé, 2015). For instance, Barnett, Guell, and Ogilvie (2012) found that past participation in PA is a prerequisite for continuing and often increasing participation in PA after retirement. Rhodes et al.'s (1999) showed similar findings revealing that those who had developed strong habits of PA earlier in life were physically active after age 65. The authors also reported that those who maintained a physically active lifestyle after age 65 had higher education levels, higher perceived self-efficacy, positive attitude toward exercise, and social support compared to their inactive age-mates.

Other studies have found that long-term adherence to regular PA in later years is strongly affected by socio-demographic variables such as age, gender, educational attainment, occupation, and marital status, as well as lifestyle habits, and health-related factors. For example, in a 28-year Finnish longitudinal study investigating changes in PA behaviour in adults aged 18 to 64, Kirjonen, Telama, Luukkonen, Kaaria, Kaila-Kangas, and Leino-Arjas (2005) found that demographic attributes such as female, old age, blue-collar occupation as well as smoking, high body mass index (BMI), low exercise history, and poor perceived health were all influential predictors of inactivity in 5, 10, and 28

years later. Comparable results were also found in McKee, Kearney, and Kenny's (2015) cross-sectional study on PA participation patterns of older adults over the age of 65. Specifically, McKee et al. (2015) reported that maintenance of regular physical activity is associated to younger age, male, higher education, having a spouse or partner, and being retired, whereas time spent sitting, high BMI, reduced functional ability, and mental health issues such as depression and anxiety predicted low PA in later years of life. In addition, perceived constraints such as fear of falling, injury, and poor self-rated health were also associated with lack of participation in PA in older age (Booth, Bauman, and Owens, 2002; Deandrea, Lucenteforte, Bravi, Foschi, Vecchia, & Negri, 2010; Mao, Hsu, & DaLee, 2020; Sallinen et al., 2009).

Other literature on long-term participation in PA has placed greater importance on age as one of the major contributors to declining patterns in physical activity in the later years (Baker, Weir, & Horton, 2009; McKee, Kearney, & Kenny, 2015; Stiggelbout, Hopman-Rock, Crone, Lechner, & Mechlen, 2006). These studies found that PA participation tend to peak during the adolescence and early adulthood years, then declines from that period onward (Allender, Hutchinson, & Foster, 2008; Baker et al., 2009; McKee et al., 2015). This declining trend was largely attributed to major life changes and role transitions including employment, parenthood, and a shift towards a lifestyle that is more dependent on technology and motorized forms of transportation (Brownson, Boehmer, & Luke, 2005; Guthold, Riley, & Bull, 2018; M'hiri, Costanza, Khazaal, Khan, Zullino, & Achab, 2015; Sun, Norman, & While, 2013). The latter factors were shown to

reduce or discontinue individuals' involvement in PA, either temporarily or permanently as they age.

Other common factors identified in the leisure, aging, and health intervention literature on long-term maintenance of PA in the later years include personal factors such as individual beliefs and attitudes about exercise, intrinsic motivation, self-efficacy, and perceived benefits from exercise (Allison & Keller, 2004; Ayotte, Margrett, & Hicks-Patrick, 2010; Beck, Weeks, Montelpare, & MacDonald, 2016; Park, Elavsky, & Koo, 2014; Peralta & Hwang, 2011). In a combined qualitative and quantitative study investigating factors motivating community-dwelling seniors to maintain adherence to a 6-months walking program, Resnick and Spellbring (2000) found that participants who adhered to the program had higher intrinsic motivation towards exercise, believed they were capable of safely exercising, and enjoyed the walking activity along with the health benefits it provided. In addition, those who completed the 6-months program had higher self-confidence in their ability to exercise, fewer functional limitations, and fewer falls compared to those who did not adhere to the walking program (Resnick and Spellbring, 2000). Self-efficacy, in particular, was also found to be a key determinant of long-term maintenance of PA in a related study by McAuley et al.'s (2011) on community-dwelling seniors. McAuley et al. (2011) reported that higher self-efficacy was associated with better adherence to weekly exercise classes across an 11-months period; and that participants who regularly engaged in strategies such as self-monitoring (e.g., observing and recording one's fitness progress), eliciting social support, and managing time, had

developed greater perceptions of competence and higher levels of confidence to sustain exercise behavior beyond the 11-months period.

Other studies have attributed the maintenance of PA in senior years to affective factors associated with the degree to which an individual has a positive or negative impression, attitude, and experience with physical activity (Magnan, Kwan, & Bryan, 2013; Hoffman & Hoffman, 2008). For instance, Gravelle, Paré, and Laurencelle (1997) examined the attitudes of 118 seniors over the age of 55 years involved in structured PA programs and found that those who perceived their physical activity program as enjoyable, beneficial, and good for them, maintained long-term participation in their PA program. Other underlying themes found in the literature associated with long-term maintenance of PA among older adults include social factors (e.g., social interaction, encouragement/support from others), and environmental factors, including flexible, suitable, and affordable PA opportunities, as well as favorable climate conditions, safety considerations, transportation, and available facilities (Bracy et al., 2014; Giles-Corti, & Donovan, 2002; Rackow, Scholz, & Hornung, 2015; Schmidt, Rempel, Murray, McHugh, & Vallance, 2016; Thornton et al., 2017). For instance, in a qualitative study on 60 community-dwelling seniors over the age of 50, Boulton, Horne, and Todd (2017) found that adherence to regular physical activity was mainly determined by whether the activity was sociable, affordable, accessible, flexible (time-wise), adaptable to different ability levels, and seasonal, with activity levels increasing in the warmer months. Moreover, Boulton et al. (2017) also observed that social and environmental factors had a direct influence on participants' attitudes, motivations, and enjoyment of exercise, which

strengthened adherence to PA. Maintenance of PA behaviour may also be influenced by the social nature of the environment in which older participants exercise. For example, some studies revealed that exercising in a group setting increases adherence to a PA program compared to exercising alone (Brady, D'Ambrosio, Felts, Rula, Kell, & Coughlin (2020); Debesay, Lid, & Bergland, 2019; Stodde, Debesay, Pajalic, Lid, & Bergland, 2019; Kyrdalen, Moen, Roysland, & Helbostad, 2014).

In particular, McCauley, Blissmer, Katula, and Duncan (2000) examined the role played by the exercise environment (group vs. alone) on older adults' adherence levels in a 6-months randomized controlled exercise trial, showed that adherence to PA was higher in those exercising in a group setting, as the group exercise environment provided greater opportunities for social interaction and bonding, as well as professional support and encouragement from qualified trainers, and fellow group participants, which increased motivation, enjoyment, and self-efficacy of participants to maintain engagement in the 6-months exercise program. While these findings point to the effectiveness of exercising in a group setting as opposed to alone, evidence from literature has shown that preference for group exercise differs greatly by gender, whereby older women preferred attending group-based fitness classes while older men favored exercising alone (Boutlon et al., 2017; Lee, 2005; Li et al., 2017; Sandlund, Skelton, Pohl, Ahlgren, Melander-Wikman, & Lundin-Olsson, 2017). In a related study, Uffelen, Khan, & Burton (2017) explored differences in habits and motives of exercise between older women and men and identified several differences: women preferred engaging in supervised exercise sessions, favored exercising with people of the same sex, and were less likely to engage

in vigorous and competitive activities than their male counterparts. Further, Uffelen et al. (2017) reported that older women were more likely than older men to be motivated by improving their physical appearance, losing weight, as well as meeting and spending time with others.

In summary, literature on influential factors affecting long-term maintenance of physical activity in the senior years includes socio-demographic variables as well as personal, social, and environmental factors. However, research examining long-term maintenance of PA beyond the duration of 6 months or 12 months remains relatively rare among the older population. This dissertation makes a contribution to the existing literature by investigating factors influencing the adoption and long-term maintenance of physical activity among committed older adults who have been physically active for the past decade, or more.

The Role of Physical Activity as Serious Leisure in Supporting Aging

The following section examines existing literature on the relationship between physical activity as a serious leisure pursuit and its contribution to aging. The section begins by explaining the concept of “serious leisure” (SL) as it appears in the literature, and proceeds by providing an overview of the key findings related to the perceived benefits of serious leisure to older adults with long-term participation in physical activity while identifying some of the negative aspects of pursuing serious leisure.

Numerous studies have shown that participation in physical activity has a positive influence on older adults’ perceived well-being, especially when PA is viewed as a meaningful serious leisure (SL) pursuit that provides a sense of purpose and fulfillment

outside of daily duties and obligations (Bowness, 2020; Brown, McGuire, & Voelkl, 2008; Caissie, Wisniewski, & Hoonaard, 2001; Kim, Yamada, Heo, & Han, 2014; Kim, Kim, Henderson, Han, & Park, 2016; Lee & Payne, 2015; Liechty, West, Naar, & Son, 2017; Roczniak, 2018). Stebbins (1992, 2017) refers to “serious leisure” as the systematic and continual pursuit of a leisure activity that holds significant value and interest to those engaged in it through which a participant derives deep fulfillment and enjoyment. Those pursuing a serious leisure activity tend to spend most of their free-time immersed in the activity.

According to Stebbins (1992, 2007, 2010, 2017), an individual must satisfy six criteria to be considered a serious leisure participant: a) apply personal effort to acquire and develop special skills and knowledge in the activity, b) persevere through failures, challenges, and obstacles to maintain participation over time, c) perceive the activity as a form of leisure career (apart from their paid occupation) that offers continuous opportunities for learning and progress, d) identify strongly with the activity to the extent that the individual defines herself/himself in terms of their activity, e) derive durable benefits that enrich other areas of their lives such as feelings of accomplishment, self-actualization, self-expression, and self-image, and e) be involved in the unique ethos of the leisure activity,—that is the subculture organized around the activity, which consists of a unique set of norms, beliefs, values, and performance standards that allow members of a leisure group to bond with likeminded individuals, and enable them to distinguish themselves from those falling outside of that culture (e.g., golfers, bodybuilders) (Stebbins, 1992, 1997, 2001, 2007, 2017).

In the past two decades, there has been a growing research interest in the serious leisure perspective, specifically in the context of aging and physical activity (Palmer, Bowness, & Tulle, 2019; Scott, Masser, & Pachana, 2020; Wheaton, 2017). For instance, Siegenthaler and O'Dell (2003) conducted a qualitative study to investigate the extent to which golf as a serious leisure activity supports successful aging. The authors' findings identified four types of older golf players with varying degrees of seriousness toward golf: core devotee players, moderate devotee players, social players, and therapeutic players. Core devotee players were the most serious about their golf, and perceived it as a central focus of their lives. They structured their lives around golf and prioritized it above other things. Moderate golf players placed greater emphasis on the pure fun and enjoyment of playing. Social golf players were drawn to golf mostly for the purpose of socializing with others, whereas therapeutic players were the least serious about golf and employed it as a form of therapy to cope with various health issues. In terms of golf's influence on successful aging, Siegenthaler and O'Dell (2003) found that core devotee players were more able to identify specific contributions of golf to each areas of successful aging as outlined by Rowe and Khan (1997, 1998) including maintaining high cognitive and physical functions, experiencing lower instances of health issues, and sustaining high social involvement. Lastly, the authors found that as the degree of seriousness about golf decreased, golf's contribution to successful aging also declined.

In a more recent study, Gregory and Dimmock (2019) proposed that serious leisure can provide a space to resist declines in physical and cognitive abilities and defy ageist beliefs by helping older adults maintain a sense of adventure, inquisitiveness, and a

strong body as they age. The authors conducted a qualitative study using the serious leisure perspective to explore the benefits received by older Australian women (aged 40 to 67) from their lifelong involvement in hard adventure sports such as scuba diving. They identified several positive outcomes that contributed to good health and positive perceptions of aging. These include taking risks, learning complex skills related to diving, and continuously stepping outside of their comfort zone, which helped them increase their levels of confidence, build resilience to face challenges in everyday life, and confront dominant discourses on cultural norms and expected femininity in older age. In addition, participants' long-term commitment to scuba diving enabled them to keep physically fit over the years despite experiencing chronic pain and injuries as they aged, since being underwater provided a low impact environment for the body that supported their recovery from pain and discomfort. Serious involvement in diving was also found to provide participants with access to ongoing learning opportunities, not just those related to diving, but also knowledge and skills that are specific to the marine life, which contributed to participants' self-development and personal growth, and enhanced their sense of enjoyment.

Similarly, Hickman, Stokes, Gammon, Beard, and Inkster (2018) emphasized the importance of serious leisure in the lives of adults over the age of 65 with a lifelong commitment to rock climbing and sea kayaking. The authors found that hard adventure-based leisure in older adulthood can be recast as a space for cultivating older adults' strengths and capacities which can lead to savoring/appreciating post-retirement life. In particular, study participants stressed that their appreciation of retirement was linked to

their serious commitment to rock climbing and sea kayaking that require tremendous physical and mental effort and involve a high degree of risk, and advanced technical skills, which contributed to increasing their physical fitness levels, mental sharpness, and social connections in their retirement years. Additionally, Hickman et al. (2018) found that study participants' embraced their aging process through their serious and meaningful engagement in adventure-oriented leisure and rejected the constant 'pathologization' of the aging process.

In a comparable study, Stevens-Ratchford (2016) investigated the influence of ballroom dance on successful aging in a sample of 20 older man and women (aged 60-84 years) involved in ballroom dancing for over a decade. The author's findings showed that ballroom dance as a serious leisure pursuit provided participants' with opportunities to express themselves creatively through dance. Furthermore, ballroom dancing supported the maintenance of participants' cognitive and physical abilities as it offered them frequent opportunities for practicing, learning, and retaining new dance techniques and choreography. In addition, the social world of the activity, or its subculture, allowed participants to constantly interact with likeminded people, which strengthened their sense of belonging and social connectedness with others in the ballroom dance culture.

Although the mentioned studies suggest that engagement in PA as serious leisure can support older adults' wellbeing, other studies have raised concerns about its negative aspects. In particular, some have argued that serious involvement in PA may exclude those facing barriers or competing priorities such as limited income, lack of time, and deteriorating health and disabilities (Gallant, Arai, & Smale, 2013). For example,

Lamont, Kennelly, and Moyle's (2017) study on the impact of serious leisure on endurance athletes' spouses found that the pursuit of serious leisure can dominate the lives of those engaged in it, in terms of time, and may result in neglecting the needs of important individuals in their lives such as their partner, children, and friends. Moreover, their study showed that pursuing serious leisure, particularly when it involves travel and competition, can be financially costly and may lead to diverting money away from other priorities. While these are important factors to consider when pursuing a serious leisure activity, Stebbins (2017) argued that not all serious leisure can be costly (e.g., walking, cycling, and swimming). Nevertheless, much more research is needed in this area to study the negative implications of serious leisure on those pursuing it. Some of the negative aspects of serious leisure will be highlighted in the current dissertation, given that research on serious leisure constraints remain scarce.

In brief, this section examined the existing literature on the relationship between physical activity as a serious leisure pursuit and its contribution to aging. It defined the concept of "serious leisure" as it appears in the literature, and presented an overview of the key findings related to the perceived benefits of serious leisure to older adults with long-term participation in physical activity, while underscoring some of the negative aspects of pursuing it.

In sum, the current chapter of this dissertation provided an extensive review of literature in the following three specific areas directly related to the subject matter of this dissertation: (a) key predictors influencing the adoption and maintenance of physical activity in the early years, that may shape later behaviour, (b) factors underlying long-

term maintenance of PA after age 50, and (c) the role of physical activity as a serious leisure pursuit in supporting aging. Overall, the current literature review has revealed that there are several influential factors affecting the adoption and long-term maintenance of PA in the later years, including a high exercise history, socio-demographic variables, personal characteristics, social, and environmental factors. The literature review has also shown that PA when perceived as a serious leisure pursuit has the potential to contribute to the perceived wellbeing of older adults. However, while there has been a growing research interest in recent years in understanding factors motivating older adults to pursue a physically active lifestyle, and the effects this may have on their aging process, research on understanding more thoroughly the reasons for pursuing long-term involvement in PA from the perspective of serious leisure remains lacking in the literature. The current dissertation addresses this research gap by investigating important factors leading to the adoption and long-term maintenance of PA as a serious leisure pursuit among committed older adults who have been involved in PA for the past decade, or more. This dissertation also examines how older adults' long-term involvement in PA affects their aging process by taking into consideration their past and present PA experiences, to gain a better understanding of what motivates them to maintain long-term involvement for over a decade.

Theoretical Framework: Serious Leisure

The following section describes the Serious Leisure (SL) theoretical framework used to guide the research aims of this dissertation. It also defines and discusses the basic principles of the SL framework and explains their relevance to the study.

However, prior to presenting the SL framework, it is worth noting that this study had considered different theoretical models such as the Selection Optimization (SOC) model and the Self-determination theory prior to retaining the Serious Leisure framework to guide the process of research for this dissertation. SOC is a psychological model that has been used widely in gerontology and PA literature to study successful aging (Dionigi, Horton, & Baker, 2013; Kleiber, McGuire, Aybar-Damali, & Norman, 2008; Langley and Knight, 1999; Robinson, Rickenbach, & Lachman, 2016). This model was developed by Baltes and Baltes (1990) and seeks to explain the process of adaptation that individuals engage in throughout life to minimize age-related losses and maximize opportunities to age successfully. Specifically, it looks at how individuals compensate for losses as they age in order to adapt to everyday life situations and maintain higher levels of functioning. The Self-determination theory (Ryan and Deci, 2000) was also considered for this study. This theory focuses on intrinsic and extrinsic motivations to understand human behavior, and is often used in the literature to examine motivational dynamics of physical activity adoption and maintenance behavior (Ferrand, Nasarre, Hautier, & Bennefoy, 2012; Jones, Alicea, Ortega, 2020; Teixeira et al., 2012). Both paradigms, the SOC model and the Self-determination theory, were studied extensively by the researcher and were seriously considered for this dissertation prior to selecting the serious leisure framework as the main perspective; however both proved to be difficult to implement to address the main objectives of this particular dissertation, resulting in the decision to employ the serious leisure theoretical perspective to frame this study.

In recent years, there has been increased interest in the application of Stebbins' (1992, 2017) serious leisure framework in the sociological and leisure fields to gain deeper understanding of how individuals adjust to challenges of aging through the pursuit of a meaningful and fulfilling leisure activity. Stebbins (2017) defines SL as “the systematic pursuit of an amateur, hobbyist, or volunteer core activity that people find so substantial, interesting, and fulfilling that, in the typical case, they launch themselves on a (leisure) career centered on acquiring and expressing a combination of its special skills, knowledge, and experience”(p.5).

Stebbins (1992, 2017) specifies that there are six qualities that characterize serious leisure participants: (1) perseverance, (2) personal effort, (3) leisure career, (4) durable benefits, (5) identification, and (6) unique ethos. The first quality, perseverance involves sticking to the activity despite facing adversity, meeting difficulty, or experiencing delay in achieving progress (e.g., playing golf despite rainy conditions). Personal effort, the second quality, links to the first SL quality, perseverance, and refers to participants' continual effort and desire to acquire special training, skills, and knowledge in the leisure activity (e.g., golf techniques and strategies). The third quality refers to the opportunity to follow a leisure career in the activity shaped by various performance stages, turning points, key accomplishments, and highlights (e.g., winning trophies at local or national golf tournaments). Durable benefits, the fourth quality, refers to tangible outcomes derived from participants' involvement in the activity. Stebbins (2007, 2017) lists several durable benefits including self-actualization, self-enrichment, self-expression, feelings of accomplishment, renewal of self, enhanced self-image, and

social connectedness. The fifth quality, identification, is based on the idea that a participant in SL tend to identify strongly with their activity. Lastly, the sixth quality, unique ethos, is linked to the subculture organized around the leisure activity. This includes immaterial aspects such as norms, values, beliefs, and performance standards, as well as material aspects (e.g., clothing style, special equipment, logos) that allow members of a leisure group to bond with likeminded individuals, and distinguish themselves from those falling outside of that culture (e.g., the golf culture, ballroom dancing, scuba diving).

Stebbins (2007, 2017) contrasts the concept of serious leisure with that of *casual* or *unserious* leisure to distinguish between the different types of leisure participants. *Casual* leisure participants lack dedication toward the activity. They pursue a leisure activity occasionally rather than systematically and continually compared to those pursuing serious leisure. Further, those pursuing *casual* leisure require little to no special training, skills, or knowledge to enjoy the activity. Casual leisure participants practice a leisure activity for the purpose of experiencing immediate pleasure and instant gratification rather than striving to achieve a deeper sense of fulfillment and purpose. Conversely, serious leisure participants are highly dedicated to their leisure pursuit, persevere to overcome challenges and failures, and invest significant effort, energy, and time to acquire knowledge, skills, and training over a prolonged period of time, often spanning several years or a lifetime. Stebbins' (2007, 2017) six distinctive qualities of serious leisure—perseverance, personal effort, leisure career, identification, durable benefits, unique ethos—will be employed in the current dissertation for three reasons: a)

to assess the extent to which physically active participants in this study demonstrate each of the six qualities of serious leisure, b) to distinguish between the different types of physically active participants, casual or serious, and c) to examine how participants' serious involvement in physical activity contributes to their perceived wellbeing.

Chapter 3: Methodology

The current chapter discusses the rationale for selecting the phenomenological methodology as a qualitative research approach to reveal meaning about older adults' experiences with physical activity and aging. This chapter also describes the methods or tools used to gather data from participants to meet the objectives of this dissertation. It also provides detailed information on the purposeful sampling procedure used in this research, a description of participants' demographic characteristics, the data collection, the construction of the data collection instruments, and the thematic analysis process.

The Phenomenological Approach

A phenomenological approach was selected for this dissertation as a qualitative research methodology in an effort to enhance understanding of the experiences of participants who have been committed to living a physically active lifestyle for the past decade, or more, and to explore their perceptions of wellbeing surrounding aging as a way of encouraging their voices to be heard. Most previous research seeking to investigate key determinants influencing the adoption and maintenance of physical activity among aging adults has been quantitative in nature, with a focus on testing pre-established hypotheses (Allender, Cowburn, & Foster, 2006; Kennelly et al., 2013; Patton, 2002). Thus, a qualitative phenomenological framework was considered for this dissertation as it strives to describe and explain as closely as possible individuals' lived experiences with a unique phenomenon to generate new insights without seeking to make

generalized claims (Patton, 2002). Phenomenon means “a reality or experience that can be described as individuals ‘live’ the experience” (Ivey, 2013, p. 27). This approach focuses on understanding individuals who have firsthand experience with an issue affecting their lives (e.g., the experiences of seniors living a highly active lifestyle), and relies on their perceptions and interpretations of the phenomenon to develop new knowledge and expand awareness (Creswell, 1998, 2007, 2013; Creswell, Hanson, Clark, & Morales, 2007; van Manen, 2016).

In the aging context, several researchers with an interest in social gerontology such as Kluge (2002), Little (2012), and Stathi & Piers (2007) have used the phenomenological approach in their qualitative studies to explore the experiences of seniors with physical activity in nursing homes or independent living settings. The value of this approach is also highlighted in Teaff’s (1990) research in the areas of leisure and aging. According to Teaff (1990), the phenomenological approach “attempts to individualize the understanding of the process of aging and seeks to interpret it according to individual circumstances” (p.39). Thus, the application of the phenomenological methodology to this research is of great value to explore the perceptions and experiences of an understudied cohort of aging adults who have been living a physically active lifestyle for over a decade.

Methods

Purposeful Sampling and Snowball Sampling

To collect data, purposeful sampling along with snowball sampling were applied to identify participants with a similar experience who are proficient and well-informed with a phenomenon of interest to draw rich data for in-depth examination (Etikan, Musa, Alkassim, 2016; Patton, 2002). Purposeful sampling tends to typically focus on a relatively small number of carefully chosen individuals since the objective of this type of sampling technique depends on “selecting information-rich cases for study in depth. Information-rich cases are those from which one can learn a great deal about issues of central importance” (Patton, 2002, p. 273). The selection criteria for this study were that participants had to be aged over 50 years and been continually pursuing a physical activity routine on a weekly basis for the past 10 consecutive years, or more involving fitness and/or sports activities.

Snowball sampling was also utilized as a way of supplementing the sample as the population with the target characteristics was not easily accessible and was difficult to reach (Guetterman, 2015; Patton, 2002). This sampling approach allows the researcher to identify cases of interest from information-rich participants who had already been interviewed, and had met the established selection criteria. Thus given the focus of this research, purposeful sampling as well as the snowball strategy were applied in the aim of identifying a heterogeneous cohort of participants with similar exercise habits over the age of 50 to generate in-depth knowledge about their experiences with long-term PA and aging. The age of 50 has been selected as a cutoff for three main reasons: (a) the majority

of sports leagues for older adults and senior-aged club teams begin at age 50, (b) Neugarten (1974) proposed that older adulthood can include multiple generations of older adults, and (c) while numerous research on aging and exercise include older adults aged 50 years and over, this age sub-group of older adults remain overlooked and understudied (Dishman et al., 1985; Jenkin, Eime, Westerbeek, O'Sullivan, & van Uffelen, 2017; Paterson et al., 2007). Given the three mentioned reasons, this study sought to capture the experiences of that sub-age category of older people in an effort to increase understanding of their PA behavior and perceptions of wellbeing as they age.

Description of Participants' Demographic Characteristics

Thirty-four (34) participants from the Ottawa-Gatineau metropolitan region were approached to take part in the study involving an in-depth interview of 60 to 90 minutes. Thirty participants (8 females and 22 males) aged between 50 and 78 years (Mean = 60.5) met the selection criteria and completed the required in-depth interview. Seven of the study participants were known to the researcher, 10 were recruited from a fitness facility, and 13 were identified through snowball sampling (Patton, 1990). Demographic data showed that 20 participants were married or common law, 9 were divorced or separated, and 1 was widowed (see table 1); The majority of participants (n=26) had higher education or professional degrees ranging from a college degree to a bachelor, master or doctoral degree, and 4 had a high school diploma or/and vocational training. In terms of participants' employment status, 17 were employed or self-employed in non-manual occupations, 1 was employed in a manual occupation, and 12 were retired. Participants'

income level revealed that 16 participants earned \$100,000+ income; 4 participants earned between \$75,000 – \$99,000; 5 participants earned between \$50,000 – \$74,000; 3 participants earned between \$35,000 - \$49,000; and 2 participants did not report an income (See table 1).

Table 1

Demographic Data of Participants

Name	Gender*	Age	Education**	Marital Status***	Employment Status	Income Level
Al	M	77	MA	Married/CL	Retired	\$50,000-\$74,999
Albert	M	61	PhD	Married/CL	Employed: Professor	\$100,000+
Alex	M	52	Coll.	Married/CL	Employed: IT	\$100,000+
Alice	F	62	MA	Married/CL	Retired	\$100,000+
Arnold	M	61	BA	Divorced	Retired	\$100,000+
Ben	M	63	PhD	Married/CL	Employed: IT Consultant	\$75,000-\$99,000
Bruce	M	64	BA	Married/CL	Retired	\$75,000-\$99,000
Ed	M	50	BA	Separated	Employed	\$75,000-\$99,000
Gerry	M	61	MA	Married/CL	Retired	\$100,000+
Helena	F	52	HS	Divorced	Employed: Rental Agent	\$35,000-\$49,000
Jacob	M	78	MA	Divorced	Retired	\$100,000+
Jillian	F	61	BA	Married/CL	Retired: Fitness instructor	\$50,000-\$74,999
Joe	M	50	PhD	Married/CL	Employed: Professor	\$100,000+
Jordan	M	63	BA	Divorced	Employed: IT	\$100,000+
Kate	F	63	HS	Divorced	Self-Employed	\$50,000-\$74,999
Ken	M	66	VT	Married/CL	Retired	\$50,000-\$74,999
Lea	F	50	BA	Married/CL	Employed: Registered Nurse Manager	\$100,000+
Leo	M	58	PhD	Married/CL	Employed: Professor	\$100,000+
Line	F	61	Coll.	Married/CL	Retired	N/A *
Lionel	M	60	PD	Separated	Self-employed: Consultant	\$75,000-\$99,000
Marino	M	55	BA	Married/CL	Self-Employed: Real Estate	\$100,000+
Neil	M	62	BA	Married/CL	Estate	\$50,000-\$74,999
Orlando	M	62	HS	Widowed	Employed: Tech. support	\$35,000-\$49,000
Peter	M	59	PD	Divorced	Retired	\$100,000+
Phil	M	57	MA	Married/CL	Employed: Real Estate	\$100,000+
Steffi	F	61	Coll.	Divorced	Employed: Engineering	\$100,000+
Stephane	M	56	BA	Married/CL	Retired	N/A
Steven	M	57	BA	Married/CL	Employed: Education	\$100,000+
Vanna	F	63	MA	Married/CL	Employed: Truck Driver	\$35,000-\$49,000
Will	M	70	BA	Married/CL	Employed: HR	\$100,000+
					Retired	\$100,000+

Note. Gender*: M=Male; F=Female; Education**: Coll. = College; BA=Bachelor; MA= Master; HS=High School Diploma; VT=Vocational training; CL=Common Law; N/A= Not available; Pseudonyms were used to protect anonymity.

Data Collection

Given that this study applies a phenomenological design, prior to the data collection and analysis process, the researcher engaged in bracketing, as proposed by Finlay (2014). During the bracketing process, the researcher made a list of inherent knowledge, personal theories, and assumptions by identifying what she already knew about the topic, her research expectations, and hopes for findings, and discussed these with her research supervisor in order to reduce bias and research presuppositions. In-depth, face-to-face, interviews were used to collect detailed information about the experiences of participants regarding their PA behaviour and perceptions of aging. Prior to conducting the interviews, the study was approved by the university's institutional review ethics board at the University of Ottawa (Certificate# H-09-18-1068) (see Appendix A). The interviewees chose the place and time that were most convenient for the interviews. The interviews were conducted at a variety of locations depending on the facilities that were most accessible and closer to each participant to minimize inconvenience and frustration and allow for optimal privacy. Most often, interviews were held at participant's office while others took place either on campus in pre-reserved conference rooms, at the public library, at participant's homes, or at the gym in quiet workout rooms. Interviews took place between 2017 and 2018. Prior to the start of each interview, participants were informed of the purpose of the study, their informed consent was obtained, and it was made clear that they could decline to answer any question or withdraw from the interview entirely should they feel uncomfortable, or at unease. Confidentiality and anonymity was ensured through the use of pseudonyms and special

codes to replace participants' names, addresses, and other information that could reveal their identity (Moustakas, 1994). Each interview lasted between 37 to 144 minutes and was audio-recorded and subsequently transcribed for the data analysis process.

Construction of Data Collection Instruments

A demographic questionnaire was designed to gather data about participants' age, gender, education, marital status, employment status, and income level (See Appendix B). An interview guide consisting of four sections was developed that integrates the qualitative interview phenomenological philosophy which focuses on understanding the relation between a participant's experience and his/her description and interpretation of it, as suggested by Hoffding and Martiny (2015). A comprehensive review of questionnaires within the physical activity and aging literature exploring older adults' experiences and perceptions with PA was conducted to determine the most appropriate interview questions that would target various aspects of PA related to participants' experiences (see Hartley & Yeowell, 2015; Jancey, Clarke, Howat, Maycock, & Lee, 2009; Janssen, Stube, 2014; Seigenthaler & O'Dell, 2002; Tkatch et al., 2017). Following the review of questionnaires, open-ended questions were formulated to ensure that participants can express themselves freely, and to evoke a rich and full description of their current and retrospective experiences related to PA, including their habits, memories, feelings, and preferences (Gubrium & Holstein, 2003).

The first section of the interview guide consisted of introductory questions to gain insight into how participants initiated involvement in physical activity from childhood,

and to explore factors that facilitated or constrained their participation in PA at an early age (e.g., can you tell me about the earliest memory that you have of your involvement in physical activity? What factors encouraged you to engage in physical activity when you were young? Could you discuss the factors that discouraged you or affected your willingness to engage in physical activity when you were young?) (see Appendix C). The second section comprised of a set of interview questions that explored factors that helped participants maintain long-term involvement in PA (e.g., Tell me about the physical activities you're involved in at this time; What made you stick with your physical training over the past 10 years, or more? How has your participation in PA changed over the years?) (see Appendix B).

The third section consisted of a specific set of questions that integrates the interview strategy of Siegenthaler and O'Dell (2003) which addresses the six qualities of serious leisure proposed by Stebbins (1992, 2017): (1) perseverance, (2) personal effort, (3) leisure career, (4) durable benefits, (5) identification with the activity, and (6) unique ethos. For example, perseverance questions focused on exploring factors that motivate participants to persevere when confronted with challenges or barriers to maintain participation in their physical training, and on actions taken to overcome these barriers/challenges (e.g., Can you tell me about some of the challenges you encountered in performing your activity? How did you work around these challenges to continue your participation in your physical training?). Personal effort questions aimed to find out how participants' acquired the knowledge, skills, and experience needed to perform their physical activity (e.g., What are some of the things that you do to keep up with your

knowledge and technical skills in this activity?). Leisure career questions centered on important achievements gained from participants' involvement in physical activity (e.g., Were you involved in competitive physical activity events in the past 10 years? Can you discuss any accomplishments or special moments you experienced as a result of your involvement in the physical activity that you do?). Durable benefits questions explored specific lasting benefits experienced from participation in PA (e.g., Can you talk about the personal benefits that you derive from your involvement in this activity?). Unique ethos questions addressed norms and values that are unique to the PA culture (e.g., Are there any specific values, or a certain etiquette that are unique to the athletic/sports culture that you're in?). Identification considered questions about participants' interactions with others, possession of items related to their PA pursuit, and attire (e.g., Can you tell me about items that you collect in the physical activity that you pursue?) (See Appendix B).

The fourth section addressed interview questions on the contribution of physical activity to aging based on a thorough review of literature to determine appropriate questions. For example, how does your regular involvement in PA addresses your concerns about aging? Can you tell me about the positive benefits you experienced from your consistent involvement in PA? Can you tell me about the negative effects you've experienced as a result of your consistent involvement in PA? Can you discuss any worries you may have about aging? When you look at yourself in the mirror, how do you feel about the appearance of your body? (See Appendix B).

It should be noted that the survey instrument was pilot tested for reliability and validity prior to conducting the study. Pilot interviews were carried out with two participants to assist in the preparation of the interview guide. Piloting the interviews enabled the researcher to pretest the questions, improve the quality of the questions asked in order to draw richer data, and to enhance the researcher's interviewing techniques (Jacob & Ferguson, 2012; Majid, Othman, Mohamad, Lim, & Yusof, 2017). Of notes, comments and feedback expressed during the pilot interviews were incorporated thus improving the clarity and comprehension level of the survey instrument.

Thematic Analysis

Thematic analysis (TA) was employed in this research for the purpose of identifying, analyzing, and reporting themes within data that develop from participants' experiences surrounding their PA behavior and perceptions of aging ((Braun & Clarke, 2006, 2017). TA seeks to interpret diverse aspects or features of the research topic (Boyatzis, 1998; Braun & Clarke, 2006, 2017). This method provides a specific guideline consisting of six phases (see Figure 1) to analyze data, which can be adapted to most methodologies and theoretical frameworks (Boyatzis, 1998; Braun & Clarke, 2006, 2017). This makes TA a flexible method that can be easily combined with the phenomenological approach and the SL framework used in this research to identify patterns within and across datasets, in order to generate meaning regarding the lived experiences of older adults surrounding their PA behavior and perceptions of aging. In addition, the thematic analysis was conducted inductively rather than deductively—meaning that the themes produced for this study emanated directly from the data (data-

driven) rather than being based on theory (theoretically-driven), as described by Braun and Clarke (2006, 2017). Further, the analytical process of this study involved the use of both semantic and latent techniques to uncover and interpret underlying ideas and identify themes.

Figure 1. Six phases of Thematic Analysis.

Phase	Description of the process
1. Familiarizing yourself with your data:	Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas.
2. Generating initial codes:	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3. Searching for themes:	Collating codes into potential themes, gathering all data relevant to each potential theme.
4. Reviewing themes:	Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic 'map' of the analysis.
5. Defining and naming themes:	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme.
6. Producing the report:	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

Note. From (Braun & Clarke, 2006, p. 87)

During the data analysis process, the researcher followed the six phases developed by Braun and Clarke (2006) (see figure 1):

Phase 1: familiarization with the data

This phase involved transcribing the audio interviews and becoming familiarized with the data by reading and re-reading the data in the transcripts several times and noting down initial ideas in the margins of participants' transcripts that the researcher found relevant to address the research aims (Braun & Clarke, 2006). Additionally, the researcher used Spreadsheets (Excel) as a software tool for data analysis (Broman & Woo, 2017). Relevant pieces of data from the transcripts were extracted and entered into

the spreadsheets to facilitate the data analysis process. Spreadsheets are widely used software tools for data entry and storage, as well as for organizing, filtering, highlighting, visualizing, analyzing, and managing large amounts of data, which facilitate the identification of patterns (Broman & Woo, 2017).

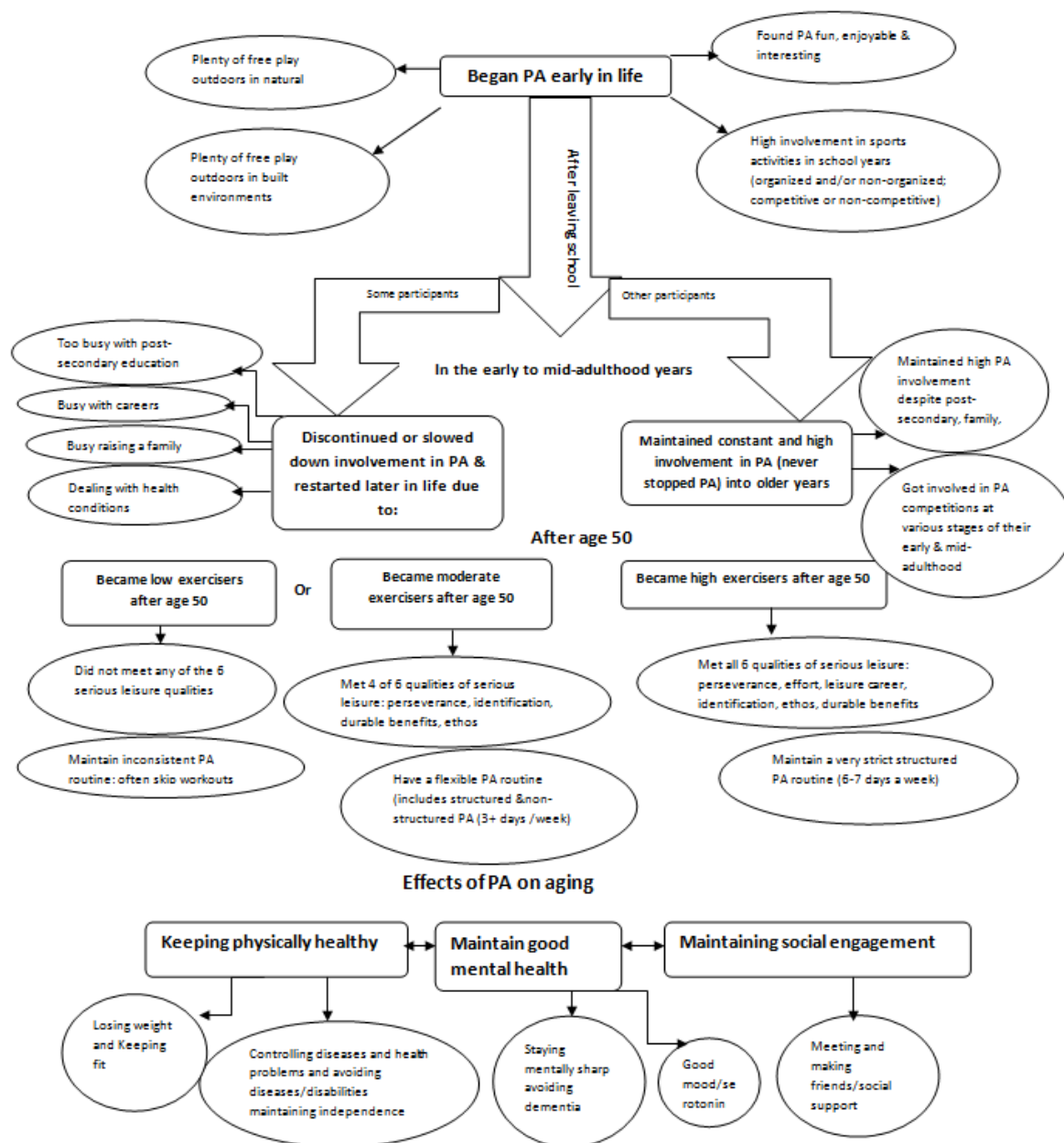
Phase 2: Coding

In this phase, the researcher coded the data by highlighting and labeling relevant large chunks of text such as passages, phrases, or sentences with short informative codes or labels to describe their content, and to reduce large portions of data into small chunks of meaningful and manageable text (Attride-Stirling, 2001; Braun & Clarke, 2006).

Phase 3: Generating themes

In this phase, the researcher examined the list of codes that were developed in phase 2 and searched for initial themes or major concepts that have potential of becoming major themes and subthemes that are relevant to the research question. Specifically, this phase involved sorting/arranging the codes into potential preliminary themes and subthemes. The themes and subthemes were developed based on repeated or frequent statements from the data interview that became obvious throughout all participants' accounts. For example, all participants mentioned spending excessive time outdoors in childhood and youth engaged in a wide range of sports and physical activities, thus the first major theme became "consistent participation in PA outdoors in childhood and adolescence". An initial thematic map was developed at this stage showing the preliminary themes and subthemes, as suggested by Braun and Clarke (2006) (see Figure 2).

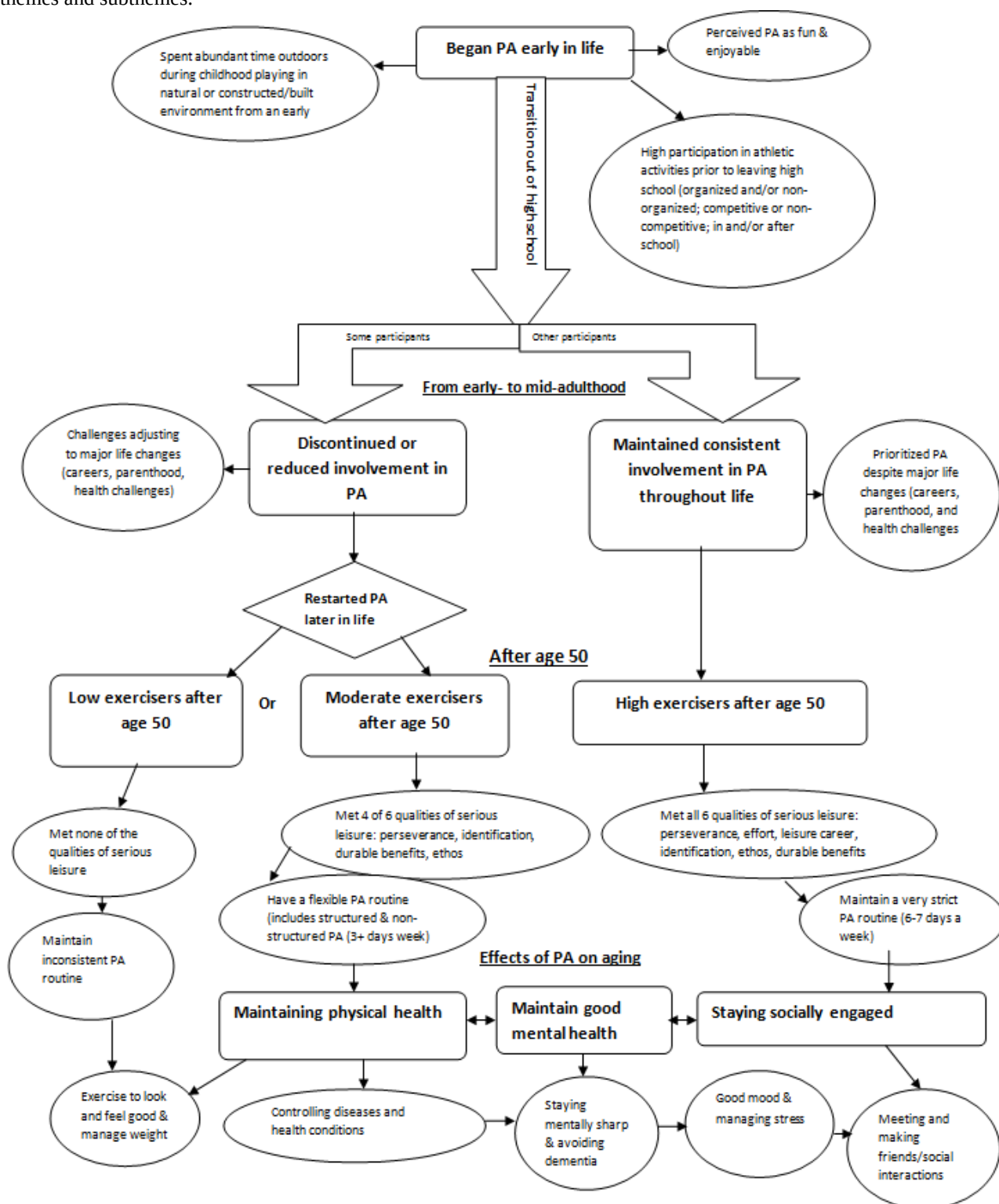
Figure 2. First draft version of the thematic map from phase 3 illustrating nine initial themes (in rectangles), and twenty-one subthemes that influence physical activity participation in the later years of life. Subthemes are presented in ovals. The top half of the thematic map shows the initial themes and subthemes related to patterns of PA participation among study participants before the age of 50. The remaining half of the thematic map illustrates the preliminary themes and subthemes related to PA participation after age 50, and the effects of participants' PA involvement on their perceived wellbeing.



Phase 4: Reviewing themes

In this phase, the researcher reviewed and modified the preliminary themes identified in phase 3 to ensure that they accurately represent the data. This phase consisted of two levels of reviewing and refining the themes: level 1 involved checking the themes in relation to the coded data extracts, and level 2 involved reviewing the themes in relation to the whole dataset (Braun & Clarke, 2006). To assure credibility, conformability, and trustworthiness, the themes and subthemes produced in this phase were verified/vetted by two experts in qualitative research at the researcher's university through a meeting. During the meeting, the thematic map in figure 3 was discussed and explained in details with the two experts. After the verification process, it became evident that some themes did not have enough data to support them, while a few subthemes overlapped. The thematic map (see Figure 3) shows the resulting list of themes and subthemes after the reviewing, refining, and vetting. More specifically, Figure 3 (below) illustrates nine themes (in rectangles), and fifteen subthemes that influence physical activity participation in the later years of life. Subthemes are presented in ovals. The top half of the thematic map shows the themes and subthemes related to patterns of PA participation before age 50 among study participants after reviewing and improving the themes, and verifying them with research colleagues. The remaining half of the thematic map illustrates the refined themes and subthemes related to PA participation after age 50, and the effects of participants' PA involvement on their perceived wellbeing.

Figure 3. Second draft of the thematic map from phase 4 after reviewing, refining, and vetting the themes and subthemes.

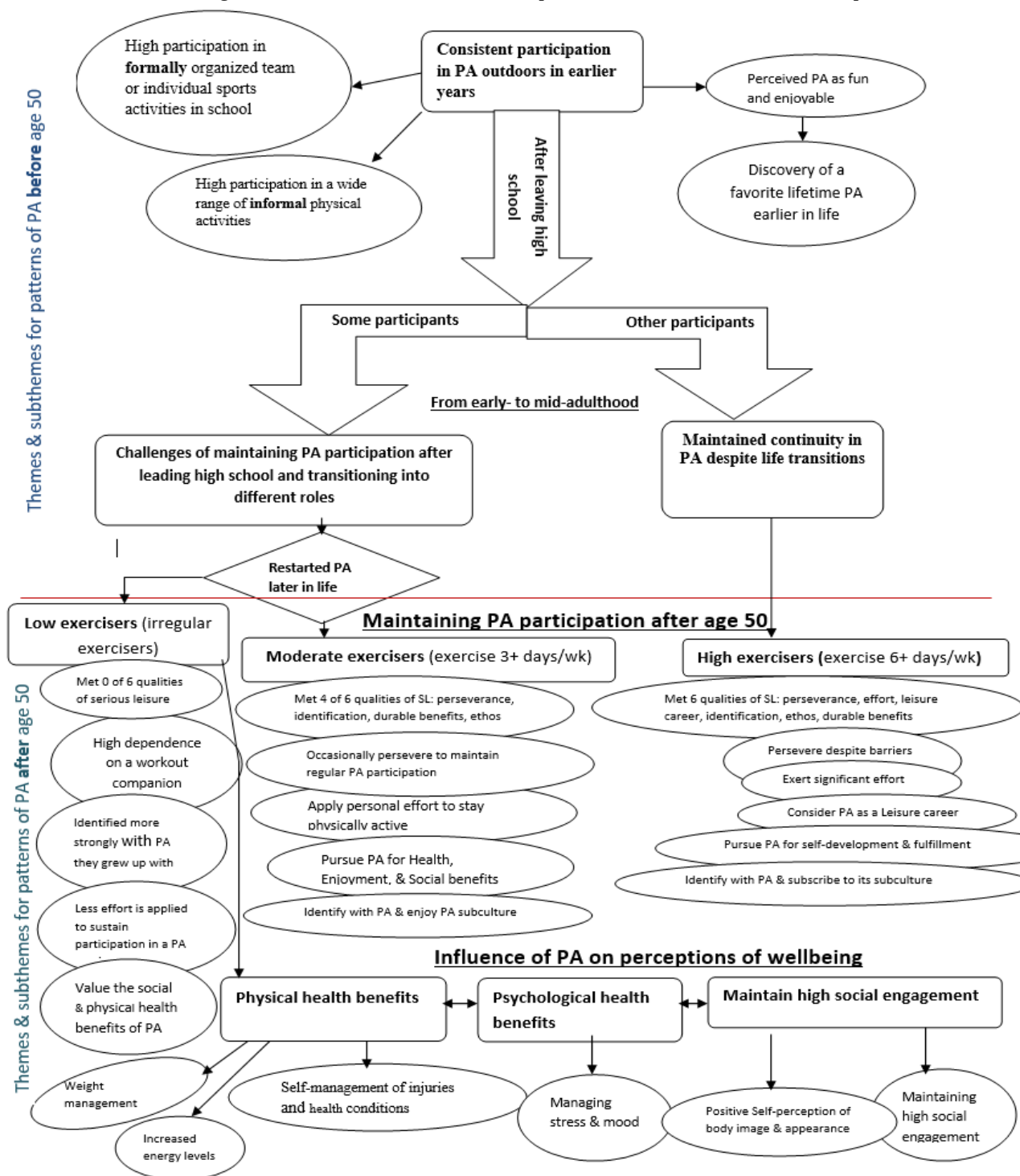


Phase 5: Defining and naming themes

Once the list of themes was developed (in Phase 4), the researcher proceeded by organizing the themes in a logical order and describing the meaning of each theme by writing a brief analytical narrative that explains what each theme is about (see Chapter 4 in the Results' section). Also, at this phase, some of the themes' names (which were only working titles up to this point) were modified for more concise and punchy theme names to give the reader an immediate understanding of what each theme is about (Nowell, Norris, White, & Moules, 2017). The final themes were then discussed and scrutinized with the same two experts in qualitative research (mentioned earlier) at the researcher's university through a meeting. During the meeting, the thematic map in figure 4 was discussed and explained in details with the two experts to ensure credibility, conformability, and trustworthiness. The final thematic map (see figure 4) shows the results after the vetting process.

Figure 4 (below) illustrates the final themes and subthemes after reorganizing them, renaming some of them, and verifying them with research colleagues. This thematic map presents the themes and subthemes in a logical order beginning with the themes and subthemes related to patterns of PA participation before the age of 50 (see above the red line). It then shows the themes and subthemes linked to the maintenance of PA participation after age 50 (below the red line). It also identifies the themes and subthemes connected to the effects of PA involvement on participants' perceived wellbeing. Each theme and subthemes in figure 4 is presented and explained in thorough details in the Results section of Chapter 4.

Figure 4. Final thematic map from phase 5 illustrating the final themes (shown in rectangles) and subthemes (shown in ovals) after reorganizing the themes/subthemes, renaming some of them, and vetting them with research colleagues. Each theme and subtheme is explained in the Results section of Chapter 4.



Phase 6: Writing the findings

This phase involved writing the results section using the themes and subthemes that were identified in the final thematic map and integrating quotes from the interviews as evidence to create a logical and coherent narrative that captures what the data describes in relation to the lived experiences of older adults surrounding their PA behaviour and perceptions of aging (see the Results section in chapter 4).

To conclude, this chapter discussed the rationale for selecting the phenomenological methodology as a suitable qualitative research approach to reveal new insights into older adults' experiences with physical activity and perceptions of wellbeing. It then described the methods or research tools used to gather data from participants for this dissertation. This chapter also discussed reasons for using the purposeful sampling procedure, and provided a description of participants' characteristics, the data collection, and the data collection instruments. Lastly, this chapter outlined in thorough details how the thematic analysis was conducted to explore the PA behavior of older exercisers and their perceptions of wellbeing as they age.

Chapter 4: Results

This chapter reports the results of this research based upon the analysis of interview transcripts which explored factors influencing older adults to adopt and maintain a physically active lifestyle for over a decade, and the influence of participants' serious involvement in PA on their perceived wellbeing. This chapter is broken down into three sections: the first section discusses the themes and subthemes identified from the analysis associated with factors influencing study participants to adopt a physically active lifestyle earlier in life; the second section reveals the themes that emanated from the interviews associated with maintaining long-term participation in PA after age 50, and describes participants' degree of seriousness or commitment toward PA based on the six qualities of the Serious Leisure framework (e.g., perseverance, effort, leisure career, identification, ethos, durable benefits); and the third section presents the themes identified on the influence of long-term PA involvement on participants' perceptions of wellbeing as they age.

I. Themes and Subthemes Linked to Factors Influencing Participants to Adopt PA Earlier in Life

The analysis identified three key themes and four sub-themes that facilitated the adoption of physical activity among study participants early in life that influenced their involvement in PA after age 50 (See table 2). The first theme identified 'consistent participation in PA outdoors from childhood to early adulthood' include four subthemes: (i) high participation in school athletics linked to formally organized team or individual

sports activities, (ii) high participation in a wide range of informal physical activities, (iii) perceiving PA as ‘fun’ and enjoyable, and (iv) discovery of a favorite lifetime PA earlier in life. The three remaining themes emerging from the analytical process consisted of: ‘challenges of maintaining PA participation after leaving high school and transitioning into different roles’, and ‘continuity despite life transitions’.

Table 2

Themes and Subthemes Associated with the Adoption of PA Early in Life

THEMES	SUBTHEMES
1. Consistent participation in PA outdoors from childhood to early adulthood	i. High participation in school athletics linked to formally organized team or individual sports activities ii. High participation in a wide range of informal physical activities iii. Perceiving PA as ‘fun’ and enjoyable iv. Discovery of a favorite lifetime PA earlier in life
2. Challenges of maintaining PA participation after leaving high school and transitioning into different roles	
3. Continuity despite life transitions	

Theme 1: Consistent participation in PA outdoors early in life

Data showed that all study participants began participation in physical activity early in life and consistently spent leisure time outdoors as children— “getting wet, getting dirty, building things, and climbing trees”—, to quote Will (early 70s). Most participants, being from the boomers and X generations, recalled vivid stories about their free and voluntary engagement in outdoor unstructured physical activities away from parental supervision and technological distractions exploring a broad range of physical

activities with others, or independently, that provided a deep sense of enjoyment and satisfaction. Many echoed the view of Lionel (early 60s):

We didn't have any computer games and the TV was black and white, so we got out of the house. We had no parent supervision whatsoever. We were free to do whatever we liked. My friends and I went fishing, which meant cycling to get there; we played football, and climbed trees. We were never in the house. It didn't matter if it rained or not. Physical activity was just natural. It was a way of life.

In addition, there was a general perception among study participants that engaging in physical activity outdoors early on in life was “the norm” (Rob, Mid-50s) and “a way of life” (Albert, early 60s), whereby physical activity was embedded into their daily lives. Many endorsed the view of Steffi (early 60s) “everywhere we went, and everybody that we hung out with, we had to either walk or ride our bikes to go where we wanted. It was nothing for us to hop on our bikes and go for a bike ride 7, or 8 miles.” Coincidentally, biking and walking were found to be the most commonly practiced physical activities reported by participants in their earlier years of life as these provided a convenient and affordable source of commuting to school, and other places, that promoted a physically active behaviour from an early age. In effect, most participants mentioned that their parents were “too busy trying to make a living” (Neil, early 60s) to chauffeur them around to and from school, or to sports games, and other leisure activities, as Kate (mid-60s) explained “in those days we walked everywhere. There was no school bus and my parents were busy. You wanted to go somewhere, you walk or bike.” Thus, lack of transportation increased opportunities for participants to continuously engage in PA

through commuting in their youth days. Indeed, several recent studies have shown that lack of active commuting among youth as a result of increased use of motorized transportation coincides with the current raise in child obesity (Davidson, Werder, & Lawson, 2008; Lee, Orenstein, & Richardson, 2008; Tudor-Locke, Ainsworth, & Popkin, 2001).

Moreover, the majority of participants reported having parents that were “neither restrictive nor necessarily supportive” (Steven, late 50s) of their involvement in PA, with many participants expressing that their parents “just wanted us to be outside” (Ken, mid-60s). Indeed, most participants claimed that their parents were either occasionally involved, or non-involved at all in their physical activities in the form of attending their children’s sports games, providing transportation to and from sporting activities, and playing PA with their children. For instance, Peter (early 60s) echoed many participants whose parents were not involved in their PA “my dad would never come and see me play hockey or soccer. It didn’t really bother me because we didn’t have the other fathers there either.” Similarly, Alex (early 50s) explained “I couldn’t do any sports activities or join teams after school because my parents didn’t allow me. They didn’t want to drive me or watch me play”; while Leo (late 50s) stated “my parents didn’t know much about sports. They never played sports. They had a strong work ethic. All they did was work. My dad thought even that hockey was a waste of time.”

Other participants, however, recalled fond memories of their parents being occasionally involved in recreational family activities for enjoyment and amusement, as Lea (early 50s) encapsulated “in the spring and summer, my parents would take us go

swimming, or we would go for a family hike on Sundays so that was family time, and in the winter we would go skiing together on the weekends.” Likewise, Ed (early 50s) mentioned “my mother took us swimming. It was her initiative to get us to learn how to swim. She took us for few years. That's pretty much it.”; whereas Orlando (early 60s) indicated, “my father and I would play catch outside sometimes when he was not working.” Hence, parental participation in children’s activities was largely limited to leisure-time family activities in the form of occasionally engaging with their children in certain physical activities.

Furthermore, it was also evident from the interview transcripts that spending abundant leisure time outdoors in a variety of environments, natural (e.g., forests, wooded areas, lakes, fields) or constructed (e.g., neighborhood streets, parks, backyards) engaged in structured or unstructured PA helped participants develop physical competence, confidence, as well as appreciation for PA that facilitated the mastery of essential skills from early on, and encouraged regular participation over time. For example, most participants’ experiences during youth correlated with those of Albert (early 60s), Neil (early 60s), and Steven’s (late 50s):

When I was young, I used to spend the summers outside in the wilderness with my cousins who were very physically active. They initiated me to mainstream sports, like football and baseball. I began to feel more competent because I didn’t like sports before because I didn’t feel that I was good at it, but the time I spent outdoors in the wild helped me enormously to learn sports. (Albert)

I used to play at a local park near our house, and used to go there and skate. I learned how to skate by myself in the park. Nobody taught me. I also learned how

to ride my bike by myself. I did most of my biking on the neighborhood streets. The happiest day in my life is when I learned how to ride my bicycle. I still ride almost every day now at 62. (Neil)

I was a self-starter. Between the ages of 6 and 14, I did a lot of cycling. I learned to ride the bike in my backyard around the age of 6. The bike was too big. I got on it. I just pedaled away. No helmet, no gloves, scraped knees, banged head. I still love riding my bike. (Steven)

Above mentioned extracts reflect on most participants' positive experiences with PA earlier in life as these illustrate how spending time outdoors as early as possible can serve as a critical exploration period to build physical competence, self-esteem, and intrinsic enjoyment in youth that may have carry-over value for participation in the later years of life (Hirvensalo & Lintunen, 2011).

Subtheme 1: High participation in school athletics linked to formally organized sports

A prominent sub-theme emerging from the analysis related to consistent PA participation early in life is high participation in various school athletics linked to formally organized sports activities, which increased participants' physical skills and prepared them for a physically active lifestyle after age 50. Data showed that more than half of the participants described being involved in various formally organized team sports and athletic clubs in school or independent sports organizations for competitive or recreational purposes, and were able to eagerly provide lengthy descriptions of the different types of formal sports activities they explored throughout their schooling years

that strengthened their interest in PA at a young age and influenced their physically active behaviour in older age. For instance, Gerry (early 60s) stated:

I played sports in elementary school, and when I went to high school, I was so athletic that I tried out for all the sport teams from grade 9 to 13. I played a lot of football on the team in high school. I played in a basketball team; I was also involved in track and field in high school.

Similarly, Jillian (early 60s) explained: In late elementary school, I did a lot of skating. I played girl's hockey in grades 7 and 8. That didn't last long because I was very small and I got hit a lot. I also played softball. During my high school years, I played basketball, and I did track and field. I was also on the gymnastics team and I was a cheerleader. Not always the same years but over different years. I would say that I was active in terms of being involved in school sports.

Moreover, transcript data revealed that most participants involved in formal sports throughout the schooling years perceived themselves as physically competent or having high self-efficacy beliefs that made them successful sports players or athletes, and were found to interpret their achievements in terms of winning games and collecting awards in athletic competitions, as Gerry (early 60s) noted “sport was something that I excelled at, even though I was a top academic student in the class. I really was a gifted athlete. I won an award for the top high school athlete and I played a number of sports.”

Additionally, data analysis showed that competing, achieving wins, and gaining social recognition among peers in organized sports was associated with higher levels of self-confidence and self-worth, which increased participants' commitment to continue

engaging in PA at a young age. The following excerpt captured the sentiment of most participants whose involvement in organized sports from early on has informed/inspired their future behaviour of PA:

Je pense que l'activité physique me valorisait. J'étais pas quelqu'un qui était très académique mais j'avais un talent pour le sport. Donc je me suis impliqué en sport organisé à l'école et en dehors de l'école, et puis année après année j'allais chercher la médaille d'or ou d'excellence. Donc, je me valorisais à travers les activités physiques. **Translated version:** I think physical activity gave me a sense of self-worth. I wasn't someone who was very academic but I had a talent for sports, so I got involved in organized sports at school; and year after year I got the gold or excellence medal. So, I valued myself through physical activities.
(Stephane, mid-50s)

Subtheme 2: High participation in a wide range of informal PA for leisure purposes

Another key subtheme related to consistent PA participation early in life is high participation in a wide range of informal physical activities for enjoyment. Some participants acknowledged that they did not have the opportunity to engage in formally organized sports activities during schooling years, but nonetheless, they were able to participate recurrently in informal sports activities “every free minute” (Joe, early 50s) of their leisure time, “for enjoyment or fun” (Neil, early 60s), for social interaction, to “hang out with friends and meet people” (Helena, early 50s), as well as for the competitive aspect, as Leo (late 50s) explained: “even though I wasn’t involved in any organized sports when I was young, I constantly played hockey with friends and competed with them.”

Additionally, informal participation in PA was experienced in different ways for each participant, either in a team setting, or individualistically. For instance, Alice (early 60s) explained “I was always active but not involved in any organized sport or activity. I enjoyed swimming, and going out for bike rides, skating, hiking, and cross country skiing alone or with friends.” Likewise, Jordan (early 60s) recalled being involved in a wide range of informal physical activities while growing up that helped him establish a PA pattern that persisted into older adulthood: “when I was in school, I played hockey, but it was just like a street hockey, or at the rink. There were also baseball diamonds so we used to play baseball all the time there and football. We would actually play tackle football with no equipment, and soccer. I also played basketball most of my life.”

Subtheme 3: Perceiving PA as “fun” and enjoyable in earlier years of life

Most participants associated physical activity with “fun” and enjoyment early in life. Thus participation in diverse physical activities, formal or informal, structured or unstructured, outdoors or indoors, was influenced by participants’ perceptions of the activities as being fun, worthwhile, and enjoyable, which seemed to be a necessary condition for continued participation in PA in the earlier years, that may have inspired their later PA behaviour. For example, Rob (mid-50s) captured the views of most participants’ feelings towards PA: “in childhood physical activity was fun because it wasn’t associated with being in shape or anything like that. It was just pure fun. It provided a feeling of freedom and excitement.”

Further, participants reported that their involvement in diverse physical activities, formal or informal, structured or unstructured, outdoors or indoors in the early years

enabled them to develop friendships and socialize with others, which increased their feelings of fun and enjoyment, as Leo (late 50s) explained "physical activity was all about making friends, playing with others and being with others. It was all about fun and the playful element." Similarly, to Jillian (early 60s), participation in physical activity was about "being with my friends and being involved in a community setting, and socialization."

Subtheme 4: Discovery of a favorite lifetime sport activity early in life

A recurrent subtheme emanating from participants' accounts linked to their past PA involvement is the discovery of a favorite lifetime sport activity early in life. The majority of participants described finding a favorite sport activity that they became firmly attached to throughout their lifetime as a result of continuously dabbling in a wide range of physical activities throughout their youthful days. For example, Albert, a 60-year-old devotee of Olympic weightlifting, indicated: "I tried a lot of different sports when I was young, but when I discovered Olympic weightlifting at 17, it became my passion for life. Here we are 43 years later; I'm still doing Olympic weightlifting and weight training almost every day." Similarly, Eduardo, a 50-year-old avid endurance runner, explained "I started running when I was 20. A friend introduced me to it. I was running almost an hour every day. I found that is something that worked for me. I got used to it because it makes me feel really good. I'm 51 now. I've been running for 31 years." Likewise, Bruce (early 60s) has been consistently practicing Jit-jitsu for over four decades described how he discovered his passion for the sport early in life stating: "In Cégep, martial arts became my world, everything was that. I sort of left most organized sports then and focused all

my free-time on martial arts, I still practice it every day now. I never stopped.” Likewise, Jordan (early 60s) recalled: “When I was in grade 7, that would be age 12, that's when I got more into basketball. I fell in love with it. I've been playing in the same basketball league, this is my 41st year.”

Theme 2: Challenges of maintaining PA participation after leaving high school and transitioning into different roles

The transition from the structured environment of high school (HS) to other roles and life domains (e.g., post-secondary education, work, family) as participants matured was experienced in different ways. Data showed that more than half of the participants reported facing barriers to maintaining regular participation after leaving HS related to their transition into post-secondary education, work, and family roles that prevented them from maintaining involvement in PA on a regular basis for several years. Indeed, many acknowledged taking a break from PA after HS for several years to deal with pressures and demands that accompany such transitions before re-adopting or reinitiating a more consistent PA routine in their 40s, and onwards. The following excerpts provide a glimpse into some the challenges experienced by participants in maintaining PA participation after HS as they transitioned into new roles and life domains:

After finishing high school, that was a dry period of time. I found university challenging, and I had to hit the books really hard. I had it easy going through high school, and I found it much more of a challenge in university. It took me a while to realize that I couldn't just skip the books. No, I didn't indulge in sports or physical activity. It was really a matter of study for a period of probably five years before I started again more consistently. (Jacob, late70s)

I missed out on physical activities when I was working because that was the priority at the time. You can't just walk away and go to the gym, or go do some sports activity. So, there was a bit of a transition and hiatus before I started a more regular exercise routine. (Will, early 70s)

For about 15 years, I didn't play football or engaged much in physical activity because I got married, and had family responsibilities, and all that goes with it. It was a busy time of my life. When I finally got divorced, I started to play football again on a regular basis and got much more active since then (Lionel, early 60s).

Although the majority of participants suspended regular participation in PA as they matured and transitioned into different roles and life domains, they did maintain some involvement in PA on an occasional basis before re-adopting or reinitiating a more serious exercise routine later in life, once demands and obligations began to wind down, and a better work-life balance was achieved, as Alice (early 60s) explained:

When I started working, we had our family. It was important to do some activity with the kids but never on a regular basis. We would go out hiking. We would do cross-country skiing with them. We would go skating but more as family activities never from the perspective of a physical fitness routine. I only started physical activity on a regular basis later in my career. I was in my 40s.

Similarly, Lea (early 50s) captured the views of most participants regarding the challenges experienced in maintaining regular PA participation during the transition into new roles indicating: “I got married and had kids and then all of a sudden physical

activity stopped; there was no time for it anymore. I had to take a break. I remember the first time I got a babysitter it was so that I could go skiing.”

Theme 3: Continuity despite life transitions

Only 11 of 30 participants mentioned maintaining involvement in physical activity on a regular basis across their life course, despite transitioning from one phase of life to another including post-secondary education, work, marital relations, and parenthood. They explained that maintaining ongoing involvement in physical activities after leaving high school was simply the result of continuing the same highly active behavior adopted earlier in life, which gradually evolved into a permanent lifestyle, as the following excerpts reveal:

After I graduated from high school, I became involved in the martial arts, in jiu-jitsu, in addition to doing weight training, as well. Then in university I got even more serious in bodybuilding and even competed in the last year of university. Then I maintained my weight training throughout my career and throughout my retirement now. I’m just a person who was always extremely interested in fitness, health and nutrition. That’s why I never took a break. (Arnold, early 60s)

At university, I played on the rugby team. I picked up squash and did some gym training. Then I got a real job after I finished university. I joined the gym nearby my work. There were Squash courts there, so I played Squash and worked out in the gym. And ever since then, I’ve been working out at the gym almost every day. (Ben, early 60s)

In a similar vein, Bill (early 60s) summed up the rest of participants’ responses on maintaining continual participation in physical activity since their youthful days, “I’ve

been continuously doing it most of my life. I've never stopped. That's number one. It became automatically built in."

II. Themes Associated with Maintaining Long-Term Participation in PA as a Serious Leisure Pursuit after Age 50

The results in this section present the themes associated with how participants maintain long-term participation in PA after age 50. The themes are discussed in relation to Stebbins' (2017, 1992) six qualities of serious leisure—perseverance, personal effort, leisure career, identification, durable benefits, unique ethos. Results from examined data revealed that study participants could be grouped into three types of older exercisers with varying degrees of seriousness or commitment (Stebbins, 2017, 1992) towards their PA regimen: Low exercisers (n=4); moderate exercisers (n=15); high exercisers (n=11) (see Table 3). Each exercise group has different characteristics that distinguish it from another group of exercisers (See Table 7). The process of grouping study participants into distinct categories based on the six qualities of serious leisure was inspired by Siegenthaler & O'Dell's (2003) method who used Stebbins' (2017, 1992) Serious Leisure framework to group golf players into different categories based their level of involvement and degree of seriousness about golf.

Table 3

List of Participants by Exercise Category

Low Exercise Participants	Moderate exercise participants	High Exercise Participants
Alex	Alice	Albert
Helena	Jacob	Allen
Kate	Joe	Arnold
Lea	Jordan	Ben
	Ken	Bruce
	Leo	Ed
	Lionel	Gerry
	Neil	Jillian
	Orlando	Line
	Phil	Peter
	Rob	Stephan
	Steffi	
	Steven	
	Vanna	
	Will	
N=4	N=15	N=11

Note. List of participants based on their exercise category after they had been assessed against the six qualities of serious leisure: Perseverance, effort, leisure career, identification, ethos, durable benefits. Pseudonyms were used to protect anonymity.

Low Exercise Participants

PA was lower in importance for the low exercise group (3 females and 1 male). They rated exercise as 7 and above in importance when asked: “on a scale of 1 to 10 how important is exercise to you?” (see Table 4). All participants were found to pursue PA on a casual or irregular basis. None perceived exercise as a core leisure activity and a central part of their daily lives, and were more likely than high and moderate exercisers to give priority to other interests and commitments. All participants in this category attend a local

fitness facility (e.g., a gym or a fitness club) on an irregular basis and participate in various gym fitness classes or self-directed/self-guided workouts (e.g. cardio machines, floor exercises), and tend to complement occasionally their gym participation with recreational sports activities that varied based on the season (e.g., skiing in the winter, biking in the summer) performed outside of the gym for recreational purposes.

Table 4

Summary of PA Data for the Low Exercise Group

Low Exercise Participants	Physical Activity Routine for the Past 10+ years	Importance of exercise on a scale of 1 to 10*
Alex	Weight training, soccer	7
Helena	Various gym fitness classes or self-directed workouts, swimming, walking	8
Kate	Various gym fitness classes or self-directed workouts, swimming	10
Lea	Various gym fitness classes, biking, swimming, skiing	8.5
N=4		AVR**=8.4

Note. All participants were asked: “on a scale of 1 to 10, how important is exercise to you?”

*1=least important; 10 = most important.

AVR**= Average

Six themes were identified for participants in the low exercise group associated with their PA behaviour after age 50: 1) Other interests took precedence over PA, 2) High dependence on a workout companion or trainer to engage in regular PA, 3) Identified more strongly with physical activities they grew up with, 4) Less effort is applied to sustain consistent participation in a PA routine, as other interests took precedence, 5) Value the social aspect of PA and the physical health benefits, 6) Less involved in the

ethos surrounding the physical fitness and sports world as PA was not the most important leisure interest in their daily lives.

Theme1: Other interests took precedence over PA

Perseverance to overcome barriers was notably less for exercisers in the low category, as the frequency of exercise participation depended primarily on remaining time— that is when family and work commitments and other interests were met. More specifically, other interests, commitments, and priorities affected the frequency of participation in PA for the low exercise group as these took precedence over PA.

For instance, Helena (Early 50s) stated: “I go to the gym about 2-3 times a week. The fitness classes that I participate in depend on my work hours which change all the time. This affects my workouts because sometimes I can’t go to the gym. I tend to miss my exercise classes quite often.” Similarly, Alex ((Early 50s) added: “I usually workout on my lunch hour a minimum of 3 and maximum 5 times a week, if everything goes well. I usually go on my lunch hour so I don’t take time away from my family and work because those are more important, and sometimes meetings and work lunches take priority so I often miss my workouts.” Likewise, Lea (Early 50s) explained: “I try to go two to three times a week to the gym. Three is ideal, sometimes two, sometimes four depending on work needs, kids’ needs, grandkids needs, and husband's needs.”

Theme 2: Dependence on a workout companion or trainer

Another observation emanating from the data is that most participants in this category depended largely on an exercise partner, a workout buddy, or a trainer, to increase motivation and adherence to regular exercise. Indeed, most participants in this

group stated that not having a workout partner represented an obstacle or a barrier that resulted in missing/omitting workouts on a regular basis. Helena (early 50s) reflected the views of most participants in the low exercise group: “I like working out with other people. If my friend can’t go to the gym with me, I won’t be motivated to go. Also, I follow classes in a group at the gym because they help me to push myself to workout harder. Likewise, Kate (early 60s) argued:

I started boxing lessons about a year and a half ago. I have two personal trainers. This is my gift to myself. I have my striking trainer and I have my conditioning and flexibility trainer. They help me to stay focused on myself, motivated, and to think of my own fitness goals.

The social aspect was found to be a crucial component in maintaining motivation and adherence to PA for the low exercise group. Lea (early 50s) captured the views of all participants in this category:

I like being with others when I exercise, It's more motivating to me. I find when I go with a friend, I work harder, and stay more focused. Again, at the end of the workout, we can high five each other. It's like we got each other through it.

Theme 3: Identified more strongly with physical activities they grew up with

All participants in the low exercise category were found to identify more strongly with unstructured physical activities they practiced growing up (e.g., swimming, biking) than structured fitness activities adopted later in life (e.g., kickboxing, spinning, fitness classes), as the activities they grew up with had deeper ties to their past and provoked positive memories of their childhood. For instance, Kate (early 60s, f.) recalled:

My parents heaved me in a pool, probably before I could walk; I was swimming in the sea all the time, because we lived close to it. I love the water now. Even now, when I really need to get away and think, I can go to the pool. I'm a floater, so I can go and just hang in the middle of the pool and think, but where I really can think is when I do lengths. It's like moving meditation. It's just amazing. My happy place.

Similarly, the link between the type of physical activity practiced during youth and later physical activity was apparent in Helena's (early 50s) statement "Swimming is part of who I am and is my favorite activity because I grew up close to the sea. We spent hours at the beach. I still swim every chance I get. Even at the gym, I take Aqua fitness classes because it involves water and being in the water reminds me of my childhood." Likewise Alex (early 50s) mentioned "I loved playing soccer when I was a kid, and I still play it now for fun with friends or my kids from time to time."

Theme 4: Less effort is applied to sustain consistent participation in PA regimen as other interests took precedence

Low perseverance was found to affect participants' personal effort to overcome common barriers such as family and work requirements, and other interests, in order to make exercise a normal part of their daily routine. As a result participants in the low exercise group were found to apply less personal effort and time over the past decade than moderate and high exercisers in practicing and developing their technical skill level, strategy, and knowledge in any particular physical activity they perform, as Alex (early 50s) encapsulated:

I never spent much time⁷ to develop any sort of expertise in any sport or physical activity over the years. I just go to the gym and learn by observing others.

Sometimes I ask a trainer at the gym for advice or I watch what they do with other people. As for the soccer, I learned it when I was young and perfected my own techniques over the years with experience. But I don't go out of my way to take lessons or anything like that in how to perform my physical activities.

Similarly, Lea explained "I've never taken skiing lessons. I've never hired a personal trainer. I just learned." Indeed, all participants in this group were mostly involved in PA to achieve a sense of well-being, to "get in shape and toned up" (Kate), "keep healthy" (Helena), and socially engage with others. Therefore, participants were not necessarily interested in focusing their leisure time and energy on developing their technical skills, strategy, and knowledge in any particular sport or fitness activity over a prolonged period of time, and pursue it as a serious leisure career, as Kate explained: "I'm not one of those really focused that if I don't workout I'm going to hell, but I'm more than a couch potato". In fact, all participants in this category dabbled in different types of structured and unstructured physical activities over the past 10 years, in a group and non-group setting, and valued having a flexible PA schedule which they could easily fit around other priorities. As a result, all participants were able to name several activities they practice on a casual basis depending on time constraints. For example, Lea mentioned:

My colleagues and I do group exercise at the gym. Sometimes it's spinning classes or it's Rock Bottom fitness classes, or Circuit training, or it's something else. It depends. My time is tight. Also, in the summer, one of my best friends and I still play beach volleyball in a no longer competitive level, but at a recreational level in the summer times, and I still ski in the winter sometimes.

Likewise, Helena stated:

I've been doing Aqua fitness with my friends for the last two months. I have two friends that I go with. I have a bit of a back problem and this class helps my back. Then in the evenings I do different kinds of classes like kickboxing. I did that for a while. Also, sometimes, I go to the gym to swim with my friend for at least an hour. It depends on the time that I have and other things that come up.

Theme 5: Value the social aspect of PA and managing weight and improving physical appearance

All participants in the low exercise group were found to enjoy the social aspect of PA, as well as controlling their weight, and enhancing their physical appearance as important benefits of pursuing activity. Social benefits derived from PA participation were captured by the following statements: “exercise provides an important opportunity for seeing people, meetings friends, working out with them, and bonding with others (Helena, early 50s)”; “I enjoy the social aspect of it” (Alex, early 50s); “sport and exercise means community to me (Kate, mid-60s)”; and “it’s social, so my colleague and I go together (Lea, early 50s)”. Further, all participants recognized the contribution of regular exercise to managing their weight and improving their physical appearance. They

all shared stories of how exercise participation has helped them achieve weight goals: “I exercise because I don’t want to gain weight. It keeps my weight steady” (Helena, early 50s); “If I don’t exercise, everything seizes up very quickly. I don’t know if it’s my age, or my weight, or what it is, but it doesn’t take more than a couple of weeks for me to start feeling things stiff where they shouldn’t be, which is why I’m continuously doing this. (Kate, mid-60s)”; “It keeps me feeling and looking young (Lea, early 50)”; and “I do care about how I look in front of other guys, because if I was short and stubby then guys would not really respect me, so working out helps me look and feel good about myself” (Alex, early 50s).

Theme 6: Less involved in the ethos/subculture surrounding the physical fitness and sports world as PA was not the most important leisure interest in their daily lives

Participants in the low exercise group were less involved in the ethos or subculture surrounding the physical fitness and sports world as PA was not perceived as the most important leisure interest in their daily lives, even though all participants acknowledged the important value of being physically active and rated physical activity as 7 and above in importance on a scale of 1 to 10. For example, Alex (early 50s) explained “exercise is about 7 out of 10 in importance to me. I consider it very important to stay in shape and healthy but there are other important interests that I’d rather do in my own time, like building plane models and playing video games”; while Helena indicated “I will say 8. It’s really important but I don’t always have the time to go.” Nonetheless, some participants felt that it was important to conform to special rules and etiquette in

terms of the subcultural context of PA, particularly when attending a fitness facility, as Alex (early 50s) explained:

People working out at the gym should be respectful; they should be spotting people if they ask you for help no matter what. They shouldn't drop their heavy weights hard on the gym floor. It's disturbing to others. You shouldn't be hitting on another men's wife or girlfriend at the gym. It's common sense.

Similarly, Helena (early 50s) expressed "I find it rude when people leave an exercise class before the instructor is done. It can be disrupting to everyone. They should wait for the class to finish. People at the gym should know that."

Moderate Exercise Participants

Moderate exercisers consisted of fifteen participants (3 females and 12 males) and rated exercise as 7 or higher in importance on a scale of 1 to 10 (see Table 6). The majority of participants in this group reported exercising at least 3 times per week and pursued a flexible PA routine that includes planned and non-planned activities. The time spent on their workout routine often varied based on their availability, as Phil (late 50s) summarized: "I go to the gym and do a couple of spinning classes and maybe I'll play squash another one or two times a week. So maybe five to seven hours a week I'm doing something active, but I'm not always able to maintain my regularity." Similarly, Steven (late 50s) indicated "Over the course of a week, I probably do about five hours of working out, but it changes. I do mostly weight training and biking."

Most participants attended a local fitness facility (e.g., a gym) and performed a variety of group fitness activities or self-directed workouts as part of their regular PA

routine, and frequently complemented their gym routine with recreational sports activities (e.g., basketball, biking) (see Table 5). Participants in this category perceived PA as an important aspect of their life, and pursued it primarily as a necessity for health, enjoyment, and social benefits, as Rob (Mid-50s) encapsulated “physical activity is part of my foundation to a healthy and happy life.”

Table 5

Summary of Data for the Moderate Exercise Group

Moderate Exercise Participants	Physical Activity Routine for the Past 10+ Years	Importance of Exercise on a Scale of 1 to 10*
Ken	WT**, martial arts, walking	9
Alice	Hiking, skiing, snowshoeing, walking	8
Jacob	Various gym fitness classes, WT, yoga, swimming	10
Joe	Gym self-directed workouts, biking, soccer	8.5
Jordan	Basketball, hockey, badminton	8
Leo	Power walking, hockey	10
Lionel	Football (soccer)	10
Neil	Gym self-directed workouts/biking	10
Orlando	Various gym fitness classes/ martial arts	10
Phil	Various gym fitness classes, squash, golf	9
Rob	Various gym fitness classes, WT, yoga	10
Steffi	Badminton, walking, jogging	10
Steven	WT/ biking	9
Vanna	Gym fitness classes	10
Will	Various gym fitness classes, WT, biking/spinning, skiing	7
N=15		AVR**=9.2

Note. All participants were asked: on a scale of 1 to 10, how important is exercise to you?

*1=least important; 10 = most important

**WT= weight training

AVR***= Average

Five themes were identified for participants in the moderate exercise category associated with maintaining regular PA involvement after age 50: 1) Occasionally persevere to maintain regular PA participation, 2) Apply personal effort to ensure they stay consistently active and motivated to avoid slipping into an inactive behaviour, 3) Pursue PA for Health, Enjoyment, and Social benefits, 4) PA is an important aspect of their identity, and 5) Enjoy the subculture surrounding sports and physical fitness.

Theme1: Occasionally persevere to maintain participation in their PA routine

The majority of participants in this category were shown to occasionally persevere amidst adversity and push past illness, pain, injury, and other challenging situations to adhere to their exercise schedule. Most shared stories similar to the following participants: “even in my illness I tried exercising and tried to stay as active as I could.” (Rob, mid-50s); “After I injured my knee a few years ago, I continued playing soccer with the torn ACL and a knee brace, but I basically re-injured it more.” (Joe, early 50s); and “If I am on vacation and travelling, I always go to a hotel that has a gym” (Vanna, early 60s).

All participants in this group reported feeling disappointed, frustrated, or guilty for skipping workouts on occasions. For instance, Leo (late 50s) mentioned: “Sometimes I’ll miss up to 2 weeks stretch when I’m severely sick and I feel totally guilty about it”; while Alice (early 60s) indicated: “If I am supposed to do a physical activity and I don't do it, I'll be very upset with myself because I feel that I have missed on my commitment to myself.”; while Neil (early 60s) explained “I feel terrible when I miss a workout. I

don't want to miss it out. Let's put it this way. When my mother passed away, I still went to the gym every day. That kept me sane.”

Theme2: Apply extra effort to avoid slipping into an inactive behaviour

Many participants in this group pursued various types of structured and unstructured physical activities on a regular basis, and invested time and energy to ensure they stay consistently active over time in order to avoid slipping into an inactive behaviour. Many reported being involved in sports activities over the past decade or more that were challenging in nature and required some level of skill, knowledge, and strategy to perform (e.g., Jiu-Jitsu, basketball, football, badminton, squash, hockey) and acknowledged spending years learning and practicing to improve their performance, as Phil (late 50s) explained:

“When I did my masters degree, I became very serious about squash. I was playing it every day of the week. I continued doing that over the years. Even in my mid-40s I started playing in competitive age group events. I took that to provincial and national level competitions and even played in an international competition. I still play squash today but not competitive because of my injuries.

Similarly, Orlando (early 60s) explained “I started Jiu-Jitsu over 45 years ago, I love it. There are a lot of techniques to it. I still take jiu-jitsu classes on the weekend and I also teach it on Wednesdays to my former co-workers now that I’m retired”; whereas Steven’s (late 50s) technical expertise was evident in the language used to describe his involvement in weight training “I was seriously involved in Olympic weightlifting in my

earlier years and competed in it at the national and provincial levels. Though I don't compete anymore, I still continue weight training today regularly. I don't do much squatting though because my knee joints aren't quite what they used to be. Now I tend to do more deadlifts than squats.”

Not everyone in the moderate group, however, possessed technical knowledge and skill in a specific sport or PA, but nonetheless, they applied personal effort to ensure they stay consistently active and motivated over time in order to avoid slipping into an inactive behaviour, as Leo explained (late 50s) “The hardest things about my fitness routine in my experience, is getting started after taking a few days off, but also getting started on a daily basis. It takes a lot of effort and motivation to stay consistent and have the energy to do my power-walking routine every day.” Similarly, Jordan (early 60s) highlighted:

I have a bit of a fear of stopping and starting up again in the sports activities that I like such as basketball and hockey and that motivates me to stay active. I see people my own age and they're out of shape, they're heavy and stuff, and it kind of motivates me not to stop, and make an effort to keep active.

Likewise, Orlando (early 60s) added “I always make an effort to stay active even when I go on vacation. I go to a hotel that has a gym. I go on the treadmills and I play golf.”

Exerting effort to maintain a persistent PA routine over time was also evident in Vanna's (early 60s) account:

I make an effort to go the gym approximately 6 days a week. I have about four Zumba classes, 1 or 2 Body Combat classes, and it goes in between. Sometimes I go in and I do the free weights; after my Zumba class, depending on what I need to work on. I hardly go long without exercising. I've never gone a week without it, because when I go away, I go to the gym at the hotel.

All participants in the moderate exercise group were involved in PA for general fitness, health, enjoyment, and the social aspect as a way to “stay physically fit” (Steffi), “feel better and healthy” (Ken), “to have fun and socialize with other people” (Neil) as opposed to focusing their leisure time and effort on developing their technical skills and knowledge in any particular PA, and pursue it as a serious leisure career, as Joe (early 50s) confirmed “I dabble in a lot of sports but not developing any kind of expertise in any of them”; while Jacob (late 70s) stated “There’s more to life than raising a barbell every morning and exercise. I just want to make sure my body continues to work and I look after it. I have other interests like I'm learning how to fly a new aircraft just so that I keep the machine operating upstairs. ”

Indeed, all participants in this category engaged in different types of structured and unstructured physical activities over the past decade, in a group and non-group setting, that varied by season and were able to name several activities they practice on a regular basis to maintain a physically active lifestyle. For example, Will (early 70s) described:

I go the gym and spend about five to six hours a week. I do spinning classes. Then I do the weight workout. I try to do that three to four times per week. Unless I go

out and ski, then I replaced it with something else. Generally in winter I would be skiing at least twice a week. If I'm canoeing I'm gone for the day. If I'm cycling in the summer I will be gone for half the day, at least. It varies a bit as to what the activity is and the timing of it all.

Theme 3: Pursued PA as a necessity for good health, enjoyment, and social interactions

Participants in the moderate exercise group emphasized the durable benefits of pursuing PA primarily as a necessity for good health, enjoyment, and social interaction. All participants stressed the need to pursue a consistent PA routine chiefly for general health reasons as the following participants highlighted: “Exercise for me really means a necessity for stress reduction, for feeling better, and more energetic.” (Joe, early 50s); while Will (early 70s) explained, “I exercise because there’s a certain well-being with it. Just having a certain level of fitness, allows me to do other things without necessarily hitting the barriers of pain and injury.” Similarly, Jacob (late 70s) acknowledged: “I don’t get a rush of endorphins when I do exercises. I do it because I’m disciplined and because it’s something that I need to do, for both the physical well-being and the mental well-being.” Likewise, Neil (early 60s) mentioned: “It’s a multitude of things. The realization that there were times when I was having heart beating or anxiety attacks. They don’t seem to happen now that I’m in a better shape. I don’t feel scared anymore. I used to dread going to see my doctor for my annual. My doctor loves me when I walk in for my annual now.”

In addition, participants stressed feelings of enjoyment as part of the benefits derived from their regular exercise participation. Enjoyment was influenced by participant's perceptions of the activity as being fun and pleasurable, which facilitated the process of adhering to their PA routine over the past decade. Statements such as "exercise can be fun", "I enjoy it", and "I like it", were frequently mentioned throughout participants accounts. Further, social interactions with others through PA enhanced motivation and feelings of enjoyment and promoted adherence to PA. Many shared the view of Neil (early 60s):

I don't like working out alone, I find it boring. I enjoy working out at the gym. More recently, I've been working out at home because the gym closed down. I can't handle it. At the gym, I see people and get motivated, and then you get to know people who are the same age and in the same situations, and that motivates me."

Similarly, Alice (early 60s) substantiated: "We have equipment at home to exercise; it's not fun because I'm alone. The social aspect is very important, to be with others, to have conversations with others. I've learned a lot through others, and I've benefited a lot from the energy of others. I often go on hiking trips in a group, like we went to New Zealand and Patagonia, we did the highest summit but I don't know if I would have done that on my own."

Theme 4: PA is an important aspect of their identity

Data showed that participants in this group used a series of statements to relate their physical activities to who they are. Recurrent statements appearing in participants'

accounts included “it’s part of who I am” (Ken, mid-60s) and “it’s in my DNA” (Phil, late 50s). Further, participants identified with their athletic pursuits through items they collected and their eagerness to talk about the physical activities they pursue. For instance, Vanna (early 60s) explained:

I love my Zumba workout classes. I have all the Zumba clothes. I have 13 pairs of Zumba shoes. I have a whole chest dedicated to Zumba clothes with all the blouses, and all the bottoms. I find that when you dress the part you feel better, so I like wear the Zumba wear when I’m working out; People know me now.

Further, participants reported that many of their acquaintances and friends were individuals they met in a fitness or sport environment and shared similar interest in PA, as Orlando (early 60s) states:

Most of my relationships are with people who are physically active like me. It’s just that when I go to the gym, the people who are there are active. I don’t go to bars, so I either go to the gym or I’m at home alone. The friends that I met at the gym, we’ll have barbeques; we play golf together. We’ll go to parties, so it’s a good friendship. If they need help, I’ll go help them build a shed [chuckles] and in turn, if I needed help, they’d come over.

Theme 5: Enjoy the subculture surrounding sports and physical fitness

Elements of unique ethos/subculture were evident when participants spoke of shared beliefs, values, and interests of the subculture associated with their fitness and sports’ world. For example, unique ethos emerged from participants’ discussions of their ongoing involvement in practices, competition, and post-game get-togethers with

teammates, and of the values surrounding their sports environment. For instance, Leo (late 50s) mentioned:

I've been playing hockey in the over 50s league for several years now. We get together for practices and we compete with others in my age group. It's so wonderful to be able to play with people who share the same interests and values about hockey, and are older like me. We always go out for drinks after and talk about our games, and our wins and losses.

Similarly, Jordan (early 60s) referred to elements that characterize the sports' subculture stating:

The sports I like to play are team sports like basketball and hockey. I enjoy the sense of camaraderie and solidarity with my teammates. I feel like I'm part of a community with likeminded people. However, the negative part of sports, I find, is that sometimes I play with people who are not very sportsmanlike.

Likewise, Phil (late 50s) emphasized aspects of the subculture that permeates the sports environment in which he is part of: "I play golf, squash, and other sports. Sports for me are an avenue to build relationships with some other like-minded people. You have these team bonds which make you feel part of a group and you're striving for a goal."

Those attending a fitness facility (e.g., a gym) regularly acknowledged that the gym or the physical fitness environment had a community feel and emphasized values of kindness and respect towards other members of the gym. For instance, Vanna (early 60s) mentioned: "If I go back to my Zumba dancing classes that I've been doing at the gym, it's almost like a community now"; whereas Joe (early 50s) referred to values of kindness

and respect stating “when I go to the gym. There are always the same people there, so I smile and say hello.” While Neil (early 60s) discussed etiquette rules associated with a desirable behaviour when attending a gym, insisting that “people shouldn’t be hogging the gym machines when other people want to use them, and should wipe them down after their workouts for cleanliness and out of respect for others.”

High Exercise Participants

High exercisers were found to be the most committed and serious type of exercisers compared to participants in the moderate and low exercise groups. The high exercise group consisted of 11 participants (2 females and 9 males). They rated exercise as 9 and above in importance (see Table 6). High exercisers demonstrated each of the characteristic of serious leisure as outlined in Stebbins’ (2007, 2017) theoretical framework: perseverance, leisure career, considerable personal effort, durable benefits, and unique ethos. All participants in this category considered exercise as a core leisure hobby and a central aspect of their life. They pursued a strict, planned, and highly structured PA regimen (at least 6 days per week), and regularly adjust their physical training according to the latest and greatest knowledge and techniques. Participants’ were found to incorporate various types of challenging workout routines including high performance strength training (e.g., science-based weight training programs), endurance sports training (e.g., endurance cycling and running), and advanced combat sport training (e.g., jiu-jitsu, karate), and various types of cardiovascular fitness activities that integrate the high intensity interval training (HIIT) protocol with the goals of maximizing performance and improving athletic skills/techniques. Most complemented their daily PA

routine with other sports activities (e.g., cycling, swimming, tennis, golf). All participants in this category have maintained participation in PA since their late adolescence or early adulthood years, between the ages of 17 and 21. Six of eleven participants attended a local fitness facility (e.g., gym) and the other 5 performed their daily physical training in home-based gyms. Statements illustrating the importance and centrality of exercise in the lives of high exercisers include the following: “I spend most of my free-time on my physical training (Albert, early 60s)”; “La structure de ma journée va autour de mon entraînement [the structure of my day goes around my training] (Stephane, mid-50s)”; and “I need to do four things every day, and if I don't do them, I will eventually die; that's eat, sleep, go to the washroom, and exercise. Tell me one you don't have to do and you will die” (Arnold, early 60s).

Table 6

Summary of PA data for the High Exercise Group

High Exercise Participants	Physical Activity Routine for the past 10+ years	Importance of exercise on a scale of 1 to 10*
Allen	Olympic weightlifting, WT**, endurance biking/spinning	9
Albert	Olympic weightlifting, WT, martial arts, circuit training, biking/spinning	10
Arnold	Weight Training, endurance biking/spinning, skiing, fitness classes	10
Ben	Weight training and fitness classes	10
Bruce	Weight training, Jiu-Jitsus, swimming	10
Ed	Endurance running	10
Gerry	Weight Training, endurance biking/spinning, skiing, classes	10
Jillian	Weight training and fitness classes, golf, Cross Fit	9
Line	Weight training and fitness classes	10
Peter	Weight training, Cross Fit, Karate, fitness classes, biking/spinning	10
Stephane	Weight Training, endurance biking/spinning	10
N=11		AVR***=9.8

Note. All participants were asked: on a scale of 1 to 10, how important is exercise to you?*1=least important; 10 = most important. **WT= weight training; AVR***= Average.

Six themes were identified for participants in the high exercise category associated with maintaining serious involvement in PA after age 50 1) Persevere despite facing barriers, 2) Exert significant personal effort to adhere to a strict, planned, and structured PA routine, 3) Consider PA as a Leisure Career, 4) Personal development and self-fulfillment as durable benefits, 5) Identified strongly with their PA pursuits, 6) Subscribed strongly to the physical fitness subculture.

Theme 1: Persevere despite facing barriers

This groups of participants persevered in their daily PA regimen despite facing difficult obstacles over the course of their physically active years. High exercisers discussed overcoming any barrier or challenge that stood in their way of performing their PA regimen such as lack of time, family and work obligations, injuries, illnesses, deaths, travels, harsh climate conditions, and other unexpected situations. Each shared detailed input on how they “stuck” with their physical training over the years ‘through thick and thin’ (Stebbins & Elkington, 2014, p. 18) and overcame obstacles that may have prevented them from maintaining participation in their daily PA regimen. For example, participants in this group echoed in some respect Gerry’s (early 60s) viewpoint:

I workout almost every day. I don't make any excuses not to exercise and never did throughout my life. My family always came first but I still worked around it and found time to stick to my workout program over the years. Even when I travel, I normally bring my bike with me, or if we go somewhere, let's say we went to a resort; it has to have a good gym so I can continue my workouts there every day. I even have a bike case so I can bring it on the plane when I travel. In Europe, it's easy to bike around. I just throw my bike on the train and cycle everywhere.

High exercisers believed in working around injuries, pain, and illnesses to sustain participation in their exercise regimen over time, and did not perceive them as constraints that would limit their continual participation in PA. Most discussed temporarily

modifying their workout after an injury to avoid skipping workouts or disrupting their PA routine, as the following participants explained:

For the last almost 10 years, I've had an injury every year from my high involvement in martial arts training: neck, back, knee, shoulder, or ankle. And every year, it took me from a month to eight months to recuperate. The last time was my lower back and that took one of the longest times, eight-nine months to sort out. I still trained every day around these injuries. I've just reduced the intensity of my training to make sure that I continue to do my martial arts routine every day. Then I do cardio, and I do resistance training with rubber bands/tubes. I found that I don't have joint problems anymore because of that. I've also went back to swimming. I'm not hitting the heavy boxing bag like I used to with all the impact because I have two broken fingers, a broken knuckle and I've got tendon issues on both sides of my hands from overuse from my training. (Bruce, mid-60s)

Similarly, Ed (early 50s) discussed maintaining participation in a running routine despite sustaining a serious injury: “Last year I broke my wrist while running. I slipped and fell on ice. I couldn’t run for a week, but to work around that, I was walking almost double the 10 km that I usually do running every day”; while Arnold (early-60s) captured the views of all participants in the high exercise group “I believe in working around injuries, not being an excuse to take a day off or a week off or two weeks off and do nothing.”

In addition, participants in this group acknowledged that they often pushed past fatigue, pain, illness, and injuries to complete their workout sessions, and found it difficult to take time off from their exercise schedule to allow for adequate body recovery. As the following participants indicated: “With a torn ACL, I did the 400 kilometers on my bike riding from Ottawa to Kingston and back; then after my training, I checked into the hospital and did the surgery on my knee (Peter, 60-year-old).”; “Sometimes I experience some burnout to get the best out of my performance but that doesn't stop me (Line, early 60s)”; Whereas Albert (early 60s) summarized:

When we get older the most important aspect of training is continuity... it is really easy to fall in the pattern where you skip a workout and change your routine... for example when I got injured, I always managed to train past my injuries... Of course I changed my routine when needed not to get injured even more... I suppose it is the same for fatigue and pain. I think it is not realistic to think that we are always on our A game... we need to train around it. For me, it becomes a project if not a challenge to find a way to keep training in more difficult periods. Lately I will purposely plan days off training as part of my routine, this way I feel that I convinced myself that the break is deserved, and it will help me come back to my training stronger and in a better training mood.”
(Albert, early 60s)

Further, for participants in the high exercise category, perseverance also meant making exercise a central aspect of their daily lives vis-à-vis other interests and priorities: For instance, Stephane (Mid-50s) explained:

Je me lève le matin et la première chose que je vais penser, c'est mon horaire d'entraînement. Pas mon horaire de nourriture ou d'autre chose. Quand je me lève je vais m'entraîner. Donc, t'as l'activité physique et puis t'as le reste. Des fois j'oublie de manger à cause de ça. [When I wake up in the morning, the first thing I will think about is my training schedule. Not my eating schedule or other things. When I wake up, I start my training. So, you have physical activity then you have the rest. Sometimes I even forget to eat because of that.]

Likewise, Arnold (early 60s) described: "I don't let my exercise interfere with socialization or any other obligation. I just fit it around. For example, today I got to workout earlier than I did yesterday because I have another activity going on tonight. I never make excuses."

Theme 2: Exert significant personal effort to adhere to a strict, planned, and structured PA routine

The majority of participants in this category were shown to systematically pursue a strict, planned, and structured PA routine involving specific dates, order, sequence, and specialized techniques to reach the highest possible levels of performance. All discussed purposely seeking physically challenging exercises that require considerable effort and time as well as special knowledge and techniques to accomplish. The following excerpts provide a glimpse into high exercisers' highly structured and rigorous PA regimen:

I workout 6 days a week; 4 days in a row and then 2 days. Usually when I plan my week and I do 2 or 3 training sessions in a day. So I'll wake up in the morning and I'll start with a spinning session of half an hour of high intensity interval

training. Then I'll do a martial arts circuit for about 15 minutes to work on basic skills and planks... and stuff like that. I'll do some stretching exercises. Then at night, I'll do my weightlifting training for an hour and a half. Then normally twice a week, I'll take martial arts classes, which is more specific in the club with a *Sensei* because I'm working towards another degree of black belt. All in all, on the perfect week, I'm looking about 19 and a half to 20 hours a week of training, but we have to qualify things. I'm not always pushing to the max. I would die, my body would die. (Albert, 61-year-old)

Similarly, Peter (60 years-old) detailed his structured and intense physical training plan:

I typically workout closer to 14 hours per week. Monday nights, I spend one hour playing ice hockey. Tuesday's, I spend one hour doing High Intensity Interval Training and one hour track, for a total 2 hrs. Wednesdays, I do 2 hours of arms and core training. Thursdays, I do 3 hours of chest training and stretching. Friday, I do one hour of HIIT and 2 hours back shoulders for a total of 3 hours. Saturdays, I rest. And Sundays I spend 3 hours on training my Legs. I also do a spinning class and flexibility exercises on that day.

Likewise, Gerry (early 60s) outlined his approach to PA training:

I do weight training at least 3 times a week. At each workout, my sessions focus on the whole body. I include core exercises in this component of my fitness regime. These workouts take me on an average 2 to 2.5 hours per session. I try to vary the exercises to challenge my body. That being said, I have 6 core exercises that I do at the start of each session: (1) Bench Press, (2) Incline Bench press, (3)

Behind neck shoulder press, (4) Upright rows, (5) Deadlifts, and (6) Squats. Then I add other exercises to complete my workout for variety in my program. If I cannot cycle outside on my Cardio days, I will do High Intensity Interval Training spinning classes. In this case, I might add strength exercises such as chin ups - 100, repetitions, wide grip pull ups-100 reps, and an intense core program that uses kettle bells, and weighted balls. I try to include these into my workout regime at least once a week on top of what I just explained.

In addition, participants in the high exercise group purchased books, magazines, and subscribed to online sites related to fitness training and sports nutrition, and perceived both exercise and nutrition as equally important in achieving ideal performance and body shape as they age. More specifically, high exercisers were shown to be highly driven and self-motivated to continuously improve their PA performance. Thus many indicated making deliberate effort to acquire new scientific-based knowledge and learn special techniques to optimize their workout performance, achieve the best physical shape, and delay physical decline. The majority of participants acknowledged having several reputable online or paper-based magazine subscriptions, and books on fitness training and health-related subjects to gain knowledge on the latest and greatest workout techniques and proper fitness and sports nutrition to increase the effectiveness of their PA training, as the following participants' statements highlighted:

I subscribe to independent sites like consumerlab.com. That's a very reputable independent site and Examine.com, phenomenal! I'm reading new workouts every day that come across my email, and new exercises that come out. There was as

many exercises as there are people working out. There are thousands of exercises. I read maybe 10 hours a week now about training and sports nutrition since I'm retired. (Arnold, early 60s)

Similarly, Jillian (early 60s) confirmed:

I read all the time. I get fitness magazines, I read them. Also, through my gym, I can take online fitness courses. I've been taking a few fitness online courses in the winter. I've done a couple on core training; I've read some articles on glutes. I guess in the winter, I try to do more continued education on fitness and exercise.

Likewise, Albert (early 60s) argued:

I was taught by a professional weightlifter to train in periods. Periodization is important meaning that I train more scientifically. So I plan and prepare for my workouts where I train myself to the ground (training to exhaustion) but then I'll adjust my other workouts accordingly to make sure I recuperate so I don't push all the time, otherwise I will die.

Theme 3: Consider PA as a leisure career

All participants in this category spent decades practicing and perfecting their technical skills, strategies, and knowledge in specific physical activities during their free-time and perceived PA as a leisure career, one outside of their paid occupation, as Bruce (mid-60s) explains: "To me, my professional work was a way to get me to the location where I would have a stable home and income, and then afterwards all my time was spent training in martial arts and perfecting my skills in it."

Most participants in this category reported accumulating rewards and gaining prestige over the years because of their intense and serious involvement in PA. The majority of high exercisers were ex-amateur athletes competing at various levels (local, provincial, national, and/or international levels), and at different stages throughout their adulthood years. Although most admitted quitting competition in their 40s and 50s due to high risk of injury, many described highlights from their serious involvement as amateur athletes who competed in championships up until their mid-40s and 50s. For instance, Albert (early 60s) discussed his leisure career as an Olympic weightlifter stating: “About 10 years ago, I competed as a Master Weightlifter. Today, I do Olympic weightlifting style training about 3 times a week, and I do weightlifting another 3 times a week because I find now that I’m moving on in age, my joints are not as strong as they used to be.”; while Stephane (mid-50s), an amateur cyclist, stated: “Il y a eu plein plein de trophées et de médailles que j’ai gagné pour des courses de vélo locale. Maintenant je fais du vélo, c’est facilement 4 fois par semaine. [There were plenty plenty plenty of trophies and medals that I won for local biking races. Today I still cycle, easily 4 times a week]”.

Likewise, Arnold (early 60s) indicated « I did competitive bodybuilding, I won Mr. Ottawa. Weight training is pretty much something I do everyday now with one day off a week max.»; while Peter (early 60s), a professional martial artist, reported « I've competed in martial arts-- I've won regionals, I've won provincials, and I've made it up to competing in nationals as a martial artist. Now I instruct and teach fighters that compete in MMA (mixed martial arts) fighting and I train myself consistently as part of my daily routine.”

Theme 4: Personal development and self-fulfillment as durable benefits

Exercise provided several lasting benefits to high exercisers that stemmed from their lifelong commitment and adherence to physical training. All viewed exercise as offering an opportunity for personal development and self-fulfillment as durable benefits. For example, Bruce (mid-60s) stated: “The more I practice martial arts and learn, the more it enriches me because it is literally a black hole for all the energy, all of the strength of mind, body and spirit you could give. The more you put into it, the more you get out of it.”; while Gerry (early 60s) indicated: “working out is the only time of the day throughout my whole life that I had for me. That's why I was so successful at work. I could sit and deal with a multitude of complex issues and be rational and think through outcomes. Exercise was a basis that helped other areas of my life. It continues to fulfill my life in so many ways”; whereas Line (early 60s) explained: “I feel a sense of accomplishment if I take up a new sport skill, like getting better eye-hand coordination.”

Theme 5: Identified strongly with their PA pursuits

In addition, data examined revealed that participants in this group identified strongly with their PA training and perceived it as a central feature of who they are as individuals. Most echoed Peter’s (60-year-old, m.) statement “It's who I am. Exercise is in my DNA”; while other distinct comments made included “I define myself based on my weightlifting, it is part of who I am” (Albert, early 60s). Identification was also evident in their eagerness to constantly talk about exercise and share their knowledge with others about the importance of working out since their physical training is integrated into their sense of self, as Jillian (early 60s) explained “I really try to encourage others to lift

weights when I talk to them. It's so important, especially as they age, and to lift heavier weights, none of this light stuff."

Theme 6: Subscribed strongly to the physical fitness subculture

High exercisers' spent the majority of their leisure time involved in PA. Analysis of interview transcripts showed that their life revolved around various physical fitness and sports locations, or natural environments where they can perform their physical training (e.g., gyms, bike or running paths, trails, golf courses), as Gerry (early 60s) stressed "I'm at the gym almost everyday and when I'm done working out, I take off biking for several hours in the summer. In the winter I take off for a few months to the U.S and pursue my activities there." Likewise, Ben (early-60s) explained "I'm at the gym 7 days a week. I do at least 14 hours of exercise"; whereas Line expressed:

I spend a lot of time in the gym almost everyday. Probably, I would say it's more than 10 hours a week. I'm also very involved in gardening and landscaping projects in the summer, but I don't count that as exercise. For holidays, my husband and I typically take sports themed vacations. For example, we would go on paddling, camping, and kayaking trips.

Further, elements of unique ethos/subculture were evident when participants spoke of a sense of fellowship, feelings of bonding, shared beliefs, values, and interests of the subculture associated with their fitness and sports' world. For instance, Bruce (early 60s) explained the importance of being part of a martial arts' subculture and adhering to its core values and beliefs:

One of our mottos is that we train for life. Our core values drive a lot of the martial arts that we do, honor, discipline, respect and friendship. They mean a great deal to our martial arts community. Our Fellowship is the guardian of the quality of what we do, guided by our values. These shared values bond us as a community of martial artists.”

Similarly, Allen (late 70s) discussed the spirit or character of the weightlifting subculture claiming: “We have a motto that represents our weightlifting community, “Think big and different. Lift big!” It means mind over body. I tell weightlifters that I train with ‘if you’re born small and weak; you’ll die small and weak, but how you look in between is up to you!’”

In addition, all participants in this group shared the philosophy and attitude that excuses for omitting/skipping workouts were not acceptable, and emphasized the importance of working around constraints (e.g., lack of time, other demands) to avoid missing workouts and adhere consistently to their physical training. All shared a similar view as Arnold (early 60s) “I do not believe in hiatuses, except when I go on a vacation, even then, I’ll always find a gym and do my workouts before happy hour or whatever because I just don’t feel right if I don’t train.”

Most found it difficult to take time off occasionally from their PA routine to focus on other interests and allow their body adequate recovery and rest, as Jillian (early 60s) disclosed: “I have talked to myself, and my husband has talked to me to tell me that it’s okay to do something completely different than working out for a week or two because

really, probably my body does need recovery and rest. I've told myself, "It's okay." I accept it, but my exercise training is always in the back of my mind when I'm away."

Similarly, Stephane explained:

Si je suis malade et je saute un entraînement, ça trotte dans ma tête. J'aime pas ça. Si je m'entraîne et je suis malade puis ma performance n'est pas bonne, J'aime pas ça. Mais au moins, je garde le rythme. J'ai eu 2 grippes cette année très très sévère. Donc avant Noël mon entraînement était, excuse le terme, F*ck all. C'était pas au niveau ou je voulais. Donc J'ai pris un pas en arrière. Mais au coup que ça c'est réglé je suis revenu. J'ai cette capacité là de revenir vite. Mais si je m'entraîne pas j'y pense constamment. [If I'm sick and I skip a workout, it keeps running through my head. I don't like it. If I train and I'm sick then my performance is not as good, and I don't like it. But at least I keep the pace. I had two flues this year that were very very severe. So, before Christmas my training was, excuse the term, F * ck all. It was not at the level I wanted. So I took a step back. But after I felt better, I bounced back quickly. I have this ability to come back quickly. But if I don't train I think about it constantly]."

Similarly, Albert (early 60s) stated:

I always maintained a training regime since I was 17 years-old. The longest I stopped training in my life was for 3 weeks when I was doing my PhD because at one point I was extremely exhausted, mentally and physically. And I felt so sluggish and out of shape, and yuk... that I went back into weight training and never stopped since.

In addition, all expressed similar attitudes surrounding the importance of proper workout nutrition and dietetics to maximize athletic performance, and maintain ideal body shape, as the following participants explained: “nutrition plays a big role for health and performance. Everyone who trains should eat properly. I watch what I eat. I cook, so I prepare my meals. I make my shakes and so nutrition is a big thing” (Peter, early 60). Similarly, Gerry (early 60s) indicated: I take protein powder and I make protein shakes because I don't get enough protein to build muscles and repair my tissues quickly, so I consider nutrition crucial to keep my daily training at an optimal level.”

Summary of Results of the Three Types of Older Exercise Participants

The determination of what makes a low, moderate, or high older exerciser is summarized and presented below in table 7. The table provides a comprehensive and quick comparison between the three types of older exercisers, and shows the distinguishing characteristics between them based on the analytical results discussed above.

Specifically, table 7 below shows that high exercisers are the most serious and committed types of exercisers compared to their counterparts in the low and moderate exercise groups. They typified Stebbins’ (2007, 2017) conception of serious leisure. Each rated exercise as a 9 and above in importance, and met neatly all six qualities of serious leisure—perseverance, effort, leisure career, identification, durable benefits, and ethos. They pursue a strict and planned PA regimen (at least 6 times per week); They consistently persevere despite facing constraints to maintain daily participation in their

PA regimen; High exercisers virtually never skip workouts and tend to fit other priorities and interests around their PA training; most preferred exercising alone, and are fully self-motivated and driven; further, they tend to continuously adjust or upgrade their PA training according to the latest knowledge and techniques to challenge their bodies and push the boundaries of their training to reach high levels of performance; they identify strongly with their PA pursuits, and are immersed in the physical fitness and sports subculture as their life revolved around their PA training; Most were also involved in professional coaching, training, or instructing others in PA to transfer their knowledge and expertise, as a way of contributing to the preservation and development of the physical fitness subculture; all maintained consistent participation in PA since late adolescence/early adulthood since PA provided a form of leisure career that included stages of skill development and achievements; Finally, high exercisers regarded their involvement in PA as a process for self-development and self-fulfillment, and for maintaining an optimal health state.

Further, table 7 illustrates that moderate exercisers regarded PA as an important leisure activity in their lives, but not the most dominant one, as in the case of high exercisers. They rated exercise as a 7 and above in importance, and are situated between serious (high) and non-serious (low) exercisers. Moderate exercisers demonstrated some dimensions of the serious leisure qualities, especially perseverance, personal effort, durable benefits, and identification. They exercised regularly (at least 3 times per week) and pursued a flexible PA schedule that combines some planned and non-planned fitness and sports activities (e.g., fitness classes, leisurely bike ride); they occasionally

persevered when faced with constraints, and tend to skip workouts on rare occasions to meet other interests/demands. Additionally, moderate exercisers were shown to have a low reliance on an exercise companion for additional motivation; Most were found to perform the same PA routine over time, as they felt more comfortable using the same skills, techniques, and abilities, and relying on their own experience, than learning and incorporating new techniques into their physical training; They identify strongly with their PA pursuits but are less immersed in the world of physical fitness and sports than high exercisers, as PA was not the most dominant leisure interest in their lives, but one amongst other leisure interests; Most took several years break due to life transitions and changing roles before re-adopting or reinitiating regular PA participation in midlife (40⁺), and onwards; They emphasized the importance of having fun, socially interacting with others, and maintaining good physical and cognitive health as reasons to sustain long-term PA participation.

Low exercisers are casual exercisers. They were the least serious or committed to maintaining regular participation in their PA regimen; as a result this group did not display any of the serious leisure qualities. Although low exercisers perceived PA as an important aspect of their lives, rating it as a 7 and above in importance, they differed in terms their actual PA participation behavior. All practiced PA casually, as other interests and priorities often took precedence over their PA routine. Most were involved in planned and non-planned fitness and sports activities, but were found to skip/omit workouts regularly in the face of other interests/demands. Furthermore, low exercisers were shown to have a high reliance on an exercise companion, trainer, instructor, or

others, for additional motivation in order to engage in PA, complete workout sessions, and return for future ones. All participants in this group preferred engaging in outdoor physical activities they grew up with (e.g., swimming, bike riding) than those picked up in the later years and performed in a gym environment (e.g., fitness classes, or weight training). Most took several years break due to life transitions and changing roles before considering increasing their PA levels around midlife (40⁺), and onwards; they stressed the importance of social interactions when participating in PA, managing weight, and improving their overall physical appearance as reasons to engage in PA, as illustrated below in table 7.

Table 7

Summary of Results of the Three Types of Older Exercise Participants

HIGH/SERIOUS EXERCISERS	MODERATE EXERCISERS	LOW/CASUAL EXERCISERS
Rated exercise as 9 ⁺ and above in importance*	Rated exercise as 7 ⁺ and above in importance.	Rated exercise as 7 ⁺ and above in importance.
Pursue a strict and planned PA** routine (at least 6 days per week).	Exercise regularly (at least 3 times per week); Pursue a flexible PA routine with planned and non-planned activities.	Pursue PA on an irregular basis as other demands/interests often take precedence; Pursue planned and non-planned PA.
Consistently persevere despite facing constraints to maintain daily participation. Virtually never skip workouts and tend to fit them around other demands/interests.	Occasionally persevere when faced with constraints and tend to skip workouts on few occasions to meet other interests/demands	Tend to skip workouts regularly when faced with other interests/demands.
No reliance on a PA companion, trainer or others; completely self-driven and self-motivated.	Low reliance on an exercise companion.	High reliance on an exercise companion for extra motivation to engage in PA, complete workout sessions, & return for future ones.
Regularly adjust/upgrade their physical training according to the latest and greatest knowledge and techniques.	Tend to perform the same PA routine over time as they feel more comfortable using their own experience than developing and integrating new techniques/skills into their PA routine.	Prefer engaging in outdoor physical activities they grew up with than those picked up in the later years.
Identify strongly with their PA pursuits & are immersed in the physical fitness subculture; Most were involved in professional coaching, training, or instructing others in PA.	Identify strongly with their PA pursuits but are less immersed in the physical fitness subculture than high exercisers.	Most took several years off due to life transitions and changing roles before considering increasing their PA levels around midlife (40+) and onwards.
PA provided a form of leisure career that included stages of skill development and achievements; PA is a central life interest and tends to dominate their leisure time.	Most took several years off due to life transitions before re-adopting regular PA participation again in midlife (40+) and onwards	Stressed the importance of social interactions, managing weight, and improving overall physical appearance as reasons to engage in PA.
All maintained consistent participation in PA since their late adolescence/early adulthood years (between ages 17-21 years).	Emphasized the importance of having fun, social interactions, & maintaining good physical and cognitive health as reasons to sustain PA participation.	Did not meet any of the six qualities of serious leisure.
Pursued PA for personal growth/development, self-fulfillment and for maintaining optimal physical performance.	Pursued PA primarily for its physical and cognitive health benefits, enjoyment, and social benefits.	Low degree of commitment or seriousness towards their PA regimen.
Met all 6 Serious Leisure (SL) qualities: perseverance, effort, leisure career, durable benefits, identification, ethos.	Met 4 of 6 Serious Leisure (SL) qualities: perseverance, effort, durable benefits, identification.	
High degree of commitment or seriousness to PA regimen	Moderate degree of commitment or seriousness to PA regimen	

Note. The table summarizes the results of the data analysis showing the three types of older exercisers with distinguishing characteristics and varying degrees of seriousness or commitment towards PA.

*Participants were asked to rate the importance of exercise on a scale of 1 to 10; 1=least important; 10=most important.

**PA=physical activity.

Most Commonly Practiced Physical Activities across the Three Exercise Groups

Results from the analysis revealed that the most common physical activities practiced regularly over the past 10-year period, or more, as reported by participants, were various gym classes (e.g. body combat, Pilates, yoga) and often combined these with self-directed gym fitness activities (e.g., free use of gym equipment) (20 of 30 participants). In addition, slightly more than half of participants (16 of 30) reported pursuing habitually strength training activities including weight training and Olympic weightlifting. Further, biking and spinning (biking indoors) were other common activities practiced by 11 of 30 participants on a habitual basis (See table 8).

Table 8

Most Commonly Practiced Physical Activities in the past Decade

Most Common Self-reported Physical Activities Practiced by Participants in the past 10+ years	Low Exercisers	Moderate Exercisers	High Exercisers	Total per Activity
Weight Training or Olympic weightlifting	1	5	10	16
Various gym classes &/or self-directed fitness activities	3	10	7	20
Biking/spinning	1	4	6	11
Swimming	0	2	3	5
Martial Arts	3	1	1	5
Power walking, Jogging, running	0	2	1	3
Walking regularly	1	2	0	3
Soccer	1	2	0	3
Golf	0	1	1	2
Squash	0	1	0	1
Badminton	0	1	0	1
CrossFit	0	0	2	2
Hiking	0	2	0	2
Hockey	0	2	1	3
Basketball	0	1	0	1
Skiing	1	2	2	5

Note. Above table shows the most common self-reported physical activities practiced by participants regularly over the past 10+ years.

III. The influence of long-term PA involvement on Participants' perceptions of wellbeing across the Three Exercise Groups

The following section discusses the themes identified that are linked to the impact of participants' decade-long involvement in regular PA on their perceived well-being. Results from the data analysis of all study participants' showed that regular involvement in long-term physical activity had multiple psychological, physical, and social health benefits that contributed to participants' overall perceived well-being. Six major themes emanated from the data (See table 9). These included: 1) positive effect on regulating or enhancing mood, 2) increased energy levels, 3) positive self-perception of physical body and overall visible appearance, 4) weight management through regular PA, 5) self-management of injuries and health conditions through PA, and 6) maintaining high social engagement through PA.

Table 9

Themes Associated with the Influence of PA on Participants' Perceptions of Wellbeing

Themes
1. Positive effect on regulating or enhancing mood
2. Increased energy levels
3. Positive self-perception of physical body and overall visible appearance
4. Weight management through regular PA
5. Self-management of injuries and health conditions through PA
6. Maintaining high social engagement through PA

Theme1: Positive effect on regulating or enhancing mood state

Data revealed numerous psychological benefits resulting from participants' adherence to regular exercise over the past decade. The value derived from PA was evident as participants reported how their long-term involvement in PA has had a significant positive effect on regulating or enhancing their mood state, reducing stress and minimizing depressive symptoms, which increased their ability to better manage other spheres of life (e.g., work, family) and carry out activities of daily life more productively. For instance, Ben (early 70s, non-retiree, m.) explained that long term participation in PA has helped him attain a positive mood state: "For me exercise releases a lot of frustration and reduces stress." Similarly, for Peter (early 60s) psychological effects of regular PA included alleviating depression and inducing a feeling of euphoria, "exercise gives me the high. It also plays a role of therapy. The weight training and the fighting in martial arts that I do all became a habit to release endorphins to avoid going into a deep depression", while Vanna (early 60s) elaborated on the influence of regular PA in producing positive biochemical effects and reducing instances of unhappiness (feelings/sensations): "It keeps my serotonin going so there's no sadness."

Improved mood state and emotional stability were also apparent in Gerry's (early 60s) account, "Exercise gives me calmness, when things are bothering me or there's a problem, if I exercise then things seem to go away. I can think clearer. It's good for my mental health as well as my physical health". Likewise, Will (early 70s) shared the views of most participants on the ability of PA to energize and activate a more positive mood state and support the general well-being: "Exercise gives a sense of being alive. There's a

certain wellbeing with it. Just having a certain level of fitness, and allows one to do other things without necessarily hitting the barriers of pain and injury. It allows that versatility.”

Theme 2: Increased energy levels

The mood enhancement effect derived from regular PA was found to directly correlate with increased energy levels from the examined data that influenced the general wellbeing of participants. All participants agreed that their involvement in regular PA made an important difference on their energy level that resulted in a plethora of intertwined physical and psychological benefits. Statements such as “I rarely get sick.” (Joe, early 50s); “I have a strong immune system because I exercise.” (Peter, early 60s); (Neil, early 60s); “I can sleep better at night.” (Neil, early 60s); “I’m more productive” (Phil, late 50s); “I have energy and vitality during the day. I don’t feel that I have to sit down and take a rest like other older folks my age” (Line, early 60s); “It makes me feel better and stronger.” (Ed, early 50s); and “Exercise helped me get through menopause. I’m happy, I embrace life.” (Steffi, early 60s) highlight the salient role of regular PA in enhancing participants’ energy level to combat fatigue, improve sleep, maintain higher functional ability in their daily lives.

Theme 3: Positive self-perception of physical body and overall visible appearance

Maintaining fit and healthy bodies through adherence to regular PA impacted participants’ perceptions of their physical body and overall appearance in a positive way. PA was shown to reduce perceptions of body dissatisfaction and concerns about visible

physical changes associated with aging. The majority of participants reported feeling a sense of satisfaction and pride in their body and had more favorable views of themselves as a result of their long-term adherence to PA, leading to enhanced overall well-being. For example, Neil acknowledged: "I'm not embarrassed to take my shirt off. Before I started exercising years ago, I was. Now, I don't mind. I get dressed in a suit and I don't think about it. I'm proud that I still wear a 36 inch pants at the age of 62. That's what I wore in high school. Not many people at my age can say that." Similarly, Bruce proudly admitted: "I'm 64 and I have six-pack Abs. I work at it every day to do that. I hear people say, "I can't this; I can't that," I just say to them: "Really?" It's possible, you just need to exercise."; while Stephane (mid-50s) substantiated "D'être capable de maintenir un corps en santé à un âge où peut-être 90% des gens n'ont pas le corps qui pourrait avoir, c'est motivant pour moi parce que ce qui se passe en dedans je ne le vois pas, mais le résultat à l'extérieur je le vois, et c'est encourageant. [To be able to able to maintain a body in good health at an age where about 90% of people don't have the body that they could have is motivating to me because I don't see what happens on the inside, but I do see the results on the outside, and it's encouraging.] »; similarly, Line (early 60s) captured the views of many participants stating: "I have good days and I have bad days, but I accept my wrinkles. It's part of aging. What I value more is my ability to be more physically active and pain free."

Some participants, however, were less accepting and welcoming of changes in their physical appearance but acknowledged that maintaining adherence to regular PA

assisted in alleviating some of the concerns and worries about visible signs of aging related to their physical appearance and body. For example, Jacob (late 70s) disclosed:

When I stand in front of the mirror, I see the changes in my body. They're not all that attractive. I see the flesh beginning to hang loosely on the skeleton. I'm making an effort to keep my weight steady. Obviously, it's not a happy time when you see the wrinkles. I've never really been the beach type with the muscles. It's just not my physiology, but I do notice aging and it bothers me at times when I see the changes in the bodily structure. Exercise helps but it will not reverse that. But I continue to do it and will collect whatever benefits come out of that.

Likewise, Lea (early 50s) divulged “I’m not as satisfied with my body as I used to. Let's be honest. Before, exercise used to be for fun. Now, it's for necessity because of the changes that I see.” Whereas (Alex, early 50s) revealed “I worry about aging and the changes that are happening to my face and body. I think everybody does no matter what they say. So I try to keep myself in shape and give myself the best chance to staying healthy”; Similarly, Will (early 70s), acknowledged that in terms of age-related physical appearance alterations, “It's a surprise. You don't realize how time has flown.”

Theme 4: Weight management through regular PA

The majority of participants acknowledged the benefits of long-term adherence to PA as an effective approach to control body weight and maintain stronger, leaner, and healthier bodies. Statements such as “the scare of being fat is what keeps me working out” (Albert, early 60s); “losing weight and keeping it off is what motivates me to exercise” (Helena, early 50s); “It’s a way to keep my weight down.”(Leo, late 50s); “I

just never want to be heavy” (Steffi, early 60s), and “it controls my appetite as one of the big benefits of exercise” (Steven, mid-50s) illustrate the centrality of regular PA in participants’ daily life in terms of controlling their body weight as they age to maximize the health benefits.

In addition, many participants shared stories of how maintaining a healthy weight and a physically fit body has helped them develop the physical strength, balance, and flexibility necessary to avoid or reduce muscle weakness, ailments, and other emerging or existing functional impairments associated with aging. The following excerpts provide a glance into the role of regular PA in improving participants’ physical functional abilities to perform daily activities at an optimal level.

Exercise made my body stronger and more flexible. One summer, I fell down and almost hit my face in the backyard on the deck. I tripped and fell; and instead of falling down and hurting myself; I fell and went straight on my hand and came right back up without hurting myself. So, it’s very important to exercise, because it made my body stronger, otherwise I could fall and easily hurt myself. Also, I find that the more I move, the more flexibility I have. (Vanna, early 60s)

Similarly, Phil (late 50s) declared: “A couple of years ago, I started having some bouts of chest pain and it was very highly correlated to stress at work. Through the number of experiences I’ve had with this, I found that going to exercise just washes away all the stress and all the pains go away”; whereas Ben (early 60s) explained: “I have arthritis in parts of my body, in my shoulders, my hips, my knees, but strengthening my

muscles through exercise has helped me a lot. I don't feel old"; likewise Orlando (early 60s) reported "I have a bad knee. I've got the meniscus done twice, but it doesn't bother me doing the step master and other exercises. They actually help to keep my knees strong so I can function better every day and enjoy my life."

Theme 5: Self-management of injuries and health conditions through PA

Interview data have shown that the majority of participants often utilized PA as a means to actively manage their own injuries and health conditions to speed up recovery and decrease future health issues. For instance, Alex (early 50s) explained:

I hurt my shoulder playing sports, the doctor recommended surgery, but surgery had a risk of having my arm stuck in one position for the rest of my life. I didn't want to take that risk, so I decided to do weight training instead to strengthen the muscles around the weak joints. That made most of my pain and symptoms go away. My shoulder is pretty strong now and works normal.

Line (early 60s), who has had two knee operations by the age of 50, discusses her self-management approach to treating knee limitations through regular PA. She explained:

I've had this knee issue for quite some time. I now do a lot of strengthening and stabilizing exercises which seem to have managed my knee issue. I have done physio on and off before, but now I only manage it myself with strengthening exercises. I do it with a resistance band. Primarily, I do exercises to strengthen my legs and my glutes areas and also stretching the hamstring glutes. Basically, all the quad area for stabilizing the knee. So I only manage the knee issue myself with strengthening exercises.

Similarly, Joe (early 50s) described self-management strategies to address knee and back conditions through regular PA to reduce complications and improve healing:

I tore my ACL and recovered from that. Those injuries gave me the opportunity to become almost the fittest I've ever been in my life because I had to go to the gym to recover from the injuries. I'm going quite regularly. I try to go three times a week. I do some floor exercises and then some cardio, a lot of cardio on the elliptical trainer or treadmill and those kinds of things. For the floor exercises, I do calisthenics on the mat with the exercise ball or pushups or stretching different ways because I also have pretty severe back problems so I have this set of exercises that helps keep my back problems in check.

Likewise, Gerry (early 60s) described utilizing PA as a means to regain functional mobility following a major surgery:

When I had my hip replacement I continued to workout at the gym. I had my wife drive me directly from the hospital to the gym the day I was discharged. I used the Keiser training machines which use air instead of iron weight so I could sit down and exercise without lifting up weights to put on a machine because that could have been very problematic given the hip surgery that I just had. Then I started doing leg extensions with no weight and then I added a 2.5 pound weight, then I worked my way from there to build on my quadriceps and I did that every day and I added more weights to it. By the time I had to go for physio, my physiotherapist said, "you're already way past where you're supposed to be." Then I would ride in my basement my stationery bike, because I always believed that when you have an injury, the best thing to do is get blood to the working area. By cycling, I was building up my quadriceps. It was allowing blood to go through, so my recovery from the hip replacement surgery was much quicker.

Self-management through regular PA was also apparent in participants who suffered from more serious chronic health conditions (e.g., Type 2 diabetes, cancer, osteoarthritis) and were seeking to improve symptoms and complications on a day-to-day-basis. For example, Neil (early 60s) expressed:

I have a condition called Crohn's disease. It can happen at the digestive system or at the bottom. Mine is at the bottom. Lucky me, I have an ulcerated rectum full of wounds. I'm still bicycling and working out at the gym almost every day to manage this problem. Most people would have just given up, but I face it head on with a consistent exercise routine and proper nutrition.

Similarly, Vanna (early 60s) shared:

I was diagnosed with Type 2 diabetes after my first marriage, so I always make sure that I exercise. The last time I went to the doctor he told me that it's almost like I don't have this health condition anymore. So I just do the right things including exercising religiously to help keep my blood sugar levels at a good steady state.

While (Rob, mid-50s) explained his proactive approach to addressing a problem associated with a health condition:

After my first round of Chemo and I've had some time to recover I knew I had to go in for an operation. That's when I started exercising again. I hired a personal trainer because I wanted to go into the operation healthy and fit. So I approached it the same way I would've have approached a sporting competition. I wanted to be in the best shape I could be so I can bounce back quickly. That was quite

successful just in terms of how I managed to go through the operation and get back on my feet, and get strong. I attribute that to exercise.

Data from participants' accounts also revealed that involvement in long-term PA has helped them detect health issues before their conditions worsen. For instance, Rob (mid-50) indicated:

As exercisers we tend to know our bodies well. As a result I realized that something was wrong as I was not able to do what I was able to do before which may have led me to see my doctor perhaps a little earlier than if I led a sedentary life where I would not have pushed myself physically and maybe not realized that something was not right. So exercising really helps to detect and notice problems with our bodies when non-exerciser might not notice until it's too late.

While, Jordan (61-year-old, m.) explained:

I had a heart rate where I was missing beats in between. Since I was playing sports, I was finding out through my sports that this health problem existed. My heartbeat would come on and then go away and then come on, go away; So I knew there was something wrong with me. I went to see the doctor and they put a pacemaker in me. After that my heartbeat became pretty regular. It's been great since. I'm back to my old self. I'm still heavily involved in my regular sports and exercise activities every week.

Theme 6: Maintaining high social engagement through PA

In addition to psychological and physical benefits associated with long-term exercise, participants reported gaining social benefits from meeting others in sports and fitness settings. PA was believed to result in social benefits in terms of meeting other like-minded individuals, making friendships, providing a common conversation point, being part of a community, and decreasing feelings of loneliness, that led to increased

enjoyment and adherence to long-term PA. For many participants, socializing with like-minded people was perceived as a vital element of maintaining involvement in PA. Statements such as “PA helps my social life” (Vanna, early 60s); it’s like a community (Bruce, early 60s); “I’m alone at home so the golf course, the gym, and in Jiu-Jitsu are the only places where I socialize a lot.” (Orlando, early 60s); “After playing sports, I stay to talk and interact with people I play with. (Ed, early 50s); “I enjoy the social aspect. It's important. It's one reason that I do these activities and why I do it with groups of people. I enjoy talking and chit chatting with people.” (Will, early 70s); and “part of what I do in terms of exercise and sports is the camaraderie” (Jordan, early 60s), illustrate the positive contribution of PA involvement to participants’ social life.

Chapter 5: Discussion

The purpose of this dissertation was to examine factors predicting the adoption and long-term maintenance of PA after age 50, and to investigate how long-term commitment to PA influences older adults' perceived wellbeing. The current study found that the most significant determinant to later involvement in PA among participants was high participation early in life, from childhood to late adolescence or early adulthood, and that a high level of PA involvement during that period, especially when pursued consistently, predicted regular PA in the later years. More specifically, the current findings suggest that those who engaged the most in a board range of physical activities, spontaneous or planned, formally organized or unorganized from childhood to late adolescence/early adulthood, and perceived PA as fun and enjoyable earlier in life were those who were the most physically active in the later years, falling into the high and moderate exercise groups. This suggests that past high or repetitive participation in a variety of physical activities at an early age is a strong influencing factor to future PA involvement. These results are consistent with previous research findings associating early life PA with later participation (Aggio et al., 2018; Dishman et al., 1985; Hirvensalo et al., 2011; Howell and McKenzie, 1987).

Another factor found in this research to influence the adoption of PA in the early years of life is non-restrictive parental behavior. This study's data show that having non-restrictive and non-controlling parents contributed to participants' sense of freedom and autonomy that increased their opportunities to be active in youth and explore freely a

plethora of physical activities without parental interference in their preferences and choices. Although existing studies show mixed results on this subject matter, some studies have indicated that less parental control and involvement is linked to higher future PA levels, as parental interference often induces unnecessary pressure, unrealistic high expectations, and fear of failure in youngsters, that may decrease their intrinsic motivation, enjoyment, and perceived self-competence, and increase their risk of dropping out of sports and becoming sedentary in the future (Brussoni, Olson, Pike, & Sleet, 2012; Brussoni et al., 2015; Little & Wyver, 2008; Ross, Clifford, Mallet, & Parkes, 2015; Salla and Michel, 2014).

Moreover, a common finding from this research revealed that family socioeconomic status (SES) did not have a strong impact on participants' level of PA participation in youth, as the majority of participants indicated growing up in traditional one-income households with busy stay-at-home-mothers, and little discretionary income to allocate towards extracurricular athletic programs. Instead, the current study found that high level participation in athletic activities in youth was directly tied to less restrictive parental behavior, as discussed earlier, which allowed participants the complete freedom to engage in activities of their own choices and preferences, away from parental control and gaze. This contradicts several research findings confirming that family's SES, particularly income, has a direct negative effect on child's participation in athletic activities (Elmagd, Tiwari, Moussa, & Tiwari, 2018; Holt, Kingsley, Tink, & Scherer, 2010; Humbert, Chad, Spink, Muhajarine, & Anderson, 2006).

Additionally, the researcher observed that PA involvement declined sharply after leaving high school, particularly for the low and moderate exercise participants, due to major life changes including the transition to post-secondary education, employment, and parenthood. This finding correlates with numerous studies suggesting that PA levels tend to peak during adolescence and early adulthood, and decline from that period onward (Allender et al., 2008; Baker et al., 2009; McKee et al., 2015). Surprisingly, however, high exercisers were found to maintain high levels of involvement in PA throughout their life-course despite experiencing life transitions and facing obstacles and challenges as a result of prioritizing PA vis-à-vis other interests and demands.

Moreover, this study found that participants who fell into the high exercise category were those who were highly involved in formally organized sports activities and had competed at various levels (e.g., local, national or international) throughout their youth and at diverse stages throughout their adulthood years, up until their 40s and 50s (e.g., competitive cycling, Olympic weightlifting, martial arts). Sport socialization studies revealed similar evidence suggesting that involvement in organized competitive sports earlier in life was a strong determinant of maintaining high PA levels in old age (Dishman et al., 1985; Hirvensalo et al., 2000; Hirvensalo & Lintunen, 2011; Telma et al., 2005).

Further, results from this research suggest that all participants across the three categories— low, moderate, and high— were found to maintain continuity in their favorite physical activities discovered earlier in life between childhood and late adolescence/early adulthood (between 6 and 21 years of age). This suggests that there is a

direct association between the types—and not just the levels— of physical activities practiced in the past and those continued in the later years. For example, the current study found that participants who preferred swimming as children have incorporated swimming into their PA routine as they aged. This means that as individuals age, they strive to maintain continuity in preferred activities practiced in the past. This is a crucial finding as it underscores the importance of promoting PA behavior in individuals as young as possible, as the activities they choose in the future are often based on past choices and preferences from the early years. Indeed, several studies have emphasized that older adults are more likely to maintain continuity in past habits and activities that they find meaningful and important to them than taking up new activities in old age (Gibson and Singleton, 2012; Nimrod & Janke, 2012). Moreover, according to the continuity theory of aging, preserving involvement in familiar activities is the most common strategy in adapting to the aging process, as it provides agers with a sense of security, comfort, and stability linked to earlier positive experiences and memories (Agahi, Ahacic, & Parker, 2006).

Age was also found to affect reasons why participants engage in PA in the later years. In particular, the current study shows that motives to exercise varied by age. For example, participants in their 50s, regardless of their gender or levels of physical activity, placed more emphasis on improving their overall physical appearance including weight control and toning as reasons to exercise, whereas those in their 60s and 70s were more concerned about managing existing health conditions or preventing future ones from arising as major reasons to maintain long-term PA involvement. Although improving

physical appearance is important to all agers, research supports the finding that reasons to exercise change as individuals advance in age, and suggest that worries about body satisfaction image may become less prominent as individuals advance in age and health issues become a growing concern, especially given that the risk of chronic diseases and other limitations increase with age, which affects the motives of PA participation among younger and older agers (Brudzynski & Ebben, 2010; Homan & Tylka, 2013; Molanorouzi, Khoo, & Moris, 2015; Trujillo, Brougham, & Walsh, 2004).

Gender differences were also found in the habits of physical activity performed between male and female participants. Female participants in this study were more likely to engage in group-based fitness classes to increase motivation and social bonding compared to their male counterparts who practiced more individual-based fitness activities. This observation supports existing evidence suggesting that overall women were more likely to exercise with others than alone, and attributed the diverging habits to several perceived and actual barriers including lower patterns of PA in childhood, lower perceived competence in PA, and feelings of embarrassment and unease (Fisken, Keogh, Waters, & Hing, 2015; Lee, 2005; Stahl & Albert, 2015; Tinker, Molloy, Monks, Pennells, Russel, & Haines, 2017; Uffelen, Khan, & Burton, 2017).

In addition, findings from this study point to three distinct categories of older exercise participants with varying degrees of seriousness or commitment towards their PA regimen (see table 7). High exercisers are lifelong exercisers and intensive performers to whom PA is a central life interest and meaningful core hobby in their lives, and were shown to be the most serious and committed types of exercisers compared to their

counterparts in the moderate and low exercise groups. They typified Stebbins' (2007, 2017) principals of serious leisure, and matched neatly all six qualities—perseverance, effort, leisure career, identification, durable benefits, and ethos. Although, high exercisers were shown to no longer engage in athletic competitions like master athletes do, they displayed similar traits, as evident in several studies on master athletes (see Dionigi et al. 2011; Horton et al., 2018; Horton, Dionigi, Gard, Baker, Weir, & Deneau, 2019). These traits consist of: continuously striving to maintain and optimize their physical activity performance and the special skills required to achieve the highest possible levels of performance; spending the majority of their leisure time immersing themselves in the physical fitness and sports subculture. They continuously interact with likeminded exercisers pursuing the same physical activities, training ethics, and discipline; High exercisers rejected excuses for omitting or skipping workouts and regarded their physical skills, competence, and sport as an inherent part of their identity. In addition, high exercisers believed that individuals are mainly responsible for their own health, and are capable of controlling their biological aging process through intense exercise involvement and the regulation of one's diet. This observation suggests that high exercisers demonstrate a keen understanding of the role of PA in achieving healthy independent lives, and embrace discourses on Active Aging (Walker, 2002; WHO, 2002) that sees physical activity and a “busy body” (Katz, 2000) as a normal part of aging.

Moderate exercisers, on the other hand, regarded PA as an important leisure activity in their lives, and are situated between serious (high) and non-serious (low) exercisers. They met four serious leisure qualities: perseverance, personal effort, durable

benefits, and identification. PA was not the most dominant leisure interest in their lives, but one amongst other important interests; Most took several years break due to changing roles before re-adopting or reinitiating PA participation again in midlife (40+), and onwards. Findings on high and moderate exercisers contribute to the argument that age is not an important determinant of high levels of physical activity participation at old age, but rather whether individuals find physical activity meaningful, enjoyable, interesting, and fulfilling enough to invest their time and effort in pursuing it routinely (McPhee et al., 2016; Tucker, 2017).

Low exercisers, on the other hand, were found to be casual or irregular exercisers. They were the least serious or committed to maintaining regular participation in their PA routine. As a result, this group of participants did not meet any of the serious leisure qualities. Although low exercisers perceived PA as an important aspect of their lives, they differed in terms their actual participation behavior. More specifically, PA was perceived more as a chore or a task than a meaningful and intrinsically enjoyable pursuit, often skipping workouts in the face of other demands, and when an exercise companion was unavailable to accompany them. Findings on low exercisers are in line with several studies examining low participation in older age, and suggesting that there is a strong link between lack of adherence to PA and lack of intrinsic motivation, enjoyment, and interest to pursue PA regularly (Bruun-Pedersen, Serafin, Maculewicz, & Kofoed, 2016; Ryan & Deci, 2009; Wang et al., 2003).

Given the difference between the three exercise groups, this study has shown that participants can be committed to long-term physical activity involvement with various

degrees of seriousness ranging from low to moderate and high, with low being occasional (or casual) participants in PA and high being the most serious about their PA involvement. Stebbins' (2007, 2017) serious leisure framework distinguishes clearly between *casual* participants—those being unserious about their commitment towards a leisure activity— and *serious*, those being highly dedicated towards their leisure pursuits, but fails to account for moderate participants. This study, however, revealed that leisure participants may develop a moderate level of dedication towards their leisure pursuits, and follow a meaningful leisure activity routinely over a prolonged period of time (e.g., 10+ years) as part of their lifestyle, but without necessarily fitting in neither category, *serious* or *casual*, but rather, they may fit in an entirely new category called *moderate* leisure participants, which can be situated somewhere between the “seriousness and casualness” continuum (Stebbins, 1992, p.6).

Effects of Long-term Participation in PA on Perceived Wellbeing

In terms of perceived wellbeing resulting from participants' decade-long involvement in PA, this study demonstrated that all participants benefited from their involvement in PA at the physical, mental, and social levels. All recognized the benefits of PA in reducing stress and enhancing mood state, increasing energy, improving self-image, controlling weight, self-managing injuries and health conditions, and cultivating social connections. These aspects are particularly important as individuals advance in age and begin to face greater health issues. The analysis of this research has also shown that perceived benefits derived from long-term participation in PA varied within each exercise group—low, moderate, high. For example, those in the low category exercised

as result of seeing unwelcomed physical transformations happening to their bodies due to aging, and thus were interested in slowing down the aging process through exercise, mainly at the physical and appearance levels (e.g., reducing body weight, improving the look of saggy skin, toning). Body image literature concerned with the appearance of the aging body support the latter finding suggesting that it is through visual signs of the aging body that older adults begin to notice the physical realities of growing older, particularly in anti-aging societies that idealize youthfulness and beauty (Clarke & Korotchenko, 2011; Hurd, 2010; Slevin, 2008). Further, this study found that while low exercisers were more interested in achieving a more satisfactory body image, most of them were more likely to exercise in a group setting and with an exercise companion as the social aspect was a critical component to increase motivation to exercise and socialization opportunities. Numerous studies confirm the impact of engaging in exercise with others to increase commitment and adherence to an exercise regimen and cultivate relationships (Feltz, Kerr, & Irwin, 2011; Irwin, Scorniaenchi, Kerr, Eisenmann, & Feltz, 2012; Rackow, Scholz, & Hornung, 2015; Wing & Jefferey, 1999). For instance, a study by Wing and Jeffery (1999) on the benefits of engaging in an exercise program with others found that 95 percent of those who began a four-month exercise program with a workout companion completed the program compared to 76 percent of those pursuing the program alone. Other studies demonstrate that engaging in exercise with a partner increased exercise frequency, duration, and intensity levels, particularly when a workout partner is encouraging and emotionally supportive (Irwin et al., 2012; Rackow et al., 2015).

Moderate exercisers were also shown to have similar concerns about their aging bodies, but placed greater emphasis on exercise as a way of self-managing existing health conditions and avoiding future ones from arising, as well as maintaining a healthy body weight to lower the risk of developing diseases and functional mobility issues associated with older age. Most in this group described suffering from various health conditions requiring medical attention such as cancer, Type 2 diabetes, crones, heart arrhythmia, arthritis, osteoporosis, and some minor genetic disorders, and employed exercise as a self-management approach to improve their health outcomes. According to research, the self-management practice has been increasingly recognized as a topic of importance in the medical and social sciences fields whereby clinical and non-clinical populations affected by a certain health condition become active participants in their own treatments through healthy lifestyle adjustments such as exercise and diet (Barlow, Sturt, & Hearnshaw, 2002; Grady & Gough, 2014; King, Estabrooks, Strycker, Toobert, Bull, & Glasgow, 2006).

High exercisers were more interested in using exercise as a vehicle to continuously challenge and improve their body performance and maintain it in an exceptional physical form and function, regardless of their chronological age. This group seem to have fewer concerns about physical health issues as the majority described not having any major diseases and health problems requiring medical care, but were found to suffer more regularly from injury resulting from their physically demanding workouts, compared to their counterparts in the moderate and low exercise groups. While this finding indicates that high participation in PA in later years is positively correlated with

better health outcomes in terms of lowering the risk of health diseases, it does underscore the negative consequences of maintaining consistent involvement in intensive physical activities, namely increased risk of exercise-related injury. Research on older athletes supports the latter finding reporting that master athletes had significantly higher rates of injury but lower prevalence of chronic disease due to their continuous involvement in vigorous activities (Fien et al., 2017; McKean, Manson, & Stanish, 2006; Patelia, Stone, El-Bakri, Adli, & Baker, 2018).

It is important to note however, that while vigorous involvement in physical activity among high exercise participants increased their risk of injury, many preferred maintaining a physically active lifestyle as the benefits of being continuously physically active outweighed their potential risk of developing age-related diseases from physical inactivity, or minimal activity. According to Kallinen and Markku (1995), injuries from exercise and sports are common among older adults involved in physically demanding activities that require high coordination, reaction time, repetitive movements, and balance capabilities. The majority of sports and exercise injuries (acute and overuse), however, can be treated by a brief cessation of physical training, and the use of active treatment (e.g., stretching and strengthening exercises to speed up the healing process), and rehabilitation with compensatory exercise therapy immediately following the injury to speed up recovery and return to normal physical activity regimen slowly (Kallinen & Alén, 1994; Pons-Vilanova, 2010).

Another key observation emanating from this study shows that both male and female participants were equally concerned about changes in their physical appearance

and body image due to aging, whether it is the development of saggy skin, hair loss, graying hair, wrinkles, or difficult to remove fat. This contradicts numerous studies suggesting that mostly older women are concerned about their body image and maintaining youthful appearance, and that men's dissatisfaction with their aging bodies and outer look was an uncommon problem (Demarest & Allen, 2000; Kilpela, Becker, Wesley, & Stewart, 2015; Paxton, Phythian, 1999; Sabik, 2017). By contrast, this study shows that both genders had similar worries linked to age-related transformations in their appearance and body, and were found to be equally susceptible to negative feelings about their body image and physical appearance due to aging. This finding correlates with Furnham, Badmin, & Sneade (2010), Baker and Gringart (2009), Oberg and Tornstam (1999), and Reddy's (2013) results revealing that older men are just as prone to feeling dissatisfied about their body shape and overall appearance due concerns about age-related losses as well as societal ideals of beauty and ageist attitudes that promote worries about one's appearance, which ultimately impact men's self-esteem as they age (Baker et al., 2009; Mulgrew & Cragg, 2015; Lagacé, 2015).

The Relationship between Income, Education and Higher PA Levels

An interesting observation of the current research found that there is a direct link between higher participation levels and SES in all three categories of older exercisers (low, moderate and high), particularly on the indicators of income and education levels. This study shows that the majority of participants reported having an average income of \$75, 000 or more, and that the higher their income level, the higher their exercise category. For example, those who reported earning over \$75, 000 in annual income were

those who fell into the moderate and high exercise categories and held a minimum of a bachelor's degree. Our findings are closely related to a recent study by Shuval, Li, Gabriel, and Tchernis (2017) indicating that compared to adults with an annual average income of less than \$20, 000, those with an annual income of \$75, 000 or more participated in an additional 4.6 daily minutes of moderate-to-vigorous intensity exercise.

Indeed, numerous studies indicate that exercise behaviour among older adults varies based on income and education (Barnett, Gauvin, Craig, & Katzmarzyk, 2008; McPhee, French, Jackson, Nazroo, Pendleton, & Degens, 2016). These studies found that aging adults in higher socioeconomic positions are more likely to maintain high exercise participation over time compared to less affluent and educated older adults. More specifically, Biernat et al. (2015) showed that the likelihood of meeting the WHO physical activity guidelines (150 minutes per week of moderate-to-vigorous exercise) was twice as high for those with a higher income status, while Meltzer and Jena (2010) observed that high income status may lead to higher exercise intensity. A possible explanation for the correlation that exists between higher income and increased PA levels may be attributed to higher disposable income available to invest in health and wellness practices among higher income earners including behaviours such as engaging in exercise and making healthier food choices (Humphreys & Ruseski, 2011; Meltzer & Jena, 2010).

Limitations and Suggestions for Future Studies

Investigating the 10-year effect of long-term involvement in physical activity among older adults has methodological limitations. First, the qualitative design used retrospective questioning, which may involve selective recall or struggle to retrieve

specific details from memory (Grbich, 2013; Reichstadt, Sengupta, Depp, Palinkas, & Jeste, 2010). For instance, participants' recollection of certain events and specific dates may be blurred or unclear, which results in missing pertinent data elements that may have been useful to the study. Nevertheless, how participants remember or misremember aspects of their past in the context of PA can still provide vital insights into their lived experiences surrounding factors influencing the adoption and long-term maintenance of PA among older exercisers, particularly if we are to enhance our understanding of a phenomenon that has received relatively little attention in the aging and leisure literature (McAuley, Jerome, Elavsky, Marquez, & Ramsey, 2003; Van Stralen, De Vries, Mudde, Bolman, & Lechner, 2009; Ziegelmann, Lippke, & Schwarzer, 2006).

Second, this study comprised of a much higher percentage of male participants (73%) than female participants. While this study reported on both similarities and differences in their habits and motives, further research is needed to elaborate on factors influencing older women to initiate and maintain physical activity over a prolonged period of time in order to advance our understanding of a little understood phenomenon that remains largely understudied and overlooked in research on leisure-time exercise and aging.

Third, although demographic data, including age, gender, income, education, and occupation were gathered from participants, the limited sample size did not adequately allow for detailed comparisons across demographic variables. Despite this limitation, however, the researcher was able to identify the most obvious demographic observations including the age and gender variables. The age variable demonstrated that reasons to

exercise change with age, as whereas the gender variable revealed differences in exercise habits between female and male participants, as revealed earlier in the discussion section. Lastly, study participants consisted predominately of Caucasian, male, highly educated, upper income sample. Future studies should aim to recruit older adults from more diverse socio-economic and ethnic backgrounds.

Fourth, this study revealed that participants had different conceptions of what is means to be physically active. For example, some participants in the low exercise group considered activities such as lawn mowing, furniture moving, and walking while shopping as part of being physically active, while other participants, particularly those in the high and moderate exercise group, associated being physically active mainly with planned and structured fitness and sports activities. Given these differing conceptions, future researchers using qualitative design should better define the meaning of being physically active at the starting point of the research process to eliminate confusion, particularly when it comes to recruiting participants for research. In addition, future research should focus on defining what it means “to be physically active” to encourage a more precise and careful description of the concept and reduce misconceptions and confusions.

Fifth, given that the study design relied on self-reported data about physical activity behaviour, the exercise frequency and intensity levels reported by participants were based on rough estimates and may have been underestimated or overestimated as this study did not track exercise participation frequency and intensities through the use an accelerometer and other measuring devices (e.g., pedometer, heart rate monitor,

armbands). An accelerometer, for instance, may be practical for a future study to track the exact number of hours participants exercise per week and the different training intensity levels more accurately given that some may self-report having spent 1 hour on high intensity cycling, while the accelerometer may register only 45 minutes of intense movement. Thus more objective exercise measures are needed to obtain more verifiable results.

Theoretical and Practical Implications

Data from the current research has revealed several theoretical and practical implications worthy of future study.

Theoretical Implications

An important finding of the current study supporting existing research evidence shows that intensive involvement in PA at a young age marked by positive experiences influences long-term PA participation in later years (Dishman et al., 1985; Hirvensalo et al., 2000; Hirvensalo et al., 2010). However, further research is needed, in particular longitudinal studies, combining qualitative and quantitative methods to track individuals' early PA habits, preferences, attitudes, dispositions, and observe changes across life transitions to reduce lack of understanding of what motivates individuals to initiate and maintain a physically active lifestyle in later years, and to assist in developing effective interventions to increase physical activity.

In addition, this study's analysis revealed three distinct types of older exercisers based on their degree of seriousness and dedication towards their long-term PA routine:

‘high exercisers’, ‘moderate exercisers’, and ‘low exercisers’. Further research is needed to extend these findings in order to provide a better understanding of the different profiles of older exercisers that exist among the older population.

Further, a theoretical contribution to the leisure domain would be to Stebbins’ (2014) Serious Leisure (SL) framework, which was used in this study to distinguish between “casual” and “serious” participants. However, results from this study found that the SL theoretical framework may benefit from having a third intermediate category labeled as “*moderate*” participants, to better distinguish between “*casual*” participants—those performing a leisure activity on an occasional basis, and having a low degree of seriousness towards their leisure pursuit— and “*moderate*” participants, those pursuing a leisure activity on a regular basis, and possessing a moderate degree of seriousness towards their leisure pursuit, and “*serious*” participants those pursuing a leisure activity methodically/systematically, and having a high degree of seriousness towards their leisure pursuit. However, further research is needed to test the three categories and refine the third intermediate category proposed in this study. In addition, the researcher found that to better assess participants’ degree of seriousness towards their participation in a leisure activity (e.g., physical activity), potential researchers may benefit from asking future participants the following question: On a scale of 1 to 10, how serious or dedicated are you about your participation in your leisure activity? Such question might provide the potential researcher with a general idea of how committed and dedicated is a participant towards their leisure pursuit, and may facilitate the process of grouping participants into

different leisure categories based on their degree of seriousness (e.g., casual, moderate, and serious).

Moreover, this study revealed that motives to long-term PA participation vary by age among older participants. More research is needed to study age-related differences in motives for PA involvement among older adults in an effort to improve understanding of similarities and differences in motivations to and outcome expectations of exercise across differing age subgroups within the older population. The results can have implications for designing effective PA programs to better serve older adults based on the specific needs, characteristics, and goals of subgroups by age. For example, this study showed that the main motivations to exercise among younger agers in their 50s were more about improving aesthetic/physical appearance whereas those in their 60s were more concerned about preventing health issues and managing existing conditions.

In addition, this study has shown that older exercisers often utilized PA as a way to actively manage or treat their own injuries and health problems to accelerate their recovery. Thus, further research is needed to examine the effects of regular PA participation on speeding up recovery from various types of injuries (exercise or non-exercise-related) and illnesses among older exercisers in order to suggest non-invasive prevention methods through adaptive exercise treatment to promote faster healing.

Moreover, present study has shown that compared to low exercisers, moderate and high exercisers were more likely to adhere to their workouts in the face of other priorities and interests in order to maintain commitment to their PA routine over a prolonged period of time. Continued research should focus on investigating commitment

to long-term PA among older exercisers using various frameworks and models such as the Serious leisure framework, the Sport Commitment Model, the Investment model, other health and leisure behavioral models to test and explain various constructs influencing sustained PA behaviour as they relate to long-term commitment and adherence to PA (Gabriele, Gill, Adams, 2011; Williams, 2013).

Furthermore, while this study acknowledged the health benefits of long-term physical activity on adults over the age of 50, more studies are needed to report on the rate of injury among older adults engaged in regular exercise, and to identify the different type of fitness and sports activities that are most responsible for injuries in order to recommend appropriate preventative measures and promote a safer exercise behavior.

Finally, the study finds that further research is needed about physically active older men's perceptions and feelings about their aging bodies and physical appearance and how this affects their self-esteem since little is understood about this topic, as the majority of research studies have focused primarily on women (Baker & Gringart, 2009; Hofmeier et al., 2017; Furnham, Badmin, & Sneade, 2002; Liechty, 2012; Paxton & Phythian, 1999). Research in this area may enrich our understanding of how older men think and feel about their aging bodies and appearance and help in developing ways to enhance body image satisfaction and self-esteem in aging men.

Practical Implications

The data from the current research revealed practical implications worth considering for practitioners and professionals in the leisure and health domains. First, given that this study has shown that intensive PA participation in the early years marked

by positive experiences can promote a physically active lifestyle in the later years, parents, physical educators as well as leisure and health practitioners should encourage frequent physical activity involvement as early as possible, and as much as possible—in school and outside of school, in formally and non-formally organized PA, competitive and non-competitive, indoors and outdoors— might be the best investment to help individuals adopt and maintain long-term physical activity well into old age. This is especially important at a time when funding for many physical education and sports programs for youth are being eliminated and physical activity time is being substituted with screen time, placing young people's current and future health at risk.

Second, given that this study has shown that older adults have different interests, preferences, and physical capabilities, a helpful suggestion for leisure and fitness practitioners would be to provide programs that enable older adults to sample various types of physical activities in different exercise settings (e.g., outdoors, indoors, group and non-group settings) in order to assist those struggling to take up and adhere to a PA regimen in selecting a suitable and enjoyable PA program based on their unique interests, competence levels, and physical strengths and limitations.

Finally, this study found that the majority of participants' maintained continuity in physical activities practiced earlier in life, from childhood to early adulthood years. Therefore, a practical recommendation for leisure, health, and fitness providers would be to assess the types of physical activities older adults practiced in the early years of life during an evaluation session, and learn about their PA history and preferences going back to childhood in order to recommend a more individualized program that reconnects them

with their favorite physical activities, but adjusted to their current capabilities. This is a highly relevant suggestion since research shows that older adults are more likely to engage in familiar activities than taking on new ones as a strategy to adapt to aging (Agahi, Ahacic, & Parker, 2006; Gibson & Singleton, 2011; Nimrod and Janke, 2011).

Conclusion

The current research sought to explore factors that influence the adoption and long-term maintenance of PA as a serious leisure pursuit among older adults over the age of 50, and to investigate the impact of their physically active behavior on their perceived wellbeing. The findings highlighted that long-term older exercisers do not follow a typical pattern of aging that is often associated with frailty, disability, and morbidity. By contrast, this study established that older adults involved in a consistent PA routine over a 10-year period can maintain a healthy, vibrant, and fulfilling life, physically, mentally, and socially through the pursuit of meaningful leisure activities, in particular physical activities connected to positive early experiences.

In addition, data from this study determined that all participants in the three exercise categories— low, moderate, and high—were able to identify several interrelated benefits of how PA contributed to their perceived wellbeing including reducing stress, enhancing their mood state, increasing energy levels, improving perceptions of body image and overall appearance, self-managing injuries and chronic health conditions to avoid pharmaceutical interventions, and maintaining a vibrant social life. However, those pursuing a PA regimen on a more consistent basis and persevered to maintain

participation in their daily physical training over the past decade despite adversity, such as the high and moderate exercisers, were those who met four or more qualities of serious leisure, and reported greater benefits towards their perceived well-being.

This study supports Siegnthaler and O'Dell's (2003), Brown (2007), and Kim, Yamada, Heo, and Han's (2014) findings suggesting that as the degree of involvement and seriousness towards a leisure activity increased, the benefits derived from being involved seem to increase as well. This suggests that participation in PA as a serious leisure pursuit has the potential to assist older adults in achieving a more satisfying and meaningful life. It is important to note, however, that evidence from the current study has also established that even occasional participation in physical activity is better than none, and can have positive effects on older adults' perceived wellbeing, as this study has shown with the low exercisers who often combined PA with socializing to overcome lack of motivation and adherence issues. Indeed, numerous studies have emphasized that exercising with others encouraged individuals to increase commitment, frequency, duration, and intensity of exercise, providing them with the willpower to attend exercise sessions, complete workouts, and return to future ones (McMahon, Wyman, Belyea, Shearer, Hekler, & Fleury, 2016; Rackow, Scholz, and Hornung, 2015; Smith, Banting, Eime, O'Sullivan, & Uffelen, 2017; Uchino, 2009; Unger & Johnson, 1995).

Further, intensified research efforts should focus on understanding early-life physical activity patterns and habits and their relationship to later participation, as this study confirmed that the single most important contributor to PA participation after the

age of 50 is maintaining continuity in physical activities linked to positive experiences and memories developed in the early years of life.

The findings underscore the importance of considering intervention strategies for promoting lifelong physical activity at younger ages since the skills learned and attitudes acquired earlier in life through PA have long-term implications on later PA behaviors (Dishman et al., 1985; Hirvensalo et al., 2000; Hirvensalo et al., 2011).

In sum, given the persisting low rates of physical activity participation among older adults, strategies to improve adherence to long

-term PA participation among older people should include: (1) Designing assessment tools using questioning to inquire into older adults history of activity in the aim of reconnecting older adults with their preferred physical activities related to positive early experiences, but adapted to their current physical capabilities and circumstances (2) Improving access to web resources and mobile apps where older adults can find a compatible exercise companion to increase adherence to exercise for those with high dependency on a partner to increase motivation and emotional support, (3) Designing intervention physical activity programs that incorporate socialization sessions may be particularly helpful for widowed, divorced and single older adults, (4) Leaders of fitness, athletic, and wellness facilities (e.g., gyms, sports clubs), private and public, should focus their efforts on improving their marketing strategies to reach an older demographic, given that advertising and marketing campaigns have historically been, and continue to be, focused on young consumers, even though older adults have considerable more leisure time and nearly double the spending income of younger consumers (Meiner & Seeberger,

2010). This is especially important, as the young consumer market is projected to shrink over the next decade due to a decrease in the proportion of youth, while the older consumer market will be increasing, making agers a highly influential market segment (Galarneau, Morissette, & Usalcas, 2015; Office of Consumer Affairs, 2019).

In addition, governments may stimulate physical activity participation among agers, by supporting fitness, athletic, and wellness businesses in subsidizing part of the membership fees of older consumers, which can translate to future healthcare savings. Further, governments may also play a vital role by providing tax incentives or benefits to older adults enrolled in fitness and athletic programs, as research has shown that incentives might encourage behavioral change, particularly for older adults with limited income (Tambor, Pavlova, Golinowska, Arsenijevic, & Groot, 2016).

Finally, (5) increasing higher education programs in colleges and universities with a comprehensible curriculum that educate and prepare students to assist in the development, health, and wellbeing of older adults is crucial, given that most degrees and concentrations that exist so far on human development are more focused on child development, with little attention paid to older adults' development.

In brief, life does not stop after the age of 50 or at the gate of retirement. By contrast, older adults can continue their developmental process through the pursuit of meaningful and intrinsically satisfying activities that challenge their physical abilities, stimulate their intellectual capacities, and invigorate their social life, as revealed in this research with aging exercisers.

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Appendix A: Certificate of Ethics Approval

07/11/2018

Université d'Ottawa

Bureau d'éthique et d'intégrité de la recherche

University of Ottawa

Office of Research Ethics and Integrity

CERTIFICAT D'APPROBATION ÉTHIQUE | CERTIFICATE OF ETHICS APPROVAL**Numéro du dossier / Ethics File Number**

H-09-18-1068

Titre du projet / Project TitleOlder Adults' Narratives of the
Initiation and Maintenance of
Physical Activity as a Serious
Leisure Pursuit and their Lived
Experiences with Aging**Type de projet / Project Type**Thèse de doctorat / Doctoral
thesis**Statut du projet / Project Status**

Approuvé / Approved

Date d'approbation (jj/mm/aaaa) / Approval Date (dd/mm/yyyy)

07/11/2018

Date d'expiration (jj/mm/aaaa) / Expiry Date (dd/mm/yyyy)

06/11/2019

Équipe de recherche / Research Team**Chercheur /
Researcher****Affiliation****Role**

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Superviseur / Supervisor