

EXERCISE INSTRUCTION FOR OLDER ADULTS

EXERCISE INSTRUCTION FOR OLDER ADULTS: EMBODIED
EDUCATION AND (IN/EX)CLUSIVE PHYSICAL CULTURES

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A Thesis Submitted to the School of Graduate Studies in Partial Fulfilment of the
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Lay Abstract:

The key goals of this research were to understand how fitness instructors' training might influence how instructors teach in their group exercise classes, learn how and what fitness instructors teach, and identify how instructors' teaching is (or should be) different with older exercisers. I found that fitness instructors are important to group exercise classes, as they bring people together and teach people how to exercise safely. It is also especially important that instructors have special training to work with older people, but there is a lack of consistency in the training of exercise instructors and instructors received mixed messages about ageism in their training. This could reinforce the idea that older persons lose abilities as they age and result in a one-size fits all way of teaching that fails to include older exercisers' diverse abilities. This research suggests ways instructors can be better trained to relate to older exercisers.

Abstract:

The intent of this thesis was to better understand the educative role of group exercise instructors, and how this role is approached when working with older exercisers. Data were collected using textual analysis, observations of instructors' teachings in group exercise classes, semi-structured interviews with instructors and older exercisers, and go-alongs with older exercisers. This thesis is comprised of four papers (three journal articles and one book chapter). The first paper reports findings from a scoping review and elucidates that the educative role of exercise instructors is vital but under researched. Paper 2, a book chapter, reports findings from a qualitative content analysis of eight curricula used to train and certify fitness instructors in Canada and the United States. This paper proposes strategically employing compassionate ageism to meet older exercisers' needs without (re)producing social inequalities in response to finding that the curricula conceive the older body as different from the healthy, supposedly ideal standard. Paper 3, an Institutional Ethnography, provides evidence for some of the ways employers and the aforementioned curricula influence how instructors teach. Paper 3 reports that multi-level teaching may not be enough to foster inclusivity, thus suggesting a greater need for stratification by ability rather than age. Additionally, findings outline some ableist teaching practices, which some instructors resisted by drawing on their competence to employ teaching methods respecting exercisers' agency. Finally, Paper 4 introduces a substantive, grounded theory of age capital, which builds on Bourdieu's theorizations of cultural capital, as well as Mauss' habitus and body techniques. Age capital is defined as possessing a gerontological embodied competence, or cognitive and embodied knowledge of the socio-cultural practices

throughout one's life course. Collectively, this thesis provides several recommendations for teaching group exercise in a manner that fosters more inclusive classes for older adults.

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List of all Abbreviations and Symbols:

- i. PCS = Physical Cultural Studies
- ii. IE = Institutional Ethnography
- iii. CGT = Constructivist Grounded Theory
- iv. CEG = Critical Educational Gerontology
- v. canfitpro™ = Canadian Fitness Professionals Inc.
- vi. FIS = Fitness Instructor Specialist
- vii. CCAA = Canadian Centre for Activity and Aging
- viii. SFIC = Seniors' Fitness Instructor Course
- ix. ACE® = American Council on Exercise®
- x. AFAA® = Aerobics and Fitness Association of America®
- xi. WHO = World Health Organization
- xii. ADL = Activities of Daily Living
- xiii. V.A.K. = Visual, Auditory, Kinesthetic

Declaration of Academic Achievement:

I, Kelsey Harvey, am responsible for this program of research and thesis in its entirety. I designed the research plan in consultation with my supervisor, Dr. Meredith Griffin, and I solely collected and analyzed the data. I wrote all portions of this thesis. As befitting their roles, my thesis supervisor, Dr. Meredith Griffin, and my committee members, Dr. Gavin Andrews and Dr. Miya Narushima supported my writing process by providing feedback on earlier versions of the papers comprising thesis. Their roles have been acknowledged in each individual manuscript as appropriate.

Introduction

Physical activity in older adulthood has been linked to positive psychosocial and health outcomes, including: optimism; life-satisfaction; positive affect; quality-of-life; and psychological well-being (Battaglia et al., 2016; Hartley & Yeowell, 2015; Kim, Chun, Heo, Lee, & Han, 2016; Yamada, 2016). Estimates upwards of 95% of older adults express awareness of the many benefits of physical activity (Costello, Kafchinshi, Vrazel, & Sullivan, 2011; Crombie et al., 2004; Newson & Kemps, 2007). Yet, despite awareness of the myriad benefits of exercise, many older adults are sedentary and participation in physical activity is below levels necessary for health improvement (Mehra et al., 2016; Nyman, 2011). In Canada and the United States specifically, older generations are classified as less active than younger cohorts (Physical Activity Council, 2017; Statistics Canada, 2015).

Given the many benefits of physical activity identified in the literature, many researchers have investigated the factors that facilitate engagement in physical activity, as well as factors serving as barriers. Social exclusion is one barrier to engaging in physical activities (Biedenweg et al., 2014; Jacey, Clarke, Howat, Maycock, & Lee, 2009). According to Brehm (2004), “People will be more likely to attend a group exercise program if they feel comfortable with the group. People who see themselves as different from the other group members may be reluctant to exercise with the group” (p. 143). In older adulthood, reasons for social exclusion may include language, cultural, and literacy differences (Horne & Tierney, 2012; Shilling, 2016), as well as social disapproval (Chogahara, Cousins,

& Wankel, 1998; King et al., 2000) and the belief that physical activity is inappropriate for older adults (Baert, Gorus, Mets, Geerts, & Bautmans, 2011). Chogahara et al. (1998) call for investigation into the potential role that negative social dimensions, such as social hindrance, social rejection, social strain, negative social ties, and negative social interactions, might play in inhibiting engagement in physical activity.

On the other end of the continuum, extant research suggests that social support and a sense of belonging are key interpersonal determinants of physical activity (Bjornsdottir, Arnadottir, & Hallfordsdottir, 2012; Gothe & Kendall, 2016; Hartley & Yeowell, 2015; Loprinzi & Joyner, 2016; Resnick, Orwig, Magaziner, & Wynne, 2002; van Schijndel-Speet, 2014). This social support may come from family, peers, instructors, and physicians, and has been found to be associated with exercise adherence and increased self-efficacy in physical activity settings (Chogahara, et al, 1998). Indeed, Loprinzi and Joyner (2016) found that women over 70 who “perceived having emotional social support had a 41% increased odds of meeting physical activity guidelines” (p. 776), particularly extra-familial support. Likewise, Böhm, Mielke, da Cruz, Ramires, and Wehrmeister (2016) found that older adults were 2.45 times more likely to reach physical activity guidelines when accompanied by family and were 3.23 times more likely to undertake moderate-to-vigorous activity when accompanied by friends. It has been argued that people push themselves more in a group, compete to keep up with one another, and accomplish more in a group, as seeing others who are active may

increase one's propensity towards engagement in physical activity (Brehm, 2004; King et al., 2000). From this scholarship, and as articulated by Hartley and Yeowell (2015), it can reasonably be said that "...it is the social space that is created within these physical settings that is most influential in fostering their long-term adherence" (p. 1635). It is also evident that individuals who participate in group exercise, also known as group fitness, led by exercise and/or fitness instructors, demonstrate better adherence than those who exercise alone (Beauchamp, Carron, McCutcheon, & Harper, 2007).

According to Brehm (2004), "The most important factor contributing to exercise adherence in group exercise settings is the quality of instruction" (p. 141). Group exercise instruction has been described as "more an art than a science" (Brehm, 2004, p. 158). Several scholars have investigated exercise instructors as determinants of exercise enjoyment and adherence. Turner, Rejeski, and Brawley (1997) employed an enriched (wherein the instructor was enthusiastic and social with the class members) versus bland instructional style in group exercise delivered to younger adults and found that the mean enjoyment for the enriched class was 9.17, while the bland mean was 6.39. They concluded that "leadership, as an aspect of the social environment, can have a substantial impact on psychological responses to physical activity" (Turner et al., 1997; pp. 126-127).

Turner et al.'s (1997) study protocol has been replicated several times. Fox, Rejeski, and Gauvin (2000) examined enriched versus bland leadership style and enriched versus bland group dynamics on enjoyment of physical activity in college

students. Enriched leadership plus enriched group dynamics resulted in 22.07% more enjoyment than other conditions (Fox et al., 2000). Participants in the enriched group dynamics, irrespective of leadership style, were 13.93% more likely to express interest in returning to the class (Fox et al., 2000). However, no randomized controlled studies, similar to Fox et al. (2000) or Turner et al. (1997), investigating older exercisers could be identified in the literature. This is unfortunate, because older exercisers have indicated that fitness professionals do not always relate well to the struggles of older exercisers, which inhibits vicarious learning and efficacy expectations (Werner, Teufel, & Brown, 2014). Therefore, although extant literature points to exercise instructors as a vital social determinant of exercise enjoyment and adherence (Carron, Hausenblas, & Mack, 1996; Carron & Spink, 1993; McAuley & Jacobson, 1991; Petrescu-Prahova, Belza, Kohn, & Miyawaki, 2015), little is known about the instructional qualities that foster inclusivity for older exercisers.

The sparse corpus of literature on exercise instructors of older adult fitness programs highlights the vital role of exercise instructors in affecting program quality, participant pleasure and adherence, and group social cohesion (Beauchamp, et al., 2007; Estabrooks et al., 2004; Hawley-Hague, Horne, Skelton, & Todd, 2016). This is due in part to the instructor's roles as cultural intermediaries, leaders, and educators, as well as on instructor interpersonal skills, attitudes, and perceptions (Howley & Franks, 2003; Lox, Martin, & Petruzzello, 2003; McPhate et al., 2016; Paulson, 2005). Furthermore, instructor attitudes and perceptions

towards older persons has been found to differ on the basis of the instructor's certification, training in gerontology, experience, and work setting (Hawley, Skelton, Campbell, & Todd, 2012). However, the ways in which exercise instructors educate their older adult clients is absent from the literature. The intent of this research was to elucidate how exercise instructors approach their educational role with older exercisers, and the effect that this has on the social environment. Awareness of any exclusive practices that emerge from this thesis can be used to inform future curricula for the training of exercise instructors, with the ultimate aim of transforming exercise programs for older adults to be more enjoyable and accessible, which in turn will hopefully increase older adults' attendance and adherence to group exercise programming.

Background

Physical Culture

Physical culture “refers to the rules, beliefs, norms, and values that take place within spaces of physical activity and are reinforced by society” (Lox, et al., 2003). Physical cultures are not fixed entities. The nature and defining characteristics of physical cultures are dependent upon sociohistorical contexts (Giardina & Newman, 2011). The question as to how physical cultures comes to be is ontological, and from a critical, constructivist/interpretive position, I contend that physical cultures are socially constructed. However, an important caveat to that statement is the critical consideration that groups of individuals, both constituting society as a whole and the sub-cultures embedded therein, shape and give meaning

to the construction of physical cultures (Scotland, 2012). What this means is that society influences beings, who, in turn, influence society.

The influence of social structures on individuals and the role of human agency in influencing society constitutes a sociological debate. Jarvis (1985), in the context of education, describes these two sociologies as: 1) liberal, in which society influences individuals; and 2) radical, in which society is constructed by individuals. Each are concerned with the use of power: in the former case, powerful social discourses are embodied as a means of homogenization; and in the latter case, the imposition of hegemonic ideals is challenged as a means toward achieving critical praxis (Freire, 1974/1993). However, the aforementioned critical, constructivist paradigm acknowledges that these are not exclusive sociologies, but the relationships between the two are bi-directional, with both recognition of the role of society shaping individual experience and the role of agency in affecting social change (Jarvis, 1985). To justify this positioning, one can turn to Physical Cultural Studies [PCS].

Scholars within PCS assert that culture and body are interconnected, as well as dependent upon the socio-historical context (Giardina & Newman, 2011). These scholars call for critical and interpretive qualitative inquiry on the impact of culture on the lived experiences of active bodies, thus investigating the ways in which bodies are organized, regulated and represented (Andrews, 2008; Giardina & Newman, 2011). Furthermore, PCS recognizes the reciprocal effect of bodies on cultures and, calls for a political commitment to social progress (Andrews, 2008;

Giardina & Newman, 2011; King-White, 2012). Therefore, physical cultures come to be embodied by agentic and reflexive social actors (Crossley, 2006), and in order to understand how physical cultures work, one must analyze the societal influence on shaping the experience of physical cultures, as well as the influence of agentic praxis in shaping physical culture.

One means by which physical cultures are perpetuated is through implicit and explicit learning processes that result in becoming enculturated, wherein one takes up the rules, beliefs, norms, and values of the physical culture in which one is positioned (Griffin, 2017). Griffin (2017) describes the process of enculturation as consisting of three inter-dependent activities: mimesis, repetition, and reflection. In mimesis, the exerciser's gaze is leveraged to observe and imitate others (Griffin, 2017). This is part of the process of vicarious learning (Gallagher & Lindgren, 2015), wherein embodied cultural information is transmitted from one body to another body (Shilling, 2016). This gaze, when theorized through symbolic interactionism, also involves reflection and interpretation on the part of the exerciser who imagines the embodied experience of the other (Waskul & Vannini, 2006). Reflective embodiment, as described by Crossley (2006), "refers to the capacity and tendency to perceive, emote about, reflect, and act upon one's own body; to practices of body modification and maintenance; and to 'body image'" (p. 1). In the case of exercise, the imagined embodied experience of the other is then manipulated by the novice exerciser as a means of testing and performing the bodywork, or the "physical labour that we, qua bodies, perform upon ourselves"

(Crossley, 2006, p. 3), that was observed. However, being an interpretive process wherein the self is both object and subject, reflection on the information received is limited to one's positionality, experience, knowledge, sensory abilities, etc., and may require experimentation before finding a suitable fit (Crossley, 2006; Griffin, 2017; Shilling, 2016). Once a suitable practice is identified, then the bodywork is repeated until it is habituated, thus becoming part of one's disposition (Crossley, 2006; Tulle & Dorrer, 2012). When these conditions are met, one is said to have undergone the process of becoming enculturated into a particular physical culture.

Attention must be paid to how constructed social meanings become embodied during the process of enculturation in physical cultures (Waskul & Vannini, 2006). To demonstrate this point, I will turn to the example of falls-prevention exercise for older adults. It has been argued that the social meaning of falling, as an undesired rite of passage, is dependency and fragility (Katz, 2011). This meaning is deeply embedded in the taken for granted assumption that aging is synonymous with dependency, decline, and disability (Gullette, 1997). In a culture where aging is associated with 'letting oneself go,' body management through exercise is touted as a means of controlling one's body, and as such a panacea that not only addresses the problem of aging and decline but also a civic virtue that saves on healthcare costs (Gilleard & Higgs, 2013; Poole, 2001). According to Gilleard and Higgs (2013), this means that the "...contemporary pursuit of fitness in later life thus elides the 'youthful' individual desire to do better and be better with the 'mature' virtue of not becoming sick, fat, idle, or old" (p. 131). This results in

conflicting social messages regarding appropriate exercise interventions for older adults: keep active and exercise in order to avoid decline and dependency, but be safe, as the aging body is at risk for falling, injury, etc. (Katz, 2011; Pike, 2015). Katz (2011) describes this conflict as existing “...between the politics of risk and the governance of self-care” (p. 197).

Risk, in the case of physical culture, is contextualized in the use of safety devices, such as the use of chairs for the maintenance of balance (Katz, 2011; Robinson, Masud, & Hawley-Hague, 2016). There are no rules as to when such devices are appropriate, and as such chairs are often reported as being used inappropriately with older adults who are not at risk for falling and do not need a safety device (Robinson, et al., 2016). This inappropriate use of safety supports with older exercisers erroneously equates age with declining ability, resulting in both ageism and ableism within older adult physical cultures (Kluge & Savis, 2001). Therefore, in order to assert one’s independence, older adults feel compelled to challenge being identified as ‘a faller’ (Katz, 2011). This notion is supported by several studies that suggest that older adults deny being at risk for falling and reject participating in exercise classes labeled as ‘falls-prevention,’ citing the loss of social status and physical capital that is associated with being labeled as ‘frail’ as the rationale for non-participation (Katz, 2011; McPhate et al., 2016; Yardley et al., 2006). Hence, meanings can be embodied (e.g. I am a ‘faller,’ so I need safety devices when I exercise), but also rejected (e.g. I am not a ‘faller,’ so that exercise class is not for me).

Not only can social discourses be taken up and made meaningful in people's lived experiences, but discourses can also be challenged via agentic praxis (Lawrence, 2012). For instance, Dionigi, Horton, and Bellamy (2011) explored the meaning of aging as constructed by older women. They found, much like the previous falls-prevention example, that highly active informants held negative views of aging, challenged the decline narrative of aging by being active, and did not identify as 'old' (Dionigi et al., 2011). On the other end of the continuum, however, physically inactive informants had positive associations with aging, emphasized emotional and social activity, and identified as being 'old' (Dionigi et al., 2011). In the latter example, it could be argued that, to challenge the discourse of disengagement and preserve one's identity as an active person, physically inactive older persons thus redefine the narrative of activity to fit within the activities in which they engage (Tulle, 2008). This is at odds with the former example wherein active aging is both positioned as a praxis against ageism and as justification for judging others who are less active (Allain & Marshall, 2017). This praxis has resulted in a growing physical culture of masters sports, which can embody the heroic model of aging that simultaneously challenges the decline narrative, tokenizes older exemplars of fitness, and fashions an unattainable model of fitness for the majority of the older adult populace (Pike, 2015).

A significant debate in social gerontology pertains to the moral implications of the narratives of decline and of activity, as well as the moral and civic virtues of keeping active in older age (Gilleard & Higgs, 2013; van Dyk, 2014). The

conceptualization of physical activity as a public good in the present neoliberal climate not only views older bodies as at risk for falling, but for leading sedentary lifestyles (Tulle, 2015). As such, older bodies are depicted as needing to be more active, but only with appropriate activities that will concurrently reduce the risk of falling whilst not causing one to fall. This type of reductionist thinking, wherein age and inactivity are attributed to be the causes of functional decline, is short-sighted and neglects the many social, cultural, and historical influences that may also play a role (Rich, 2011). This framing neglects the contributions of socio-cultural factors, such as the argument that the high rates of sedentary behavior in Western societies is due in part to the historical legacy arising from the false belief that exercise was harmful to older bodies and women's bodies (Gilleard & Higgs, 2013; Lox, et al., 2003).

The exercise market is segmented by age into mainstream fitness and older adult fitness (Gilleard & Higgs, 2013). It has been suggested that older adult fitness emerged in response to older adults' unique needs that could not otherwise be addressed in mainstream exercise classes, thus providing more choices from which older exercise can choose (Ecclestone & Jones, 2004; Tulle & Dorrer, 2012). This age-based segmentation may be related to the recent emergence of two physical cultures: one concerned with sport, youthful competitiveness, and fun, and the other with health, function, and aging (Allain & Marshall, 2017; Tulle & Dorrer, 2012). Scholars have argued that this age-based segmentation of the market not only validates the exclusion of older adults from the more youth and competition

oriented physical culture, but the meaning of such a division has been observed to be internalized by older adults and used as a strategy to justify less intense engagement with physical activity (Tulle & Dorrer, 2012; van Dyk, 2014). Moreover, the health-oriented culture specifically targeting older adults ignores the heterogeneity of this segment of the population, such as masters athletes who engage in competitive athletics, as well as older adults embodying fourth-age characteristics (Dionigi, 2006; Higgs & Gilleard, 2015; van Dyk, 2014). Therefore, the creation of older adult specific exercise classes may foster a more inclusive physical culture for some older persons, but at the exclusion of older adults whose ranges of abilities are not well-suited to these programs. Likewise, younger adults whose needs and abilities might be better addressed in an older adult fitness class are excluded explicitly due to age, or implicitly because the younger person does not want to be identified as ‘old’ by being part of a social group devoted to older persons (Dionigi, 2006).

Group social cohesion, in the context of exercise, results in group solidarity toward a shared aim and/or to meet the needs of those comprising the group (Christensen, Schmidt, Budtz-Jørgensen, & Avlund, 2006). Social cohesion is positioned as especially important with the decreasing importance of structures in postmodern turn and is often conceptualized as a positive attribute in the literature on older adult exercise (Pool, 2001). However, cohesion can be both positive and negative (Chogahara et al., 1998). For instance, cohesion often results in shared experiences and memories, but this can marginalize those who do not share the

same group knowledge, norms, or values (Lawrence, 2012). Consider the informants in Griffin's (2017) study, who expressed vulnerability because they were not familiar with the rules, jargon, and movements required of new physical activity in which they were beginning to engage. At the micro-level, all sports and exercise-related physical activities possess their own jargon, rules, etc. that must be learned during the enculturation process (Griffin, 2017). However, those who are new, or not yet part of the group, and as such are not yet part of the particular physical culture, feel as if they are 'outsiders' (Griffin, 2017). This is evident in Paulson's (2005) study that compared a health-focused group exercise class to a range-of-motion dance class, concluding that the latter was less accessible given the predominant use of technical jargon. Therefore, those who have not been enculturated into the dance culture would feel excluded without an exercise instructor who can act as a social intermediary in order to facilitate the process of enculturation and who can foster a socially cohesive dynamic accepting of new group members.

There is a body of literature pointing to instructors' role as cultural intermediaries, enculturating exercisers into a given physical culture, by fostering social cohesion, helping 'outsiders' feel more welcome, and nurturing a fun/enjoyable exercise environment (Gillett et al. 1993; Loughead & Carron, 2004; Loughead, Colman, & Carron, 2001; Loughead, Patterson, & Carron, 2008; Oldridge, 1977; Paulson, 2005; Poole, 2001; Yardley et al., 2006). However, less is known about how the instructor's educative role fosters (in/ex)clusive physical

cultures, a gap which my study addresses. The aim of this thesis was to understand the vital role exercise instructors play, through their educative function, in the enculturation process.

Research Question

The corpus of literature on group exercise instruction elucidates the vital roles that exercise instructors play in enculturating exercisers into diverse physical cultures, as well as affecting the experiences and outcomes of older adult exercise participants. However, the educational role of exercise instructors for older adults is absent from the literature, despite the assertion that “The exercise leader’s function...is educative” (Oldridge, 1977, p. 87). Therefore, we are oblivious to the role that exercise instructors, and the educational methods they employ, play in creating fitness cultures of social inclusion and/or exclusion.

In order to address these identified gaps in knowledge, the following research question guided the research underlying this dissertation:

- *What educational role do exercise instructors for older adults play, and how might this affect the (in/ex)clusivity of the social exercise environment?*

In order to answer this principal research question, I also considered the following four supplemental questions:

- 1) *What are the social and cultural contexts in which exercise instructors of older adults teach?*
- 2) *What educational methods do exercise instructors employ, and how are these educational methods used, when teaching older adult fitness classes?*

- 3) *How do exercise instructors of older adults perceive themselves as educators?*
- 4) *How do older adults perceive exercise instruction in different contexts (e.g. group exercise classes open to the general public which have older participants, versus senior-specific group exercise classes)?*

Ontology

From an interpretivist ontological and epistemological position, wherein reality consists of many individual exercise instructors' perspectives and experiences, (Smith & Sparkes, 2016), I utilized: 1) an Institutional Ethnography methodology [IE] (Smith 2002; 2007) wherein I mapped the social influences that govern the daily experience of older exercisers (see Paper 3); and 2) a constructivist Grounded Theory [CGT] (Charmaz, 2006; Starks & Trinidad, 2007) to unpack how exercise instructors for older adults employ embodied education techniques to facilitate the interactive transfer of affective, cognitive, kinesthetic, and culturally embodied knowledge (see Paper 4).

An IE "...explores the social world as it is known experientially, and it explores it as people's activities or doings in the actual local situations and conditions of our lives" (Smith, 2007, p. 411). As it is attuned to the shared meanings of the social groups under investigation, IE is also well aligned to the constructivist position (Smith, 2002). Likewise, CGT is aligned with the constructivist paradigm in that reality is conceptualized as a product of social groups, which then, epistemologically speaking, requires interpretation in order to

discern the underlying meaning of these realities (Smith & Sparkes, 2016). These constructed realities, in turn, need to be understood and interpreted by the researcher who “...is seen as a co-creator of knowledge” (Smith & Sparkes, 2016, p. 4).

IE and CGT originate from the discipline of sociology, and have been employed in other disciplines, including health and education (Charmaz, 2006; Smith, 2002). Theoretically, IE is based in critical inquiry, feminism and Marxism specifically (DeVault & McCoy, 2006; Smith, 2007), in that it is concerned with consciousness raising, is grounded in how interviewees’ sense of embodiment shapes their daily experiences, and conceptualizes interviewees as “...subjects of knowledge rather than objects of study” (Smith, 2007, p. 409). CGT, as part of the larger traditions in grounded theory, originates from symbolic interactionism and it also aligned to critical inquiry (Charmaz, 2017; Starks & Trinidad, 2007). Nevertheless, a theoretical framework should not be imposed in either IE or CGT; IE should be embedded in experience, not theory (Smith, 2006), and CGT should emerge from the data (Starks & Trinidad, 2007). Given that critical inquiry is aligned with the chosen methodological approaches and that the researcher leans toward a critical practice, critical inquiry influenced this analysis.

Theoretical Framework

While a theoretical framework should not be imposed on IE or CGT, this thesis was in many ways informed by the principles of critical geragogy. Geragogy is defined as “the art and science of teaching” older adults (Lebel, 1978, p. 16).

Geragogy completes the –agogy continuum, from Greek etymology meaning “behavior” (Lemieux & Martinez, 2000, p. 492). It follows pedagogy and andragogy, the former of which is concerned with teaching children, whereas the latter is concerned with adults (Lebel, 1978).

Critical geragogy emerged from Glendenning and Battersby’s (1990) four principles of critical educational gerontology [CEG]. The principles of CEG and critical geragogy are aligned with PCS’s call for the political commitment to social progress, as was outlined in the previous section on physical cultures (Andrews, 2008; Giardina & Newman, 2011; King-White, 2012). CEG called for: 1) moving away from functionalism; 2) framing inquiry within a socio-political context; 3) emancipating older adults from their subordinate social status via education; and 4) praxis, which they describe as drawing on reminiscence and self-help methods (Glendenning & Battersby, 1990). The later work of these scholars builds upon these principles, continuing to maintain the position that critical educators should recognize that not all education is intrinsically beneficial, as can be the case in life-long learning models of education (Battersby & Glendenning, 1992). Their corpus of literature also introduces conceptions of critical geragogy (Battersby & Glendenning, 1992; Glendenning & Battersby, 1990, Glendenning, 1993), upon which Formosa (2002; 2011; 2012) latter elaborated.

Formosa (2011), in the company of Glendenning (1993) and Findsen (2007), criticized liberal, humanist conceptualizations of educational gerontology, wherein learning is a personal process and the educator plays the role of a facilitator,

rather than a driver of social change. The foundation of this debate is the critical concern with the collective versus the humanist concern with individual development (Findsen, 2007), the latter of which Formosa (2011) argues is embedded in neoliberal ideology.

Liberal education, associated with the liberal arts and humanities, and radical education, associated with critical theory, relate to two different sociologies, wherein, respectively, society is either believed to constrain human action or human agency molds society (Jarvis, 1985). This binary debate is embodied in the curricular, not theoretical, approaches to liberal and radical education (Jarvis, 1985). Liberal education, or what Jarvis (1985) calls ‘education from above,’ is seen in pedagogy, utilizes behavioural learning objectives, and is embedded in strong, clear social structures. On the other hand, radical education is an ‘education of equals,’ as seen in andragogy (Jarvis, 1985; Knowles, 1968), and utilizes expressive learning objectives that describe the educational encounter, rather than prescribe what should be learned from it. Curricula is comprised of the knowledge, beliefs, values, etc. of a society that constitute its culture (Jarvis, 1985). Formosa (2012) maintains that a critical geragogic approach exposes the ideological constructs hidden within curricula, while in mainstream educational gerontology, ideology remains elusive.

Based on Glendenning and Battersby’s (1990) principles of CEG, Formosa (2002) proposed principles of critical geragogy. The seven principles for the theory and practice of critical geragogy that Formosa (2002) proposed are:

the embodiment of a political rationale; a commitment towards the transformation of the ageist world; disagreement that any type of education empowers older persons; emphasis on facilitators who take sides with and are committed to the position of older people; a reaching out to all distinct segments of older people; embracing a self-help culture; taking the role of a ‘progressive’ movement by engaging in counter-hegemonic activities. (p. 73)

Later, Formosa (2005; 2012) reflected on the efficacy of the proposed critical geragogy principles, which he considered to be broadly successful, but admitted that he has not successfully achieved praxis by their implementation.

A vital critique of geragogy is that it lacks a theoretical basis in order to establish itself as meaningfully different from adult education; however, Tam (2014) acknowledges that critical geragogy makes progress toward addressing this theoretical lacuna. However, the liberal, humanist critique of critical geragogy contends that there remains a lack of proper theorization, maintaining that educational aims are not distinctive across the lifespan (Formosa, 2011; Withnall, 2000). Defenders will point to the different social circumstances and psychological development of learners across the life course, as well as the reasons why education is important and necessary at different points in life (Schuetz, 1982). Functionalist justifications for education include the need for job (re)training and as a form of leisure; whereas, critical theorists defend the need of a political rationale to oppose the structural marginalization of older adults (Formosa, 2011). More generally,

critical theory in social gerontology has been critiqued for its inability to resolve the discursive debates surrounding activity and disengagement (van Dyk, 2014). To escape critical theory's binary interpretations, van Dyk (2014) calls for theorization from a post-structural perspective, in order to explore social disparities, and how they are perpetuated, in a manner that appreciates their fluid nature. And so, scholars continue to progress theoretical insights, but it is apparent that more is still needed.

Hence, from a critical geragogy theoretical framework, which aims to expose the ideological constructs hidden within educative curricula taught to older persons (Formosa, 2012), this qualitative study set out to: 1) contextualize, understand, and critically interpret the socio-cultural influences that affect the teaching methods that exercise instructors employ; and 2) develop a theory that explains the educational processes that take place in the interactions between exercise instructors and older adult exercisers.

Reflexivity. Throughout this research, I practiced self-reflexivity in order to bring awareness to inevitable bias and provide an opportunity to challenge views that could influence data or findings. I engaged in this practice via written field notes and working in consultation with my advisor and committee (Groenewald, 2004). Field notes were collected throughout the study as a reflexive tool, but also for recording observations. According to Groenewald (2004):

It is the researcher's field notes recording what the researcher hears, sees, experiences and thinks in the course of collecting and reflecting on the

process. Researchers are easily absorbed in the data-collection process and may fail to reflect on what is happening. However, it is important that the researcher maintain a balance between descriptive notes and reflective notes, such as hunches, impressions, feelings, and so on. (p. 48)

Therefore, it is not just enough to write out field notes, but to also write out reflections on these field notes. Wolcott (2005) calls this “Observe yourself observing” (p. 90) and asking yourself, as the researcher, why certain elements have caught your attention. I recorded these reflections as memos, part of the CGT methodology, and referred to them frequently throughout the process of data collection and analysis.

Methodological Approaches

Institutional Ethnography. The approach underlying Paper 3 is an IE. Canadian sociologist Dorothy Smith (1990, 2005, 2006) devised IE in a reaction to what she described as ethnography’s ‘imperialism’ and grounded theory’s positivist assumptions (Smith, 2005). IE’s ontology is social and thus concerned with how embodied experiences and actions are collectively organized (Smith, 2005; 2006). IE neither contributes to theory nor makes any assumptions as to the meanings ascribed to social processes (Rankin, 2017). Furthermore, IE does not impose a pre-conceived theoretical framework, but can draw from frames and constructs within particular theories (Smith, 2002; 2007). IE’s roots are in critical theory, feminism specifically (Smith, 2007), and because IE is attuned to the

shared experiences of the social groups under investigation, IE's social ontology is also well aligned to the constructivist position (Smith, 2002; 2005; 2006).

In an IE, the subject of study is a social process, not an objectified research subject (Smith, 2006). IE addresses the ways in which power is exerted through institutional practices, epistemologies, and interactions (Campbell & Gregor, 2004). Institutions, in IE, means groups of ruling relations or administrative procedures that govern people's actions, thoughts, and work practices (Campbell & Gregor, 2004). Ruling relations are invisible, "discursive, managerial, and professional forms of governance" (Walby, 2007, p. 1012) exerted by "individuals, organizations, professional associations, agencies and the discourses they produce and circulate" (Mykhalovskiy & McCoy, 2002, p. 19).

Drawing from Marx and Engel's conceptualizations of work as a material practice, the focus in an IE is on people's actual behaviours and how they engage in work and every day practices involving material objects, such as texts (Campbell & Gregor, 2004; Quinlan, 2009; Townsend, Langille, & Ripley, 2003). In essence, "modern power is exerted through the documentary processes used to describe, categorize, define, direct, visually represent, or otherwise coordinate and control the everyday world." (Townsend, 1996, p. 188). According to Townsend et al. (2003), abstract forms of modern power are embedded in "concepts, such as client-centred, ...efficiency, effectiveness, liability, ...professional competence, risk, safety" (p. 21), as well as organizing principles, such as organizational practices and policies, and other texts, such as training curricula, liability waivers,

and the like. Both education and fitness are institutions in that they are governed by a set of rules, as articulated and passed across time and place via texts, and are reliant on competent social actors, such as educators and instructors, to enact these rules (Campbell & Gregor, 2004; Ecclestone & Jones, 2004; Jarvis, 1985).

According to Rankin (2017), the aim of an IE “is to find traces of ruling relations within the descriptions of everyday work—those occasions when the work being done at the standpoint location does not seem to be supporting the interests of the people there” (p. 3). An IE investigation centres around the problematic, the contradictions and tensions that render individuals in the local setting powerless, which requires investigation into how the social world is organized to produce such effects (Rankin, 2017; Townsend et al., 2003). The focal point of analysis is mapping or recording the ways in which social processes related to the embodied experience of a phenomena are organized by ruling relations (Campbell & Gregor, 2004). The end product, rather than theory, is explication, wherein one illuminates the hidden forces governing the embodied experience under scrutiny (Campbell, in Smith 2006). IE’s findings are, therefore, empirical, but subjective and thus lack generalizability outside of the specific institutions under investigation (Campbell & Gregor, 2004; Smith, 2005).

IE does not specify how one should conduct their research, but rather outlines that for which one should look (Campbell & Gregor, 2004). DeVault and McCoy (2006) describe this approach as emergent, and thus approaches will vary for each project. Therefore, there are no systematic guides to data collection or

analysis. In IE, the researcher follows leads, following ruling relations, to map the ways in which embodied subjects are connected to larger networks of influence (Campbell & Gregor, 2004). When it appears that no novel data can be added, and when no further mapping can occur, the study is considered complete (Campbell & Gregor, 2004). Thus, an IE does not necessarily require large quantities of data, but rather aims to gradually make visible how people perform their work and then map the problematic to institutional processes (Rankin, 2017). To this end, IE might employ several methods for data collection, such as interviews, observations, and texts (Campbell & Gregor, 2004), all of which were used in this thesis.

Investigating the “textually-mediated social organization” (Smith, 1990) is essential in an IE in order to elucidate influences of power, exerted by the social institutions, that constrain the everyday experiences of individuals (Smith 2002; 2007). This is because texts are unchanging and thus are means by which work practices are standardized, even if the ways in which the texts are read and enacted may differ by individual interpretation of said texts (Gergen, 2009; Quinlan, 2009; Walby, 2007). In an IE, texts are a “means of access, a direct line into the relations it organizes” (Smith, 1990, p. 4), and thus read with an aim for explicating social relations, rather than informing a knowledge base (Rankin, 2017). Therefore, the texts included in this study were read as data.

Texts, such as manuals and modules that comprise the training curricula used to certify group exercise instructors, were considered essential in this IE in

order to identify influences of power beyond the scope of observable interactions, because they train instructors how to perform their jobs (Smith, 2002; 2007). Therefore, for this study we analyzed the language utilized in these curricula (Smith 2002), as well as how the discourses contained therein are embodied and carried out in the daily context of older adult exercise groups (DeVault & McCoy, 2006). These texts are said to “provide objectified accounts of everyday life by extracting pieces of information that form conceptual facts” (Townsend et al., 2003, p. 21). It is upon these factual accounts that policy and practice decisions are made, which in turn affect the embodied experience of those at the local, or interpersonal, level (Townsend et al., 2003).

Influences of power cannot be mapped comprehensively (Smith, 2006), as IE “...is, in principle, never completed in a single study” (Smith, 2002, p. 30). Therefore, focus of this thesis was on mapping the curricula used to train and certify group exercise instructors in order to reveal the degree of power that certifying bodies attempt to exert in governing the daily experiences of exercise instructors and the clients they serve (Smith, 2002; 2007). Other texts I drew upon were: liability insurance, professional certification, music licensing, participant health history and assumption of risk waivers, as these “are used to coordinate and control the broad *social relations* and the *ruling apparatus* that governs *the social organization of knowledge* of an institutional function” (italics in original, Townsend et al., 2003, p. 21.).

Informants, as research participants are called in an IE, are considered experts about their day-to-day work experience (Campbell & Gregor, 2004). Informants who work within the institution under investigation and are a means of entry into the topic being researched (Campbell, 2006; Campbell & Gregor, 2004). Informants may not be explicitly aware of the ways in which their work is organized, thus an IE aims to actively involve informants in the process of uncovering and describing the influence of these social processes (Campbell, 2006). Conceptualized in this way, interviews are framed as “talking to people” (Campbell, 2006, p. 77), much in a manner like a go-along interview, with a focus on what the informant discloses about their work, materially, and how it connects them to a larger network of social actors engaged in that work, ideologically (Rankin, 2017; Smith, 2002). It was also here where I grounded the ‘standpoint’ (Rankin, 2017) for the line of inquiry in this IE, centring my analysis on the embodied experiences of these older exercisers.

In an IE, the aim is “...to locate and trace the points of connection among individuals working in different parts of institutional complexes of activity” (DeVault & McCoy, 2006, p. 18). Thus, extending from the local experience of older exercisers, I investigated the work of exercise instructors. It is important to note that an IE “...relies on the language in which people speak of what they know how to do, of their experience, and of how they get things done” (Smith, 2002, p. 22). Therefore, I reflected dialogue back to informants for clarity where required (Starks & Trinidad, 2007), paid special attention to the language and

jargon used by the informants, and kept a focus on informants' account of actual activities undertaken, rather than their subjective experiences (Diamond, 2006; Smith, 2002).

In an IE, the researcher is considered to be part of the social environment and their role is an analyst who should side with, and advocate for, the subject under scrutiny (Campbell & Gregor, 2004; Smith, 2005), which in this study was taking up the 'standpoint' of older exercisers. It is this notion of 'taking sides' (Freire, 1974/1993) that expose IE's critical underpinnings. It is also a critical emphasis that informs IE's orientation toward social democracy and advocacy (Campbell & Gregor, 2004). What this means is that a critical researcher must engage in reflective practice in order to acknowledge the power their position might entail, and seek to mitigate any potential for the abuse of that power, thus preventing acting as an 'imperialist' researcher (Smith, 2005). Indeed "Analysis in IE demands us to suspend most of our prior understanding about what the problem is and the explanations we bring. This is particularly true for 'insiders,' like myself (a certified group exercise instructor), who are trained professionally (Rankin, 2017). According to Walby (2007), "Reflexivity draws attention to the importance of researcher social location in interpreting participant accounts but also, more important, requires of us the examination of the ontological and epistemological assumptions of our frameworks for data analysis" (p 1016). Therefore, this reflexive practice was put in place in order to ensure that findings

were reflected in the data, as well as establish the ways in which my positionality could influence the study's outcomes (May, 2002).

Constructivist Grounded Theory. The methodology underlying Paper 4 in this thesis is CGT. Given the lack of theorization about the educative role fitness instructors play in older adult group exercise, I chose CGT methodology in order to develop a theory that explains the educational processes and methods that are present in the interaction between exercise instructors and older adult exercisers. CGT is aligned with the interpretive paradigm underlying this study. Theoretically, grounded theory originates from symbolic interactionism (Starks & Trinidad, 2007), specifically that of Dewey and the Chicago School given its roots in pragmatism (Charmaz, 2006). Additionally, CGT is aligned with critical theory (Charmaz, 2017). However, a theoretical framework should not be imposed in grounded theory; grounded theory should emerge from the data (Starks & Trinidad, 2007).

Grounded theory arose out of ethnography, in order to bring about a systematic method for approaching qualitative inquiry (Bryant & Charmaz, 2007). CGT, specifically, is credited to Kathy Charmaz (2006), who adopted Classical and Straussian forms of grounded theory to align with the interpretive paradigm. According to Bryant and Charmaz (2007), “A constructivist approach means more than looking at how individuals view their situations. It not only theorizes the interpretive work that research participants do, but also acknowledges that the resulting theory is an interpretation” (p. 239). Not only that, but its ontology is

social; meaning, it rejects Western individualism and it assumes that collective experiences and relations constitute society (Bryant & Charmaz, 2007; Charmaz; 2006). This ontology is well positioned with phenomenology, symbolic interactionism, cultural studies, and IE (Charmaz; 2006). Thus, IE and CGT are both complimentary approaches to inquiry, which is why I choose to employ both methodologies in undertaking this thesis.

CGT aims to understand the meanings of a social process (Charmaz, 2006), which in this study was unpacking the social process of how exercise instructors for older adults utilize educational methods to facilitate the interactive transfer of affective, cognitive, kinesthetic, and culturally embodied knowledge. The product of CGT is an emergent, interpretive theory that explains a social process or phenomenon, and how people attribute meanings to it (Charmaz, 2006).

CGT outlines an inductive and systematic, yet flexible, guide to data collection and inductive analysis, wherein the researcher is constantly interacting with the data and emergent analysis (Charmaz, 2006; Charmaz & Belgrave, 2012; Dey, 2007). Weed (2009) describes the essential components of grounded theory, generally, as: being an iterative process; involving theoretical sampling; applying theoretical sensitivity; making use of codes, memos, and concepts; engaging in constant comparison; aiming for theoretical saturation; measuring for fit, work, relevance, and modifiability; and producing a substantive theory. To this, Holt and Tamminen (2010) add that a constructivist approach to grounded theory

requires methodological coherence throughout the course of the research. This systematic approach facilitates theorization about that process and phenomenon. According to Charmaz and Belgrave (2012), “The constructivist approach places priority on the studied phenomenon and sees both data and analysis as created from shared experiences and relationships with participants” (p. 4). Herein, data collection begins with purposive sampling and, as CGT proceeds, sampling becomes more theoretical, aiming to elaborate on emerging ideas, check hypotheses, and address gaps in the data (Charmaz, 2006).

Data analysis occurs concurrently and iteratively with data collection. The systematic elements comprising CGT consist of: 1) initial, or open, and focused, or selective, coding of data; 2) memo-ing; and 3) abduction (Charmaz, 2006). In CGT, coding is recognized as both flexible and a reflection of the researcher’s interests and perspectives (Charmaz, 2006). The purpose of coding is to define, summarize, and categorize the initial data, then select that which is most significant within the data (Kenny & Fourie, 2015). Reading the data thoroughly, initial codes use words and phrases taken directly from the data, often expressed as gerunds, to identify that which is significant in the data, pinpoint gaps in the data, and create a descriptive account surmising what might be taking place (Charmaz, 2006; Kenny & Fourie, 2015). According to Charmaz (2006):

Line-by-line coding, the initial grounded theory coding with gerunds, is a *heuristic* device to bring the researcher into the data, interact with them, and study each fragment of them. This type of coding helps to define

implicit meanings and actions, gives researchers directions to explore, spurs making comparisons between data, and suggests emergent links between processes in the data to pursue and check. (p. 121)

Focused codes, however, are used to analyse large sets of data and are comprised of the most noteworthy and recurrent initial codes (Charmaz, 2006).

Researchers write memos from their codes throughout the data collection process (Charmaz, 2006). Memos are conceptual and reflective writings, meant to develop ideas and become more analytic as the research process takes place, ultimately serving as the foundation for theory development (Charmaz, 2006; Charmaz & Belgrave, 2012). Finally, abduction is described as the iterative process of rationally and creatively generating hypotheses, which then one returns to the field to test (Bryant & Charmaz, 2007; Charmaz, 2006). According to Charmaz (2006), “The iterative logic of grounded theory aids in overcoming several ethnographic problems: accusations of uncritically adopting research participants’ views; lengthy unfocused forays into the field setting; superficial, random data collection; and reliance on stock disciplinary categories” (p. 42). In CGT, when it appears that no novel data can be added, the point at which saturation is reached, the study is considered complete, as no new properties emerge (Charmaz & Belgrave, 2012; Charmaz, 2006). I followed each of these steps, as described in Paper 4, in the development of a substantive theory of the interactive transfer of knowledge between exercise instructor and older exercisers.

In CGT, the researcher is an interpreter, providing one, albeit dominant, voice among the collective voices encompassed within the data (Dey, 2007). Thus, the practice of reflexivity and ensuring rigour are vital. To ensure rigor, I employed member reflections, which is inherently part of CGT (Smith & McGannon, 2017). Indeed, member reflections are employed in theoretical sampling in CGT in that the researcher elicits participant feedback on emergent theorizations, as well as in asking informants if the findings from a literature review on the topic of study is compatible with their lived experience (Charmaz, 2006). Secondly, I engaged in the practice of consulting critical friends, wherein I discussed challenges and reflections with other scholars, such as my advisor and those comprising my committee (Smith & McGannon, 2017). This practice is aligned with abduction in CGT (Campbell & Gregor, 2004; Charmaz, 2006). Finally, I implemented empirically-based, relativist criteria to further ensure rigor (Smith & McGannon, 2017). In CGT, for instance, examples of relativist criteria include, but are not limited to: credibility, originality, resonance, and utility (Charmaz, 2006). Toward this aim, I followed the systemic approach to data collection to enhance credibility of the research. I aimed for originality by consulting extant literature to ensure findings added a novel perspective to the line of inquiry. I also engaged in the process of member reflections and engaged with critical friends to ensure that findings resonated with and were useful to fitness instructors, older exercisers, and scholars.

Methods

This study proceeded in four phases, each one corresponding to one of the four aforementioned supplemental research questions: 1) a content analysis of instructor curricula; 2) observations of exercise instructors of older adults; 3) interviews with exercise instructors of older adults; and 4) a modified go-along, combining observations and interviews, with older adult exercisers. Darbyshire, MacDougall, and Shiller (2005) advise that a “...variety of complementary and congruent ways [methods] is valuable but not without pitfalls” (p. 424). Multiple methods can result in more data than necessary and can be more challenging to manage. This was indeed the case with this study, as is discussed in the conclusion section of the thesis; however, the benefit of employing these methods provided a greater breadth of data and detail to analysis than would otherwise have been available if employing a singular method.

Phase 1: As described in Paper 2, the first phase of this study was undertaking a qualitative, conventional content analysis of the primary instructor curricula used to certify exercise instructors of older adults in Canada and the United States. I included certification agencies recognized by a national accreditation agency as these are considered to be the most popular and reputable in the North American fitness industry. I including one regional certification for older adult fitness in Canada given that no other national option existed at the time of the study. From these reputable agencies, I excluded general practice certifications where aging or working with older adults was absent from the

curriculum. Therefore, I included curricula that was solely devoted to, or minimally offered a module or specialized certificate specific to, older adult group fitness.

Ultimately, I included eight curricula in this thesis from the five certifying bodies: 1) Canadian Fitness Professionals Inc. [canfitpro™]'s Fitness Instructor Specialist course, which is for generalist, mainstream practice but included content specific to aging; 2) canfitpro™'s, Active Aging certificate, which was solely devoted to older adult fitness; 3) the Canadian Centre for Activity and Aging [CCAA]'s Seniors Fitness Instructor Course [SFIC], which was solely devoted to older adult fitness; 4) American Council on Exercise® [ACE®]'s Group Fitness Instructor Certification, which is for generalist, mainstream practice but included content specific to aging; 5) ACE®'s Senior Fitness Specialization, which was solely devoted to older adult fitness; 6) Aerobics and Fitness Association of America® [AFAA®]'s Group Fitness Instructor Certification, which is for generalist, mainstream practice but included content specific to aging; 7) AFAA®'s Golden Hearts®: Senior Fitness Training, which was solely devoted to older adult fitness; and SilverSneakers®, was solely devoted to older adult fitness. Of these, the former two are Canadian-owned organizations or companies and the latter 7 are American-owned companies.

I attended and participated in all face-to-face and online trainings for these certifications and certificates (eight in total – see Paper 2). The curricula varied in terms of mode of delivery, such as online and face-to-face delivery, as well as materials included. Texts included in analysis consisted of: print manuals; print

study guides; handouts; online course resources consisting of video learning modules; transcripts; practice exams; and marketing materials and information from these body's websites where applicable. Tables and additional details are contained in Paper 2.

I thought it was important to undertake this content analysis because different certifications have been found to influence both the delivery and experience of older adult exercise classes (Robinson et al., 2016). Therefore, the aim of this content analysis was to allow insight into the social and cultural contexts in which older adult group exercise takes place, as well as to allow evaluation of the underlying assumptions about aging and physical activity contained within these curricula.

In a conventional content analysis, codes are not pre-determined by a theoretical framework; rather, researchers employ an inductive approach whereby codes are identified from the data (Hsieh & Shannon, 2005). That said, I targeted my data collection efforts as guided by the research questions underlying this study, as well as my chosen methodologies. Therefore, when reading the texts, I highlight and abstracted data in accordance with three broad themes: 1) statements pertaining to age and aging, given this study's gerontological focus; 2) statements pertaining to work, given the focus on work-related practices in an IE; and 3) statements pertaining to education, given this study's aim in investigating instructors' educative role. Paper 2 reports the results of this conventional content analysis, drawing on the themes highlighted with regards to age and ageing. Data coded in

relation to work and education informed the findings for Papers 3 and 4 respectively. More detailed methods are described in each paper.

Texts, such as these curricula, are considered essential in an IE in order to identify influences of power beyond the scope of observable interactions (Smith, 2007). Additionally, texts can be an important data source for CGT (Charmaz, 2006). Thus, the text was read for data to inform both the IE (statements related to work) and CGT (statements related to education) portions of this study, as represented in Paper 3 and Paper 4 of this thesis respectively. For the IE, I looked at the language utilized in these curricula (Smith 2002), as well as how the discourses contained therein were embodied and carried out in the daily context of older adult exercise groups in order to reveal the degree of power that certifying bodies attempt to exert in governing the daily experiences of exercise instructors and the clients they serve (DeVault & McCoy, 2006; Smith, 2002; 2007). For the CGT, textual data was included with observational and interview data during the initial coding phase in order to inform theory formation. Textual data also helped provided me with a foundation for what is considered ‘best’ practice, against which I contrasted data collected from phases 2-4 of this study.

Phase 2: To identify the educational methods that exercise instructors use when they teach older adult exercise classes, phase 2 consisted of observing exercise instructors of older adults. I recruited a purposive, and later theoretical, sample of 22 exercise instructors (N=14 Canadian; N=8 American), some of whom were and some of whom were not instructors for the older exercisers who

participated in this study. The rationale for this was twofold: 1) limiting the sample to only those affiliated with exercisers involved in the study would restrict the contexts in which instruction was observed, and as such we would not be able to ascertain if my observations were idiosyncratic or normal operational procedures (Campbell & Gregor, 2004); and 2) I purposively sampled with an aim for heterogeneity in the sample such that instructors possessed range of social characteristics (e.g. race/ethnicity, age, gender/sex, etc.). Ultimately, the sample included one person of Asian origin, one person of American Indian origin, one person of Middle-Eastern origin, one person of Hispanic origin, and 18 people of white/Caucasian origin. Three of the 22 instructors (N=2 Canadian; N=1 American) identified as male. Ages ranged from “20s” to 80 (Mean = 50 years). I recruited instructors until saturation was achieved (Starks & Trinidad, 2007). Tables with additional details are included with Paper 4 of this thesis.

So that each instructor’s teaching behaviors were observed multiple times in various formats, I observed instructors at multiple locations and across different formats for a total of 47 observational hours. Formats included: dance aerobics (both mainstream and older adult specific; both high and low impact); step aerobics (mainstream); chair aerobics (older adult specific); yoga (both mainstream and older adult specific); flexibility, mobility, and core (both mainstream and older adult specific); spin/cycle (mainstream); Nordic walking (older adult specific); group strength (both mainstream and older adult specific); barre (mainstream); TRX® (mainstream); and falls prevention (older adult specific) classes. Some

instructors possessed one certification, but many possessed multiple certifications. Instructors' wide range of certifications consisted of: no certification (N = 1); canfitpro™ (N=2); SFIC through CCAA (N=4); YMCA of Canada or YMCA of the USA (N=6); ACE® (N=1); SilverSneakers® (N=4); AFAA® (N=1); Zumba® or Zumba Gold® (N=4); Mad Dogg Athletics®, Inc. Spinning® (N=2); pre-choreographed (such as MOSSA™ or Les Mills=3); TRX® (N=1); and “other” certifications (N=8).

Observations also took place in a variety of exercise settings, including: community exercise settings; senior centres; private gyms; and university-affiliated settings. Appropriate ethics clearance and permissions were obtained before any recruitment attempts were made and all participants signed written consent to participate. Observational data was only collected on participants who signed written consent. Instructors also had to sign a statement indicating that their employer was aware of and sanctioned their participation in this study. Class participants who were not part of this study were notified of my presence and purpose; they were free to ask me questions about the study and reassured that I would not collect any data related to them if they were not a participant in the study with a signed consent form on file.

Observations and interviews (see phase 3) were analyzed using an IE methodology to ascertain the ways in which instructors acted as intermediaries between the curriculum in which they were certified and the exercisers they taught (see Paper 3) and a CGT methodology to explain how exercise instructors facilitate

embodied learning in the context of older adult exercise (see Paper 4). Participant observations are well suited to IE, which is meant to keep a focus on actual activities, rather than subjective experiences (Diamond, 2006; Smith, 2002) and CGT, which is attentive to observing the social processes surrounding the activity (Fathi Najafi, Latifnejad Roudsari, Ebrahimipour, & Bahri, 2016). Observations in an IE revolve around events related to work processes (Diamond, 2006) and in CGT tend to be more focused, in this case on the educational methods employed by exercise instructors (Fathi Najafi, et al., 2016). Therefore, I kept detailed field notes of participant observations, and in many cases performed several observations per instructor. Herein, I coded observations in the same manner as the textual analysis (theme 1 – age and aging; theme 2 – work; theme 3 – education) and wrote memos on these observations in accordance with CGT methodology.

Phase 3: I conducted semi-structured, qualitative interviews with these same 22 exercise instructors. I interviewed instructors after observing them facilitate an exercise class, so that I could ask them about certain processes I observed. Based on Hawley-Hague et al.'s (2016) qualitative interview guide of exercise instructors, I asked interview participants to describe how they approach teaching their classes and any differences in their approach based on the audience and the setting in which the class takes place. I probed for instances in which they changed their approach, particularly because of exercisers' ages (DeVault & McCoy, 2006). Embedded in this question was examining if the instructor perceives any environmental or institutional constraints that alter their approach due to either

the type of class delivered, its audience, or the setting itself (DeVault & McCoy, 2006). I also asked the instructors what their attitudes are regarding older adult exercise, in both the settings in which they deliver such programs and in other settings with which they are familiar (Hawley-Hague et al., 2016). Based on previous IE work, I asked the instructors if they wanted to change their approach to older adult exercise instruction, and if so, how they would go about making such changes (DeVault & McCoy, 2006). Furthermore, I asked instructors to reflect on their past experiences teaching older adult exercise and describe if/how their perceptions had changed over time and/or how their own process of aging influenced their own perception.

All interviews were digitally recorded and transcribed verbatim. I employed active listening skills and followed a semi-structured interview format, paying special attention to the language used by the instructors. I probed for additional details where necessary, minimizing interruptions as best as possible, and I reflected dialogue back to the interviewee for clarity where required (Starks & Trinidad, 2007). As data collection became more theoretical, I added questions to gain insight into the extant findings and emergent grounded theory (Charmaz, 2006). Again, I coded observations in the same manner as the textual analysis and observational data (theme 1 – age and aging; theme 2 – work; theme 3 – education) and wrote memos on these observations in accordance with CGT methodology.

The aim of interviews in an IE is “...to locate and trace the points of connection among individuals working in different parts of institutional complexes

of activity” (DeVault & McCoy, 2006, p. 18) and in CGT “to elicit the participant’s story” (Starks & Trinidad, 2007, p. 1375). Additionally, IE “...relies on the language in which people speak of what they know how to do, of their experience, and of how they get things done” (Smith, 2002, p. 22). Therefore, the results of this phase provided insight, from the perspective of these instructors, into the educational methods that they utilize with older adult exercisers (to inform the CGT: Paper 4), how they perceive themselves as applying these methods (to inform the CGT: Paper 4), and how they perceive these methods as creating (in/ex)clusive social exercise environments (to inform the IE: Paper 3), as observed in phase 2.

Phase 4: The aim of phase 4 was to investigate how older adults perceived exercise instructors across different contexts, thus illuminating the lived experiences of exercising as an older adult in the context of a senior specific exercise classes versus mainstream exercise classes. This phase helped garner insight into the older adult experience of receiving exercise instruction, allowing older adults to compare and contrast experiences across settings, while illuminating the resultant feelings of (in/ex)clusion experienced. It was in this phase that I could, through dialogue, consult older adults about the impact that the findings from the previous three phases had on their everyday lives in the context of exercise. This process also helped contribute to the rigour of the overall study (Smith, 2007; Smith & McGannon, 2017).

In this phase, I utilized a go-along method and semi-structured interviews with 14 older exercisers. Go-alongs consist of in-depth, qualitative interviews in

the context of the observational setting (Carpiano, 2009), which permits a phenomenologically-informed method for capturing reflexive embodiment “*in situ*” (italics in original, Kusenbach, 2003, p. 455). Therefore, I joined each research participant at one or more exercise classes that they regularly attended and took detailed notes of my observations immediately following each go-along. As in the case of exercise instructors, exercisers signed consent to participate, data was only collected on those who signed a consent to participate, and instructors and other exercise participants were aware, and approved, of my participation in the exercise class. I did ask exercisers questions during the exercise classes, when appropriate/possible, and I observed their interactions in the setting (Kusenbach, 2003) in order to gain “insight into both the sensory and cognitive components of ‘movement-in-action’” (Griffin, 2017, p. 564). After the go-along, data collected was expanded upon via semi-structured interviews, which took place after the last exercise class was observed (Carpiano, 2009). All interviews, with the exception of one, were audio recorded and subsequently transcribed for analysis; detailed notes were taken for the one interview where audio recording was not permitted.

Participants were purposively and theoretically recruited from community exercise settings similar to, and in some cases the same as, the settings from which instructors were recruited. Overlap was not necessary, as I preferred if the older adult sample was largely not familiar with the instructor sample so as to avoid data that critiqued the specific instructors that participated in this study. The inclusion criteria for this sample was two-fold: 1) subjectively identifying as an older adult,

senior, or elder¹ (Schwall, 2012); and 2) currently participating in a range of instructional contexts (i.e., both in exercise classes aimed at the general population and those specifically targeting older adults). Inclusion was contingent on my ability to obtain permission to go-along with the exercisers in the senior-specific exercise classes, which was not a barrier at any stage during this study.

In total, all 14 of the older exercisers who agreed to participate in this study were white/Caucasian, and were equally stratified by country (N=7 Canadian; N=7 American). Ages ranged from 64 to 86 years. Of the 14 informants, 3 (N=2 Canadian; N=1 American) identified as male. Formats observed over the course of 25 hours consisted of: aqua/water aerobics (2 classes); dance aerobics (4 classes); chair aerobics (6 classes); yoga (2 classes); tai chi (one class); spin/cycle (one class); and a running group (one class). In accordance with the methods described above, I coded go-along observations and interview data from phase 4 according to theme: age and aging; work; and education, and wrote memos in accordance with CGT methodology. Data from this phase was also used to inform the IE (Paper 3) and CGT (Paper 4) portions of this study.

Outline of Dissertation

This thesis consists of four papers. Each paper is connected in its objective to address the research question: *What educational role do exercise instructors for older adults play, and how might this affect the (in/ex)clusivity of the social exercise*

¹ A subjective perception of age would elucidate insights excluded by defining age chronologically, which I believed was in greater alignment with this proposed study's focus on an embodied experience of age and aging (Schwall, 2012).

environment? Given the diverse methods employed, there is very little overlap between the four papers. In that same vein, I have also made every attempt to embed my findings in diverse, but related literature. Papers also vary, to slight degrees, to reflect the language, formatting, and other conventions of the journals and books in which they are, or intended to be, published. That said, some of the information contained in this introductory section does overlap with information in the papers, but each paper expands on the methods and background information provided herein.

The objective of Paper 1 was to provide a foundation for my initial research proposal prior to embarking on this study. For Paper 1, I sought to identify a large corpus of literature on exercise instruction to ascertain the depth and breadth of extant scholarly work on the subject. I initially set out to elucidate what this literature could reveal specifically about the educative role of exercise instructors, particularly in the context of older adult fitness, but as the findings reveal, the literature in these domains is scant. This scoping review does point to instructors as educators, but provides little empirical evidence as to the educative methods instructors employ or how the educative approach differs in mainstream or age-segregated exercise environments. Moreover, this scoping review establishes that instructors do play a role in fostering (in/ex)clusive physical cultures, acting as cultural intermediaries who may, either explicitly or implicitly, foster ageist or age-inclusive physical cultures. These findings from this literature review informed my

research proposal, the formation of my research question and sub-questions, and the development of Papers 2-4 in this thesis.

Paper 2 presents the findings of phase 1 (see Methods section above) of this study. It is a qualitative, conventional content analysis that was written as a chapter for an edited book and is the first of the three empirical papers comprising this thesis. The objective of this paper was to determine how age and aging is conceptualized and textually represented in the eight training curricula used to certify exercise instructors. Herein, I looked at exercise instruction as a form of bodywork, with the instructor again playing the role of cultural intermediary. Findings speak to the essentializing of older adults as a ‘special population,’ whose needs cannot be met in mainstream fitness. Thus, the aging body is commodified with the aim of controlling the inevitable aging process. Toward the aim of elucidating the ways in which fitness cultures foster (in/ex)clusive environments, this study reveals that the curricula explicitly resist ageism in order to promote inclusivity, but fail to acknowledge the ways in which measuring aging bodies against a more youthful, ideal body engenders ageism.

Paper 3 further explores the notion of (in/ex)clusivity introduced in Paper 2 by delving into the separation of older adult fitness from mainstream fitness, and paying attention to the respective fitness cultures therein. Paper 3 presents the findings of the IE portion of this research, drawing on phases 1-4 of the methods described in the previous section. In so doing, Paper 3 maps the social influences that inform the curricula used to train exercise instructors and the resultant influence

on how exercise instructors teach older adult fitness, thus providing empirical connections between the material (policies, curricula, etc.) and the discursive practices taking place in group exercise classes.

In Paper 3, I provide evidence for the (re)produced exclusion of older adults from certain fitness cultures by looking at: 1) screening procedures and practices, wherein older adults are excluded from mainstream fitness cultures' lack of normative data; 2) the process of multi-level teaching, whereby modifying and progressing exercises to meet the disparate needs of exercisers is touted as a means of engendering inclusive exercises classes, but in practice can be problematic; and 3) the inconsistent application of contraindicated exercises (exercises that are deemed unsafe and thus not advised for certain populations) by some, but not all of, the curricula according to age-, rather than ability-, based criteria, thus undermining instructors' competence, ignoring exercisers' agency, and (re)producing ageism. Paper 3 concludes by revealing how some older adult fitness cultures conflate age with ability, thus marginalizing older and younger adults whose abilities are not represented within mainstream and age-segregated fitness cultures. I argue that this arbitrary division of fitness by age is ageist, albeit compassionately, as elucidated in Paper 2. Furthermore, I argue that mainstream fitness needs to embrace options that appeal to exercisers of all abilities, regardless of age, in order to create more inclusive physical cultures.

Paper 3 introduced the notion of multi-level teaching in order to engender inclusive instructional practices, thus providing a link between teaching and

(in/ex)clusivity. Paper 4 picks up where Paper 3 left off by providing an in-depth analysis of the educational methods that instructors employ, how these educational methods are used, how instructors perceive themselves as educators, and how educative strategies vary depending on delivery context (mainstream versus older adult specific exercise classes). Toward this aim, Paper 4, the final paper of this thesis, presents the findings of the CGT portion of this research, drawing on phases 1-4 of the methods described in the previous section. In so doing, Paper 4 introduces a substantive theory of age capital. The substantive theory of age capital brings together the two core categories of the CGT: the need to balance education and entertainment in the group exercise class; and the need for fitness instructors to better understand and appreciate the sociocultural, corporeal, somatosensory, and biographical experiences of aging.

I define age capital as a form of embodied gerontological competence. The more age capital one possesses, the more understanding and appreciation one has of the sociocultural practices that have influenced older peoples' life course. I go on to describe the relation of age capital to Bourdieu's cultural capital, Mauss' (1934/1973) habitus (the embodiment of habits, abilities, preferences, and other sociocultural qualities) and body techniques (the culturally-specific ways in which individuals move and use their bodies), and Laz's (2003) accomplishing, or performing, of age.

I conclude the thesis by returning to the research question and sub-questions underlying this study. Therein, I attend to the substantive, theoretical,

methodological, and applied implications of these findings. I also discuss this thesis' limitations and offer possible lines for future inquiry.

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Paper 1: Exercise Instructors of Older Adults: A Scoping Review

The first paper in this thesis was published in the *Canadian Journal on Aging*, who holds the copyright to this article:

Harvey, K. & Griffin, M. (2020). Exercise instructors of older adults: A scoping review. *Canadian Journal on Aging*, 39(3), 373-384. doi: <https://doi.org/10.1017/S0714980819000436>

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The aim of this paper was to ascertain the depth and breadth of the scholarly work conducted on and the literature written about exercise instruction in the context of older adult fitness. Specifically, I sought to uncover what has been said about the educative role of exercise instructors in order to inform my research proposal. As identified in the paper, 5 roles of exercise instructors for older adults emerged:

- 1) they are facilitators of group social cohesion;
- 2) they are cultural intermediaries;
- 3) their role as competent practitioners, both in terms of exercise delivery and gerontological competence, is vital and valued;
- 4) they are leaders and communicators;
- and 5) they are educators.

This scoping review revealed a gap in extant scholarship regarding the educative role of the exercise instructor and how this educative role affects the (in/ex)clusivity of the physical culture. While the literature identified that exercise instructors are educators, and that teaching is an important leadership skill that instructors possess, little evidence or theoretical frameworks regarding how and why exercise

instructors are educators informed the literature. Thus, Paper 1 provides a foundation for the subsequent papers comprising this thesis.

Paper 1

Exercise instructors for older adult fitness: A review of the literature

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Abstract

Group-exercise instructors are a vital social determinant of exercise enjoyment, attendance, and adherence. Instructors also affect the degree to which physical cultures are socially inclusive. In order to elucidate the roles that instructors play in affecting these outcomes, we conducted a scoping review. Scoping reviews are a preliminary method for assessing the breadth and depth of existing literature in order to identify key themes and gaps therein. Based on Arksey and O'Malley's (2005) framework, we identified 52 articles and book chapters, 33 of which were older-adult specific, using a university search engine that simultaneously searches multiple databases. We conceptually mapped the literature, which revealed instructors' vital roles as: 1) constructors of group social cohesion; 2) cultural intermediaries; 3) competent practitioners; 4) leaders and communicators; and 5) educators. Of these, the instructor's educative role lacks empirical attention. We conclude with implications for future research, practice, and policy.

Keywords: Exercise instruction; fitness leadership; educational gerontology.

Introduction

Exercise instructors shape the experiences of exercisers participating in group exercise classes. Indeed, these instructors have a significant effect on the social space, physical culture, and degree of inclusivity experienced by exercisers participating in group classes (Carron & Spink, 1993). For these reasons, scholars have argued that exercise instructors are a key social determinant of exercise enjoyment, attendance, and adherence (Carron, Hausenblas, & Mack, 1996; Carron & Spink, 1993; de Lacy-Vawdon, et al., 2018; Petrescu-Prahova, Belza, Kohn, & Miyawaki, 2015). However, little is known about exercise instructors or the roles they play in older adult fitness – specifically the ways that they might impact the social inclusivity, enjoyment, and physical culture of group exercise for older adults. In order to assess the scope of the available scholarly literature on exercise instruction, we conducted a scoping review, which is a literature review method employed to evaluate the breadth and depth of extant literature (Grant & Booth, 2009). Our aim in conducting this scoping was to ascertain the roles that exercise instructors play in older adult group fitness. In this review, we highlight key findings and gaps within the literature, so that future research on exercise instruction can build upon extant literature and address significant lacunae in scholarship. The results of this review can initiate a conversation about the best practices and policies that would assist exercise instructors in creating more inclusive physical environments for older adults. As a result, the heterogeneous and rapidly growing population of older adults in Canada will feel more welcome in

group exercise classes, which in turn could increase in the number of physically active older adults.

Background

Physical activity in older adulthood has been linked to positive psychosocial and health outcomes, including optimism, life-satisfaction, positive affect, quality-of-life, and psychological well-being, as well as improved physical health and function (Battaglia et al., 2016; Hartley & Yeowell, 2015; Kim, Chun, Heo, Lee, & Han, 2016; Yamada, 2016). However, only 12% of Canadians aged 60-79 meet the Canadian Physical Activity Guidelines (Canadian Society for Exercise Physiology, 2011; Statistics Canada, 2015). Thus, older adults are less physically active than younger generations (Prohaska et al., 2006). To address the generational discrepancy in exercise participation rates, a large corpus of scholarship has focused on the barriers and facilitators of being physically active in older adulthood.

Social (in/ex)clusion of older adults has been identified as one such social determinant of physical activity participation (Biedenweg et al., 2014; Jacey, Clarke, Howat, Maycock, & Lee, 2009; Yamada, 2016). Social exclusion can occur for many reasons, but can be due to language, cultural, and literacy differences (Horne & Tierney, 2012; Shilling, 2016). In the context of exercise, cultural differences can centre around physical culture, which refers to the rules, beliefs, norms, and values that take place within spaces of physical activity and are reinforced by society (Lox, Martin, & Petruzzello, 2003). The dominant physical cultures for older adult fitness have been described as: 1) mainstream fitness

culture's focus on constant improvements in order to age 'successfully' or 'positively' (Katz, 2001); and 2) the discourse of inevitable functional decline, dependency, and disability that is said to be part of the process of aging (Gilleard & Higgs, 2013; Phillipson, 2005). Indeed, scholars have argued that aging is associated with 'letting oneself go' (Poole, 2001) and exercise is a form of anti-aging bodily management (Gilleard and Higgs, 2013).

Successful aging and the narrative of decline are two sides of the same coin; a problematic binary that results in ageist assumptions surrounding age, (in)ability, and (in)activity (Calasanti, 2016). Neither discourse fully appreciates the affective and communal dimensions present in the narratives of inactive older adults. Counter-narratives - as alternatives upon which physical cultures are built and embodied by older adults - present in extant literature include; an emphasis on pleasure (Phoenix & Orr, 2014), fun/enjoyment (McPhate et al., 2016; Poole, 2001), and socialization (McPhate et al., 2016; Tulle & Dorrer, 2012). These counter-narratives are embedded in Tulle and Dorrer's (2012) call for the creation of more inclusive physical cultures using a community-oriented approach. These counter-narratives are also aligned with the evidence that demonstrates that social inclusion, with an emphasis on enjoyment and socialization, is a determinant of physical activity (Resnick, Orwig, Magaziner, & Wynne, 2002; Yamada, 2016). Indeed, "...it is the social space that is created within [exercise] settings that is most influential in fostering their long-term adherence" (Hartley & Yeowell, 2015, p. 1635). This social influence may be why participants in group exercise, led by

exercise instructors, demonstrate better adherence than solitary exercisers (Beauchamp, Carron, McCutcheon, & Harper, 2007), but the ways in which exercise instructors leverage these counter-narratives to shape more inclusive physical cultures within spaces of older adult fitness is unknown.

It is important to understand the ways in which exercise instructors affect the physical culture of the group exercise setting, because a better understanding of the ways in which instructors foster enjoyment and social inclusion can help to maximize older adult attendance at and adherence to exercise. The aim of this review of the literature was to elucidate the roles the instructor plays in affecting these outcomes. Findings from this review can serve as an initial step toward understanding how instructors foster fun and inclusive exercise, as well as inform instructor best practices and policies for older adult group exercise.

Methods

We conducted a scoping review of the literature on exercise instructors in older adult group-exercise in order to conceptually map extant literature and address the gaps therein, in order to guide future research (Arksey & O'Malley, 2005). Scoping reviews serve as an initial method for appraising the breadth and depth of extant literature (Grant & Booth, 2009). We deemed this the best method, because scoping reviews are a conventional means of: 1) synthesizing findings from studies of various designs that have not yet been comprehensively reviewed; 2) mapping concepts embedded within a broad scope of heterogeneous literature; and 3) describing findings in great detail (Mays, Roberts, & Popay, 2001; Pham et al.,

2014; Tricco et al., 2016). We followed Arksey and O'Malley's (2005) standard framework for conducting a scoping review, which consists of five stages: 1) pose a research question; 2) identify relevant studies; 3) select articles for inclusion; 4) chart the literature; and 5) write up the results.

Stage 1: Research Question

With exercise instructors being such a vital social determinant of attendance, adherence, and enjoyment in physical activity (Carron, et al., 1996; Carron & Spink, 1993; de Lacy-Vawdon, et al., 2018; Petrescu-Prahova, et al., 2015), we sought to uncover what roles the exercise instructor plays in older adult fitness that might affect these outcomes. Following Arksey and O'Malley's (2005) framework, the research question we posed to direct this scoping review was: What roles do exercise instructors play in older adult group fitness?

Stage 2: Identify Relevant Studies

Using Arksey and O'Malley's (2005) framework for conducting a scoping review, we identified relevant peer-reviewed literature on exercise instruction via database searching, reference mining, and scanning specific gerontology journals. The first author scanned the literature between January 2017 and March 2017 using a university library catalogue programmed to simultaneously search multiple databases (including, but not limited to: MEDLINE/PubMed, PsycINFO, Social Science Abstracts, Sociological Abstracts, and ProQuest Sociology) in the same manner as a web search engine. We searched the following terms: 1) leader OR instructor; and 2) physical activity OR exercise OR fitness. This scan of the

literature was then enriched with additional search methods from April 2017 to June 2017, during which the first author scanned the reference lists of the selected articles, to identify literature preceding that which was already obtained, and conducted a manual search of relevant gerontology journals (e.g., *The Gerontologist*; *Canadian Journal on Aging*; *The Journal of Aging and Physical Activity*.) to identify pertinent articles that may have been omitted from the original database search. Follow-up scans in July 2018 and April 2019, using the aforementioned university library catalogue, yielded three new contributions to the corpus of literature identified in the initial search.

Stage 3: Selection of Articles for Inclusion

Inclusion and Exclusion Criteria The first author screened the titles, abstracts, and full-texts of the potentially relevant literature identified from the search results. We included peer-reviewed qualitative and quantitative articles, commentaries, reviews, and book chapters from any country that addressed exercise instruction in the context of group-exercise. We excluded literature that neither addressed exercise instruction nor group exercise. Thus, we excluded literature that focused on 1) coaching, as this literature is sport-specific; or 2) personal training, as this literature focuses on individual, rather than group, interventions. We did not impose date or language limits on the search; however, we did exclude gray literature (gray literature encompasses professional reports and documents published by professional organizations that train and certify exercise instructors that do not undergo a peer-review process). We included studies that spoke broadly

of social determinants of exercise that included, but were not limited to the role of the instructor. However, for analysis, we only charted findings related to exercise instruction.

Given the small body of literature specific to exercise instructors of older adult fitness (only 33 of the 52 articles), we collectively synthesized the literature across all age groupings. Not only did this provide for a more meaningful presentation of results, but we were conscious that older adults attend mainstream fitness classes that cater to persons of all ages and abilities, not just older adult specific group-exercise classes. That said, in the review, we highlighted evidence specific to older adults where appropriate.

[INSERT FIGURE 1 HERE]

Stage 4: Charting the Literature

We ultimately selected 52 works for the scoping review. These works included peer-reviewed qualitative and quantitative studies of various study designs, reviews, and book chapters that examine group exercise instruction. The literature was predominately drawn from the fields of exercise and health psychology, as well as kinesiology and sport studies. Arksey and O'Malley (2005) described the process of charting the literature for a scoping review as iterative in nature and similar to narrative analysis, in that themes and findings from the data are contextualized when entered into the form of a chart. Following Arksey and O'Malley (2005), we created a template to chart the data abstracted from the selected articles [See Appendices 1 and 2]. The first author used a qualitative,

thematic content analysis approach to identify descriptive information from the selected literature that specifically pertained to the role that the exercise instructor plays in older adult group-exercise. The first author then charted this information onto the created template. Throughout this entire process, the second author acted as a mentor and ‘critical friend’ as a means of achieving methodological rigor, thus providing feedback and encouraging reflexivity on both the process of conducting the review and the resultant charting of themes (Smith & McGannon, 2017).

Stage 5: Results

In synthesizing the included literature, we identified five themes, which revealed instructors’ vital roles as: 1) constructors of group social cohesion; 2) cultural intermediaries; 3) competent practitioners; 4) leaders and communicators; and 5) educators. A better understanding of these roles can be leveraged to inform best practices and policies regarding how exercise instructors can better foster more enjoyable and inclusive physical environments for older adults. This, in turn, could ultimately result in more welcoming in physical spaces and an increased number of older Canadians who attend and adhere to group-exercise interventions. In the section that follows, we elaborate on what the literature reveals about these five roles.

Results & Discussion

Social Cohesion Group social cohesion, in the context of exercise, results in group solidarity toward a shared aim that meet the needs of those comprising the group (Christensen, Schmidt, Budtz-Jørgensen, & Avlund, 2006). Among other

factors, such as group size (Remers, Widmeyer, Williams, & Myers, 1995) and type of exercise format, the teaching ability of the instructor has been found to have a profound impact on the social environment in a group exercise class (Carron et al., 1996; Christensen, et al., 2006). This, and more recent evidence, supports that the instructor's capacity to engender social cohesion affects participant enjoyment (Fisken, Keogh, Waters, & Hing, 2015; Gillett et al. 1993; Loughead & Carron, 2004; Loughead, Colman, & Carron, 2001; Loughead, Patterson, & Carron, 2008; Manson, Tamim, & Baker, 2017; Poole, 2001; Yardley et al., 2006). To facilitate group cohesion, scholars recommended that instructors understand group dynamics and employ social integration and team-building activities, which might include social events outside of class (Carron & Spink, 1993; Estabrooks et al., 2004; Hawley-Hague, Horne, Skelton, & Todd, 2016; Loughead et al., 2008; Poole, 2001). Overall, the literature indicates that fostering social cohesion could create a supportive, community-oriented culture.

Specific to the context of older adult fitness, some exercise programs employed peers as informal, instructor assistants to engender social cohesion (Miyawaki, Belza, Kohn, & Petrescu-Prahova, 2016). This body of literature suggested that older adults may favour instructors who are similar to themselves (Beauchamp et al., 2018; Lox, et al., 2003; Poole, 2001). For example, one program changed from professional to peer instructors "...in response to consumer feedback that the fitness professionals did not understand and share their daily challenges" (Yan, Wilber, Aguirre, & Trejo, 2009, p. 848), a disconnect that has been linked

with the inhibition of vicarious learning and efficacy expectations (Werner, Teufel, & Brown, 2014). Older exercisers described peer leaders as more relatable (Gillett et al., 1993; Layne et al., 2008; Poole, 2001), because they could empathize with how it feels to exercise in an aging body (Manson et al., 2017). This ability to relate might explain why some reports of peer-led exercise groups boasted higher adherence rates than professionally-led groups (Beauchamp et al., 2018; Stolee, Zaza, & Schuehlein, 2012; Waters, Hale, Robertson, Hale, & Herbison, 2011). Younger instructors, however, expressed that it was sufficient for them to foster a bond with their older client, despite their inability to identify with having an older body (Hawley-Hague et al., 2016). Taken collectively, this research suggested a need to understand how instructors, of any age, could better relate with clientele of diverse ages and abilities. In so doing, instructors could better create personalized interventions, whilst simultaneously fostering solidarity and social cohesion within a heterogeneous group.

Cultural Intermediaries Physical culture refers to the rules, beliefs, norms, and values that take place within spaces of physical activity and are reinforced by society (Lox et al., 2003). One mechanism by which physical culture can be taken up and perpetuated within fitness spaces is by instructors, who have been found to serve as mediators between older exercisers and fitness culture (Miyawaki et al., 2016; Paulson, 2005). The literature reviewed herein demonstrated the tensions between the physical cultures built around successful aging and the narrative of decline/dependency, as well as pointed to the important role of the exercise

instructor in promoting fitness cultures that align with older adults' values in order to attempt to create an inclusive exercise space for older exercisers. Specifically, this literature provided examples of instructors promoting physical cultures that conflicted with older adults' values, which negatively impacted participation and adherence.

Firstly, the literature reviewed largely focused upon senior-specific, falls-prevention programming versus mainstream fitness. Older adults rejected participation in falls-prevention programs, because their affiliation with such programs identified them as 'fallers' who were at risk of decline (Katz, 2011; McPhate et al., 2016; Yardley et al., 2006). Instructors who embodied the decline narrative in their teaching created barriers for older exercisers, for example, by imposing more physical limitations on older exercisers in senior-specific programs (Kluge & Savis, 2001) than in mainstream fitness classes (Robinson, Masud, & Hawley-Hague, 2016). Kluge and Savis (2001) offered one such example of ageism in mainstream fitness, where an instructor stated: "“Everybody kick your butts with your heel! Older folks, do the best you can!”" (p. 81), adding that this use of conflates age and ability. This not only undermined the capacity for exercise enjoyment, but also created an unwelcoming fitness culture. Mirroring the tensions between successful aging and the decline narrative, the resultant social messages regarding appropriate exercise interventions for older adults exist in conflict with one another: keep active and exercise in order to avoid decline and dependency, but

be safe, as the aging body is at risk for falling, injury, and so on (Katz, 2011; Pike, 2015).

Secondly, the literature reviewed suggested that instructors who embodied the discourse of successful aging were primarily concerned with improving older exercisers' physical fitness capacities (Copelton, 2010; Fisker, et al., 2015; Tulle & Dorrer, 2012). The older exercisers in these studies viewed themselves as incapable of the intense exertions being imposed on them by the instructor, because of either real or perceived health concerns or the internalization of age-based norms discouraging older persons from intense activity (Gilleard & Higgs, 2013; Tulle & Dorrer, 2012). The risk here was that the instructors' perceived role - supporting a successful aging lifestyle and combating the functional decline of the aging body - ran contrary to the exercisers' principal objective, which was enjoyment and socialization (Copelton, 2010; Paulson, 2005, Tulle & Dorrer, 2012). This is best exemplified in the work of Copelton (2010), who concluded that, "For group leaders and fitness promoters, walking and steps are what count, but for walkers, talking and sociability count more" (pp. 314-315). Thus, framing of exercise as fun and social would not only be more aligned with the types of physical cultures for which older adults in this literature expressed a desire, but also escape some of the pitfalls inherent in relying solely on the dominant discourses of success versus decline.

Competence Competence is the foundational knowledge, skills, and expertise on a particular subject that one should possess in order to ensure the basic

understandings, abilities, and attitudes necessary for professional conduct (National Initiative for the Care of the Elderly, 2010). In the context of exercise instruction, competencies are assured through training and certification. Indeed, competence has been found to influence how instructors approach class design and to engender participant enjoyment or dissatisfaction (Ecclestone & Jones, 2004; Fiske et al., 2015; Markula & Chikinda, 2016). The literature reviewed underscored the important role of having a competent exercise instructor, as older exercisers attributed great value to having an instructor who was knowledgeable about exercise, as well as gerontology. Herein, exercise participants acknowledged the instructors' role as competent practitioner, recognizing that certification was vital toward the assurance of technical proficiency, thus ensuring some degree of safe practice (Beaudreau, 2006; Brehm, 2004; Forsyth, Handcock, Rose, & Jenkins, 2005; Mehra et al. 2016; Olsen, Telenius, Engedal, & Bergland, 2015; Taylor & Pescatello, 2016; Vseteckova et al., 2018). Moreover, Oldridge (1977) argued that instructors should teach these safety techniques to exercisers in order to increase exerciser self-efficacy and further reduce the likelihood of injury.

One could argue that the overemphasis on safety in some certifications could lead to the inappropriate use of interventions with older exercisers, such as chair-based exercise without due cause (Robinson et al., 2016), which returns us to the argument regarding ageism and ableism in the previous section. However, the literature suggested that requiring instructors to possess gerontological competencies combated ageist exercise practices. In fact, Hawley, Skelton,

Campbell, and Todd (2012) found that training was positively correlated with a favourable attitude toward older adults, and that certification, work experience, and work setting all influenced instructor attitude and perception of older adulthood. However, certification and/or gerontological competencies are not always required for employment in Canada (Forsyth et al., 2005; Kluge & Savis, 2001; Taylor & Johnson, 2008) despite the assertion that exercise instructor training for working with older adults requires more competence than for working with younger adults (Ecclestone & Jones, 2004). Therefore, the role of competent instructor, which includes gerontological competence for older adult fitness, is not widely assured under current practices in Canada. Requiring certification to ensure competence should be considered a vital step in reducing ageism in Canadian physical cultures and improving the attendance and adherence rates of physical activity participation among Canada's growing older adult population.

Leaders and Communicators The literature reviewed indicated that older adults preferred instructors who demonstrated leadership behaviours and possessed interpersonal skills, specifically the ability to: understand and communicate with exercise participants; motivate and demonstrate enthusiasm; personalize instruction and show interest in the client; and be patient, caring, passionate, fun, flexible, realistic, and foster trust with clients (Beauchamp, Welch, & Hulley, 2007; Beaudreau, 2006; Bray, Gyurcsik, Culos-Reed, Dawson, & Martin, 2001; Caperchione, Mummery, & Duncan, 2011; Manson et al., 2017; McAuley & Jacobson, 1991; Mehra et al., 2016; Miyawaki et al., 2016; Olsen et al., 2015; Poole,

2001; Vseteckova et al., 2018; Wininger, 2002). Literature in this domain also demonstrated that older adults desired instructors who are organized and prepared, encouraging, understanding, in good physical shape themselves, and persuasive but respectful of individual abilities (Costello, Kafchinshi, Vrazel, & Sullivan, 2011; Estabrooks et al., 2004; Hawley-Hague et al., 2016; Olsen et al., 2015; Vseteckova et al., 2018). Thus, older adults, as represented in this literature, rejected instructors who were unmotivated, dictatorial, impatient, and/or ignorant (Beaudreau, 2006). Positive correlations existed between increased attendance/adherence and instructors' degree of experience, via either time devoted to professional practice or having undertaken motivational leadership training (Hawley-Hague et al., 2014; Seguin et al., 2010).

Educators Howley and Franks (2003) listed education as a key relationship-oriented leadership skill that instructors should possess and it was said that the teaching ability of the instructor empowers group members through cultivating self-efficacy beliefs (Caperchione, et al., 2011; Christensen et al., 2006; Izumi et al., 2015). Despite its essential role in exercise interventions, the literature acknowledged that education was under-emphasized in both research and practice (Franklin, 1988; Markula, 2004; Oldridge, 1977). Ecclestone and Jones (2004) and Gillett et al. (1993) recognized the educative role of the instructor when they proposed 'teaching skills and techniques' as a vital training topic for educating older adult fitness instructors. Herein, kinesthetic, or motor learning, was the

primary subject of study recommended (Ecclestone & Jones, 2004; Gillett et al., 1993), but elaboration citing specific educative methods were absent.

We could only identify two articles that argued for additional considerations beyond kinesthetic modes of education. First, recognizing that education is cognitive, affective, and kinesthetic, Kluge and Savis (2001) argued that instructors should use a formal or informal learning style inventory, based on Bloom's (as cited in Kluge & Savis, 2001) taxonomy of learning, with their older group exercise participants in order to tailor exercise interventions to how exercisers best learn. Second, Markula (2004), posited that "...fitness instructor education, instead of merely focusing on the physical aspects of fitness, should also include critical social and pedagogical analysis" (p. 75). Her argument was based on the premise that exercise instructors teach the physical exercises, but also teach a hidden curriculum that implicitly reinforces social discourses embedded within physical culture, thus linking the instructor's educative and cultural intermediary roles (Markula, 2004). As was previously mentioned, the dominant physical cultures tend to be built around the conflicting discourses of both successful aging and inevitable decline, and this influences the degree of inclusivity of the physical culture toward older adult exercisers. However, if instructors' hidden curricula are comprised of social cohesion, community, and enjoyment/pleasure, then the physical cultures may, in turn, be more inclusive. Hence, critical and reflective analyses that illuminate this hidden curriculum could be leveraged to inform educative practices that instructors might employ in older adult group-exercise programs to foster more inclusive

physical cultures. For example, practices could be integrated that explicitly reinforce positive physical cultures that promote group social cohesion and positive attitudes towards aging, whilst ultimately increasing participant enjoyment, attendance, and adherence.

Reflections

This scoping review provides a first step in identifying the roles that exercise instructors play in group-fitness for older adults. This literature also elucidates that these roles are vital for creating pleasurable, inclusive group exercise classes for older adults to which a high percentage of fitness participants adhere (Bray et al., 2001; Estabrooks et al., 2004; McAuley & Jacobson, 1991; McPhate et al., 2016). However, attention to how exercise instructors educate their older adult clients is minimal in the literature (Howley & Franks, 2003), despite the early-made assertion that “The exercise leader’s function...is educative” (Oldridge, 1977, p. 87). Therefore, more research is needed into the educative role that exercise instructors, and the educational methods they employ, play in fostering inclusive exercise environments for older adults. This call also includes further inquiry into the practices that may be based on ageist assumptions and how these practice influence what exercise instructors teach.

To address the lacuna regarding the educative role of the exercise instructor, in the context of older adult group fitness, there is a great need to identify how exercise instructors facilitate somatic learning, which means learning that occurs by being mindful of corporal sensations, and embodied learning, which

means holistic learning wherein the body is central and includes consideration of other epistemologies, such as emotional, spiritual, and cultural ways of knowing (Freiler, 2008). This calls for a juxtaposition of educational theory, embodied pedagogy and somatic learning specifically, with the literature on exercise instruction. To understand the context in which this learning takes place, there is the need to situate this literature within that of educational gerontology, the concerns of which are trifold: 1) teaching gerontology, in this case teaching gerontological competencies to fitness instructors; 2) education about aging to the mainstream populace, in this case as it relates to physical activity and aging; and 3) geragogy, which is teaching and educating older adult learners (Lebel, 1978; Glendenning & Battersby, 1990). Together, these frameworks could enhance our understanding of the educational role of the exercise instructor.

Limitations

This review is exploratory and includes literature spanning four decades, which indicates a need for more current evidence, as some findings may be outdated. It must thus be acknowledged that the culture of physical fitness and the older adult demographic have both changed significantly during this timeframe. Specifically, the historical context underpinning these studies has changed during the past forty years, as have the features of the older adult populace. That said, the primary limitation of this scoping review is that it is, in fact, partial in scope. According to Tricco et al. (2016), "...scoping reviews have inherent limitations because the focus is to provide breadth rather than depth of information in a

particular topic” (p. 9). The breadth of this review may also have limitations in that: 1) much of the scholarship on exercise instructors is embedded in larger studies investigating social support as a determinant for exercise and physical activity, making it challenging to identify within the research on this subject; and 2) this review only included materials that were peer-reviewed, excluding grey literature, which may have added insights to the topic of inquiry. Additionally, scoping reviews do not assess for quality in the literature reviewed (Grant & Booth, 2009), and as such, this scoping review should be considered a starting point for further investigation, while acknowledging its inherent methodological limitations.

Future Research

In addition to the aforementioned need for future research examining the educational role of exercise instructors for older adults, as well as other topics identified throughout this paper, further insight on the subject of exercise instruction could also be addressed by an updated systematic review, or meta-analysis, that both synthesizes extant literature and evaluates its findings based on methodological rigor. For example, of the literature reviewed herein, Carron et al.’s (1996) meta-analysis provides an in-depth and structured analysis of social influences that affect exercise related behaviors. However, this meta-analysis is outdated, signalling a need for a more systematic review of recent literature of social determinants of physical activity, specifically exercise instructors, and with attention to older adult fitness.

Implications for Policy

One of the emergent themes from this scoping review pertained to the requirement of professional competencies for exercise instructors and gerontological competencies for those working with older adults. Competencies are not universally required for exercise instructors, which has implications for exercise efficacy, as well as client safety and enjoyment (Forsyth, et al. 2005; Kluge & Savis 2001; Taylor & Pescatello, 2016). Additionally, requiring gerontological competence may reduce instances of ageism that take place within group-exercise interventions (Hawley, et al., 2012).

Given the growth of the older adult population in Canada (Statistics Canada, 2019), more older adults are likely to occupy both mainstream and senior-specific exercise classes. Therefore, requiring gerontological competencies of only instructors who specialize in seniors' fitness neglects older exercisers who attend mainstream classes. This scoping review highlights the importance of both fitness and gerontological competence, as demonstrated in the literature, which lends credence to policies that require certification of exercise instructors who work with older adults to ensure that they are competent practitioners.

Conclusion

The aim of this scoping review was to examine the corpus of literature on group-exercise instruction and the roles that instructors play in older adult group fitness. The literature suggested that instructors' roles are 1) to foster group social cohesion; 2) to serve as cultural intermediaries between fitness culture and older adult exercisers; 3) to serve as competent fitness and gerontology practitioners; 4)

to be effective leaders and communicators; and 5) to be educators. A better understanding of these roles can ultimately result in older adults feeling more welcome in physical spaces, thus increasing the proportion of older Canadians who are physically active. Therefore, these findings can be employed to inform best practices and policies regarding how exercise instructors can create more enjoyable and inclusive physical environments for older adults. However, questions remain, and more research on the role of the exercise instructor in older adult group fitness is needed, specifically with attention to effective educational methods, skills, and approaches that promote inclusive physical cultures that are fun, social, and combat ageism.

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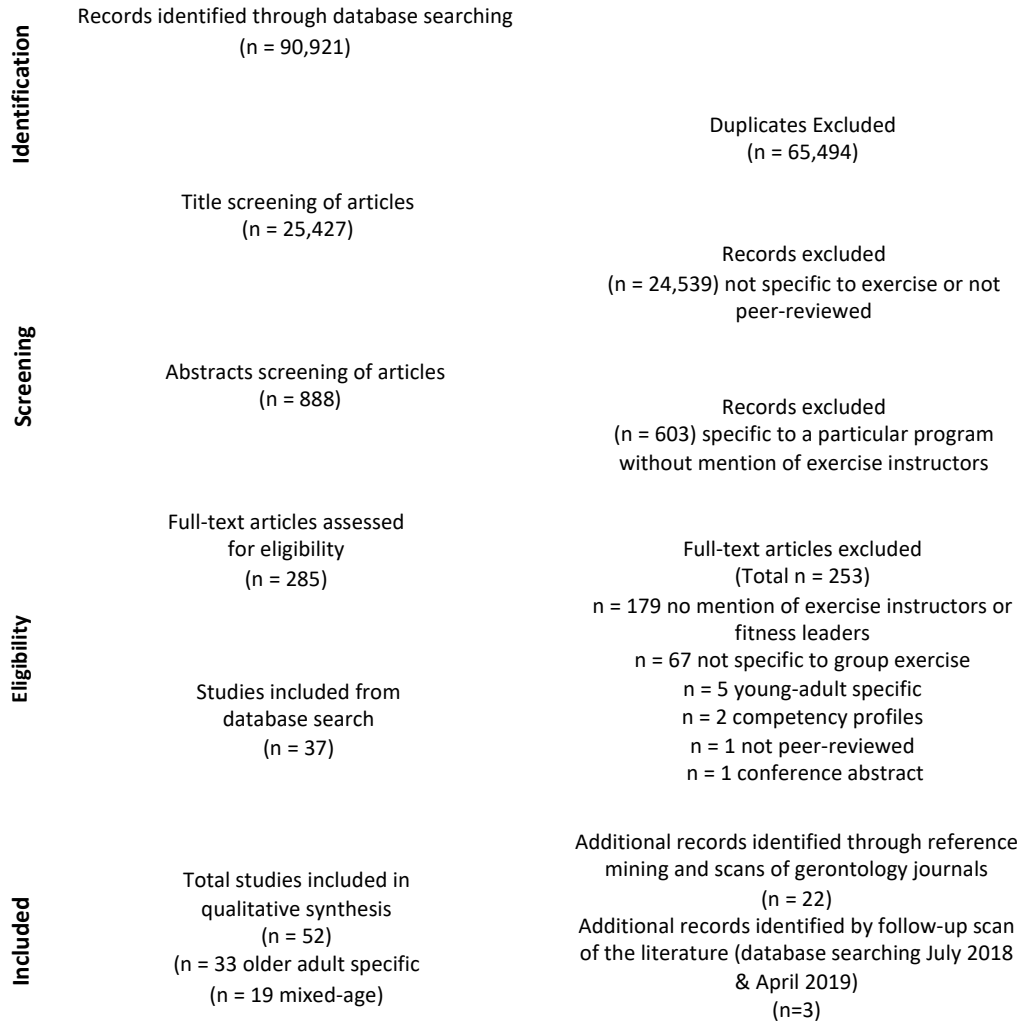
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Figure 1

Figure 1: PRISMA flow diagram

(Moher, Liberati, Tetzlaff, Altman, & The PRISMA Group, 2009)

*See Appendix 1 and 2 for detailed descriptions of the articles included in this review.



Supplementary Material

Appendix 1: Literature on Exercise Instructors (Mixed Ages)

Study	Focus	Design	Findings
Beauchamp, Welch, & Hulley (2007)	Leadership: Transformation & Transactional	Quantitative Modified Multifactor Leadership Questionnaire (MLQ) of a structured 10-week exercise program (174 females; M age=25.36, SD = 8.48)	Correlation between feedback through contingent rewards and perceived capabilities of novice exercisers.
Bray, Gyurcsik, Culos-Reed, Dawson, & Martin (2001)	Exercise Instructor Efficacy	Quantitative 10-week group exercise intervention N=124 females (M age = 20.6, SD = 2.2) 94 experienced exercisers and 33 newcomers Multiple questionnaires regarding self-efficacy and measures of attendance.	Self-efficacy was associated with instructor's communication, teaching, and motivational abilities.
Brehm (2004)	Motivational Skills	Book chapter providing an overview of motivational techniques exercise instructors can employ.	Themes include: fun, safety, social cohesion, professional competence, and leadership.
Caperchione, Mummery & Duncan (2011)	Leadership: Leader Behaviour and Social Cohesion	Quantitative Physical Activity Group Environment Questionnaire (PAGE-Q) of existing walking group (95 females; M age = 42.9, SD = 13.9)	Correlation between social group cohesion and leadership.
Carron, Hausenblas,	Social Determinants of Exercise	Meta-analysis	Nine studies on exercise instructors included with an

& Mack (1996)			effect size of .31 with exercise adherence.
Carron & Spink (1993)	Social Cohesion	Quantitative Randomized controlled trial (3x/week for 13 weeks) and Group Environment Questionnaire (GEQ) (17 females; M age = 20±)	Team building activities, based on a conceptual model, as an intervention resulted in more enjoyment and social group cohesion than in the control group.
Christensen, Schmidt, Budtz-Jørgensen, & Avlund, (2006)	Social Cohesion	Multi-method 32-week exercise intervention Survey (N = 180) 18 interviews using grounded theory method	Group composition, instructor teaching ability, and the exercise activity affect the formation of social group cohesion, resulting to mutual support and participant self-efficacy
Forsyth, Handcock, Rose, & Jenkins (2005)	Instructor Knowledge	Qualitative Interviews (n = 10; 4 male/6 female) in New Zealand Inductive Analysis	Instructor certification is a vital requirement for quality assurance.
Izumi et al. (2015)	Leadership Style and Group Dynamics	Quantitative Randomized controlled trial (32-week walking group). 603 racially and ethnic diverse participants (M age = 47.5; 90% females) Physical Activity Group Environment Questionnaire (PAGE-Q)	Leader behaviours correlated with attendance. Social group cohesion correlated with adherence.
Loughead & Carron (2004)	Preferred Leadership Style; Social Cohesion	Quantitative Longitudinal (10-12 weeks; sessions 1-2x/week) Scale of	Instructor behaviour may not directly impact participant enjoyment, but may

		Quality in Fitness Services (SQFS); Physical Activity Group Environment Questionnaire (PAGE-Q); Client Satisfaction and Repurchase Intention Scale (CSRIS) 90 females (M age = 40, SD = 11.09)	do so indirectly by affecting the relationship between social cohesion and enjoyment.
Loughead, Patterson, & Carron (2008)	Leadership, Social Cohesion, and Enjoyment	Quantitative Cross-Sectional (8-12 weeks, 1-2x/week) N = 151 (76% females) (M age = 35.21, SD = 10.8) Surveys: Scale of Quality in Fitness Services (SQFS); (PAGE-Q); Physical Activity Affect Scale (PAAS)	Social cohesion may be a means by which instructor behaviour affects participant enjoyment. Instructor use of team building activities may help improve social cohesion and participant enjoyment.
Lox, Martin & Petruzzello (2003)	Social Influences	Book Chapter: Reviews literature pertaining to leadership and instructors as role models.	Suggests that instructors have a strong social influence.
Markula (2004)	Embodied Knowledge and Exercise	Book Chapter: Influence of fitness knowledge on self-perceptions.	Need for critical investigation on the instructor's educative role in perpetuating fitness practices that objectify the body.
Markula & Chikinda (2016)	Instructor Certification	Qualitative Semi-structured interviews with 5 instructors (purposeful sampling of University recreation instructors possessing	Influence of instructor's training on class delivery, in the context of health versus appearance orientation.

		2+ years' experience and provincially governed fitness certification) Foucauldian / poststructuralist interview analysis	
McAuley & Jacobson (1991)	Instructor Influence	Quantitative Pre & Post-Test of psychosocial and biometric variables: Self-motivation Inventory (SMI), self-efficacy scale 8-week, 2x/week (N = 58 female, formerly sedentary, M age = 39)	Instructor behaviour had an influence on exercise adherence.
Oldridge (1977)	Instructor and Adherence; Characteristics of Good Exercise Programs	Commentary discussing the important relationship between physician and exercise instructor, the latter of whom should be competent in constructing a personalized exercise intervention to meet the health needs of the exerciser.	Acronym for good exercise programs V (variety) A (aerobic) R (relaxing and recreative) I (individualized) A (attitude) T (therapeutic) I (isotonic) O (objective testing) N (non-competitive and fun)
Remers, Widmeyer, Williams, & Myers (1995)	Leadership Style, Social Cohesion, and Class Size	Quantitative Survey of existing group exercise classes for university credit that met 2-x/week for 11 weeks. (N = 256 university students in medium (N =18-26) or large (N =70-90) Group Environment Questionnaire	Participants in larger classes reported more social cohesion and enjoyment, as well as demonstrated better attendance and greater perceived exertion.

Taylor & Johnson (2008)	Adherence and Safety	Book chapter: topics include determinants of exercise participation, safety and competence, and strategies to increase adherence.	Recommends exercise instructors of older adults be trained in senior fitness instruction.
Wininger (2002)	Leadership and Environment	Quantitative Survey of (N = 296 females, M age = 21.89, SD = 3.52) University fitness centre attendees. Physical Activity Enjoyment Scale (PACES)	Enjoyment correlated to group social cohesion and instructor's personal fitness, communication skills, enthusiasm and fitness knowledge.

Appendix 2: Literature on Exercise Instructors for Older Adults

Study	Focus	Design	Findings
Beauchamp et al. (2018)	Adherence: Self-Categorization Theory	3-arm RCT testing group and instructor demographics (similar age & gender, similar age mixed gender, and mixed age & gender) on adherence	Greater adherence when instructor was similar age.
Beaudreau (2006)	Exercise Adherence	Qualitative	Informants expressed appreciation that the instructor showed interest in the exercisers, was patient and motivating, had appropriate expectations, and was knowledgeable about older adult physical limitations and learning styles.
Copelton (2010)	Motivation & adherence	Qualitative Interviews and observations of a hospital-based walking group for older adults.	Leaders were most valued “steps;” older exercisers most valued socialization.
Costello, Kafchinshi, Vrazel, & Sullivan, (2011).	Barriers and Motivators to Older Adult Physical Activity	Qualitative Purposive sampling within a Continuum of Care Retirement Community (N = 30; 47% female; M age = 80) Focus Groups	Finding stressed the importance of purposeful activity, social, and fun. Inactive individual felt intimidated by the fitness environments; worried about slowing down group exercise classes.
Ecclestone & Jones (2004)	Curriculum Guidelines for Exercise Instructors of Older Adults	Aim of the guidelines are to “1) ensure safe, effective, and accessible physical activity/fitness programs for older	Recommended training modules are: 1) Overview of physical activity and aging; 2) psycho, socio-cultural, and

		adults; 2) develop competent physical activity instructors of older adults; 3) provide more consistency among instructor training programs preparing physical activity instructors of older adults; 4) inform administrator, physical activity instructors and others about the minimum guidelines recommended by the profession when recruiting physical activity instructors of older adults, 5) clarify the definition and role of a physical activity instructor for older adults; and 6) establish a level of expertise needed to help protect instructors and other facility staff from litigation” (p. 468)	physiological components of physical activity (to ensure effective and safe exercise interventions); 3) using tools for screening and assessing older exercise clients in order to establish goals; 4) designing and managing programs based on client goals; 5) designing exercise interventions for older clients with medical diagnoses that are considered stable; 6) skills in teaching; 7) skills in communication, leadership, and marketing; 8) safety; and 9) professional codes of conduct and ethics.
Estabrooks et al. (2004)	Instructor Characteristics	Qualitative 23 older adults (M age = 78.5, SD = 8, 15 female / 8 male) Interviews to gain insight on the characteristics older adults prefer in exercise instructors.	Important exercise instructor characteristics, from the perspective of older adults, were: competence, individualized / tailored programming and social cohesion.
Fisken, Keogh, Waters & Hing (2015)	Determinants & Barriers to (Aqua) Exercise (Adherence & Attendance)	Qualitative 3 Focus groups (n = 15 regular aqua exercise participants with Osteoarthritis; 1	Social interaction as a primary motivation. Instructor can be either motivator or barrier, depending on how well they foster

		male/14 females; M age = 72.4, SD = 5.5) Inductive analysis	social cohesion and enjoyment, as well as how competent and organized they are.
Franklin (1988)	Determinants of Adherence	Book chapter Aims to provide practical educational ideas, as well as stress the importance of motivation, certification, and social cohesion.	Posits that education should be part of exercise programming. Recognizes that education is under emphasized in exercise settings.
Gillett et al. (1993)	Nurses as Instructors	Preliminary findings and observations of a nurse-led exercise intervention for 16 weeks using identifiable role models, nurses between 50-60 years of age who were described as “nonathletic” 248 females (M age = 57, SD = 6.2)	Adherence rates = 88%. Social cohesion reported. Participants expressed appreciation for relatable instructor. Follow-up: participants indicated an inability to identify “exercise programs that were tailored to their age and fitness level or that took into consideration their individual health needs” (p. 137)
Hawley, Skelton, Campbell, & Todd (2012)	Training’s Effect on Instructor Attitudes	Quantitative Survey of 731 certified exercise instructors of older adults (UK) (91% female; M age = 51.5, SD = 13.2) Attitudes to Falls-Related Interventions Scales; social-influence scale; and research specific.	Some gerontological training, experience, and professional background were associated with positive attitudes towards older adults.
Hawley-Hague et al. (2014)	Instructor, Group and Individual	Quantitative Longitudinal	Individual factors found to influence attendance /

	Factors on Adherence and Attendance	Questionnaires & attendance records 3 & 6 months into the intervention; Attitudes to Falls-Related Interventions Scales; Physical Activity Group Environment Questionnaire (PAGE-Q), Index of Multiple Deprivations 16 instructors (14 female, M age = 54.5, SD = 12.6, range 29-75), 26 classes, 193 older exercisers (175 female, M age = 76.1, SD = 7.8, range 60-100)	adherence: attitudes, social group cohesion, mental health / well-being, stability of housing, and years of education. Instructor influences: age, gender, motivational training, experience, and personality (conscientious traits associated with greater attendance, extraversion, agreeableness, experience, and intelligence with lower attendance rates).
Hawley-Hague, Horne, Skelton, & Todd (2016)	Instructor Perspectives on Older Adult Adherence	Qualitative Interviews (19 instructors purposively selected for variation in sex, age, training, work setting, background, and experience. 16 female / 3 male, M age = 56.3, range 23-78, all White, experience from 1 – 30 years)	Barriers: (uptake) identity, autonomy, cost, and venue (adherence) expectations and social influences. Solutions: (uptake) more choice/control, personalization, and social support (adherence) encouragement, social cohesion, and emphasizing outcomes.
Howley & Franks (2003)	Leadership and Older Adult Fitness	Book: Chapter 14 is devoted to exercise instruction. Makes practice recommendations for exercise instructors and outlines	Indicates the importance of educational skills, but does neither identifies nor describes them.

		physiological age-related changes.	
Kluge & Savis (2001)	Social, Emotional, and Mental Factors Instructors Should Consider in Older Adult Exercise	Best Practice article	Individualized programming. Identifies participant learning style as an important part of the screening process, as well as how language and assumptions on the part of the instructor may (inadvertently) lead to ageism.
Layne et al. (2008)	Peer Instructors	Quantitative Longitudinal (Instructors N = 244; peers n=149, professionals n=95)	Authors concluded that peer instructors were appropriate in delivering an evidence-based exercise intervention.
Loughead, Colman, & Carron (2001)	Leadership, Social Cohesion, and Adherence	Quantitative Cross-Sectional Survey: Physical Activity Group Environment Questionnaire; Leadership scale, attendance & perceived exertion. 117 older adults (91 females; 26 male M age = 66.8, range 51-84 years) from 8 exercise classes (meeting 1-2x/weekly)	Instructor motivation, enthusiasm and availability affect group social cohesion, which impacts adherence and perceived exertion. Instructors can create social cohesion around the task (exercise), thus making exercise more appealing, to improve adherence.
Manson, Tamim, & Baker (2017)	Determinants & Barriers to (Tai Chi) Exercise	16-week program 6 semi-structured focus groups (n = 87, 53 female / 34 male; aged 50+ low-income, ethnically diverse Canadians)	Socialization and appropriate leadership were two of 6 themes (other 4: physical and mental health, time, program pairing, and accessibility).

		Hierarchical Content Analysis	Instructors should be likeable/relatable, be good communicators, and foster social cohesion, as well as empathize with an aging body.
McPhate et al. (2016)	Older Adult's Expressed Preferences for Exercise Programming	Qualitative framework approach to identify perceived preferences 2-wave cross-sectional survey of community-dwelling residents of Victoria, Australia aged 70+ N = 97 (M age = 77.67, SD = 5.61; 26% male, 71% female)	Older adults preferred individually tailored programs and reported short-term preferences [social cohesion, enjoyment and instructor qualities (being kind, charismatic, supportive, and competent)] more frequently than long-term benefits (falls prevention).
Mehra et al., (2016)	Older Adult's Expressed Preferences for Exercise Programming	Qualitative Purposive sample (N = 30, all female) Focus Groups	Instructor competence as a determinant to group exercise participation. Older exercisers valued fun and social cohesion.
Miyawaki, Belza, Kohn, & Petrescu-Prahova (2016)	Peer-Instruction; Social Cohesion	Qualitative Semi-structured, phone interviews (20 participants, 17 instructors, and 15 staff of Enhance®Fitness exercise programs in YMCAs) Thematic content analysis	Instructors as program champions empathize with older exercisers and are: caring; motivational; passionate about both the program and working with older adults. Participants as informal assistants, and some eventually peer instructors, who engender social cohesion and serve as

			intermediaries to welcome newcomers.
Olsen, Telenius, Engedal, & Bergland (2015)	Self-Efficacy, Social Cohesion, and Instructor Inter-personal Skills	Qualitative Semi-structured interviews (N = 8 with mild-moderate dementia living in a nursing home) following a 10-week high-intensity functional exercise, pilot conducted by a physiotherapist.	One of the themes from this study revealed the importance of social cohesion. Importance of instructor exercise and gerontological competence, as well as inter-personal skills
Paulson (2005)	Fitness Culture	Qualitative Comparative ethnographic observations and interviews of an older adult fitness class and dance class.	The instructor and type of physical activity construct a culture of fitness that affects the subjective experience of exercise.
Poole (2001)	Discourses of Health and Body Management	Qualitative In-depth interviews of 17 female exercise instructors aged 52-73 who instruct older adult fitness classes	Instructors believed that enjoyment and social cohesion were key to adherence and as peers, they were able to identify with their exercise clients.
Robinson, Masud, & Hawley-Hague (2016)	Chair-Based Exercise	Qualitative Qualitative responses to a cross-sectional survey N = 223 instructors (age 22-90; 87% women) Framework and thematic analysis and Delphi consensus	Instructors expressed that chair-based exercise was appropriate for those with physical limitation, but is used as an inappropriate intervention for older adults without physical limitations.
Seguin et al. (2010)	Determinants of Strength Training Adherence in Older Women	Quantitative Cross-section survey: personal characteristics, programming and instructor variables.	Adherence correlated positively with age, life course, self-reported health, nutrition and other health behaviors,

		Convenience sample (N = 557 age 40+) of exercisers meeting 2x/week for 12 weeks	instructor experience and participation in sports.
Stolee, Zaza, & Schuehlein (2012)	Peer Instructors	Mixed Method Pre & post surveys, functional tests, & interviews of 22 participants in a 12-week exercise program.	Peer instructor were found to be motivating, fun, and a key social component of the exercise intervention.
Taylor & Pescatello (2016)	Older Exerciser Enjoyment	Review of another published work	Enjoyment derived from social cohesion, novelty of intervention, and perceived community-connectedness. Competent instructors as determinant of enjoyment.
Tulle & Dorrer (2012)	Older Adult Interaction with Younger Exercise Instructors	Qualitative Purposeful sample from a University gym, (N = 15, aged 55-83; N=7, 5 female) and 3 instructors (N=3, 2 female, aged 32-40). Life history interviews, observations, and a focus group.	Instructors viewed fitness as a means to physical improvement, thus devaluing the older exercisers' social and health maintenance goals, and discounting older adults' self-perceived capabilities of the older exercisers.
Vseteckova et al. (2018)	Barriers & facilitators of adherence	Systematic Review of literature focused on group-exercise for institutionalized persons with dementia.	Engaging and knowledgeable instructor processing strong communication skills improves adherence.
Waters, Hale, Robertson,	Peer Instructor	Quantitative Quasi-experimental older adult fall	Peer-facilitated groups performed either at par or

Hale & Herbison (2011)		prevention (N = 118, M age = 75.5 years) Battery of functional assessments, falls diaries, and participation survey at 6- and 12-months post.	significantly better than professionally-led groups.
Werner, Teufel, & Brown (2014)	Peer Instructor	Quantitative Pre & post-survey of a 20-week, community exercise intervention (N = 432; 88.4% female; M age = 75, SD = 9.1)	The use of peer instructors is effective and reduces program costs.
Yan, Wilber, Aguirre, & Trejo (2009)	Program Efficacy (Exercise and Support Group)	Quantitative Quasi-experiment (intervention versus wait-list) Pre & post-tests Community-dwelling, sedentary, individuals aged 50+ N = 208 (M age = 73, 82% female)	The intervention switched from paid instructors to peer-instructors based on feedback indicating that the professionals “did not understand and share [the older adult’s] daily challenges” (p. 848).
Yardley et al. (2006)	Older Adult Perspectives on Exercise for Falls-Prevention	Qualitative Framework analysis Semi-structured interviews of community-dwelling older adults from 6 European countries (N = 69; 50 females, 19 male) age 68-97)	Instructors were identified as a source of support. Importance of competence, helpfulness, and friendliness identified, along with being challenging yet offering modifications based on age and ability.

Paper 2: Conceptualizing the Aging Body in Fitness Instructor Training

Curricula

Paper 2 is a content analysis that was written as a chapter for an edited book on bodywork in Canada:

Harvey, K. & Griffin, M. (2021 forthcoming). Conceptualizing the aging body in fitness instructor training curricula [Book Chapter]. In V. Zawilski (Ed.) *Bodywork: Critical approaches to embodied experience*. Toronto, ON: Canadian Scholars' Press

At the time this thesis was being compiled, this paper was reviewed, revised, and re-submitted to the editor of the book. It is possible that Paper 2 might undergo further revisions prior to publication in the book.

Authors contributing to this edited volume were asked to: keep our chapter under 5,000 words; include learning objectives (omitted from this thesis), a text box that further explains some aspect of the paper, critical discussion questions (omitted from this thesis), and glossary terms (omitted from this thesis); write for an undergraduate audience; use ASA style citations; include only 15-30 references; and format according to the publisher's guidelines. Thus, you will find the formatting and style of this paper to differ from the other papers in this thesis.

Paper 2 is the first of three empirical papers comprising this dissertation. Following the first paper, which investigated the depth and breadth of scholarly literature on exercise instruction for older adults, this paper examines age by employing a qualitative, conventional content analysis of eight training curricula

used to certify exercise instructors. Set against the context of bodywork, the focus of this paper explores how age is conceptualized and textually represented in the training curricula.

Findings echo previous literature on the commodification of bodies in the fitness industry. Herein, older adults are a ‘special population,’ for whom specialized knowledge and service delivery are essentialized, given the special needs of older bodies that cannot otherwise be met in mainstream fitness. The texts also contain messages purporting ways to control the aging body, and to control the aging process, alongside messages speaking to the inevitability of biological and functional aging. Furthermore, the curricula emphasize the importance of resisting ageism, yet given the ‘special’ status and treatment of older exercisers, the result is to engender compassionate ageism, which I argue (from a post-structuralist position) may be necessary for the fitness industry to foster inclusive fitness cultures for older adults.

This paper contributes substantively to the scholarship on bodywork by elucidating the ways in which older bodies are conceived as ‘different,’ or ‘special,’ in order to sell a product that aims to control the aging process, while recognizing that aging is a process that might not be so easily controlled. Theoretically, from a post-structural perspective, this paper argues that strategic essentializing of older bodies may have been necessary to overcome the exclusion of older exerciser’s needs from mainstream fitness. In this way, Paper 2 connects to Paper 3, which

further explores the divide between older adult and mainstream fitness and the resultant issues regarding (in/ex)clusivity.

Paper 2

Conceptualizing the Aging Body in Fitness Instructor Training Curricula

Kelsey Harvey, MS, PhD Candidate and Meridith Griffin, PhD

Abstract

Bodywork is said to consist of work one performs on one's own body, as well as work performed on the bodies of others by paid professionals. In the fitness industry, fitness professionals perform bodywork on their clients, who are likewise working on their own bodies in order to achieve a healthy and/or 'ideal' body. However, the fitness industry touts exercise as a form of anti-aging bodily management. Therefore, we ask, how is the aging body conceptualized in the curricula used to train group fitness instructors who work with older adults? We conducted a qualitative content analysis of eight curricula from five certifying bodies that are used to train and certify older adult exercise instructors in Canada and the United States. In this chapter, we unpack three themes: (1) Commodified Bodies; (2) Controlling the Aging Body; and (3) Resisting and Engendering Ageism. We argue that the 'ideal' aging body is problematically constructed by dominant forces in the fitness industry as a body that does not age at all; meaning, the "standard" healthy body is positioned as the norm, which in turn marginalizes the aging body. In order to overcome the marginalization of older bodies, we suggest strategically employing compassionate ageism to create fitness programs and environments that are more inclusive for older adults.

Introduction

Bodywork is said to consist of the work performed on one's own body or work performed on the bodies of others by paid professionals in order to control the ways in which the body displays affective experiences or to produce, reproduce, or modify bodies to conform or resist cultural standards (Gimlin 2007; Twigg, Wolkowitz, Cohen, and Nettleton 2011). Bodywork can take a number of forms, but is often undertaken in the context of managing the appearance of one's body (Gimlin 2007). A prime example of this context is the fitness industry, wherein fitness professionals must discipline and train their own bodies to be "fit" whilst performing bodywork on their clients, who are likewise working on their own bodies in order to seek to manufacture a healthy and/or "ideal" body (Wainright, Marandet, and Rizvi 2011; Wolkowitz 2002). Indeed, considerable research has revealed that this cultural "ideal" is imbued with several characteristics, including that it be slim, toned, and young (Gendron and Lydecker 2016; Gilleard and Higgs 2013). Aligned with the youthful ideal, the fitness industry touts exercise as a form of anti-aging bodily management (Gilleard and Higgs 2013; Katz 2001; Tulle 2015), which begs the question, how is the aging body conceptualized in an industry that predominantly promotes its work as anti-aging?

According to Julia Twigg and colleagues (2011), bodywork "...invokes ontological questions in terms of how the human body is read or known, and how it may be handled, transformed and understood" (Twigg et al. 2011: 172-173). To start to think about the ways in which fitness professionals learn about and/or are

exposed to ideas and beliefs about the aging body, we asked, how is the aging body conceptualized and textually represented in the curricula used to train group fitness instructors who work with older adults? In so doing, our intent was to elucidate the social and taken-for-granted meanings, implications, or inferences associated with aging bodies in texts that set the standards of best-practice for a particular sub-set of the fitness industry (Twigg et al. 2011). To this end, we conducted a content analysis of curricula used to train and certify group fitness instructors for older adult exercisers in Canada and the United States. Indeed, research has shown that the type of certification of the instructor influences both the delivery and experience of older adult exercise classes (Robinson, Masud, and Hawley-Hague 2016); therefore, this content analysis allows for evaluation of the underlying assumptions about aging and physical activity contained within these curricula.

The Study

Content analyses are popular methods of conducting qualitative research and are appropriate when there is a lacuna of extant theory on a topic (Hsieh and Shannon 2005). We determined this to be the best approach to answer our research question, because the literature and theory surrounding the socio-cultural factors that influence instructor-older exerciser relations are sparse. This content analysis, like most, is situated in the interpretive/constructivist tradition of qualitative research in that the aim is for the researchers to interpret the meanings of the text and visual data under investigation (Hsieh and Shannon 2005; Smith and Sparkes 2016). However, these findings are only empirically valid in the context of these

specific curricula analyzed. Therefore, it is important to note at the outset that these findings cannot be generalized to: (1) how the curricula are activated in practice, by trainers who use the curricula to teach exercise instructors; (2) how the exercise instructor-in-training subjectively interprets and enacts their training; or (3) other curricula not included in this study, including different editions than those analyzed.

Satu Elo and colleagues (2014) describe three phases of a qualitative content analysis: preparing, organizing, and reporting. In the sub-sections that follow, we describe each of these three phases and how we followed Elo and colleagues' (2014) checklist to achieve trustworthiness and credibility.

Preparation

The preparation phase involves the identification of content for analysis, based on the research question (Elo et al. 2014). To address our research question, how is the aging body conceptualized and textually represented in the curricula used to train group fitness instructors who work with older adults?, we selected the primary curricula used to certify group-exercise instructors who teach older adults in Canada and the United States for this content analysis. We included certification agencies recognized by a national accreditation agency, as these are considered the most popular and reputable in the fitness industry, but we also chose to include one regional certification for older adult fitness in Canada given that no other national option existed at the time of the study. There are few certifications at the national level in Canada, so we expanded our selection to include American agencies with which Canadians can, and do, certify. From these agencies, we excluded general

practice certifications where aging or working with older adults was absent from the curriculum, including only curricula that was solely devoted to, or minimally offered a module or specialized certificate specific to older adult group fitness. Ultimately, we included eight curricula from five certifying bodies in this study.

We collected data between 2018-2019. (See TABLE 1) The curricula varied in terms of mode of delivery and materials included. Given the importance of all training materials to the delivery of the training curricula, we included all aspects of the training materials in our analysis, including: manuals, pictures, visual materials (slideshow presentations and video demonstrations), handouts, supplemental materials, study guides, and exams (where accessible).

The first author, a trained group-exercise instructor for approximately five years prior to undertaking this research, attended all in-person trainings and participated in the online trainings for all eight certifications and certificates included in this study. The first author's insider status was advantageous as they were familiar with the terminology and practices employed in the fitness industry, but their familiarity with the field could frame their analysis; therefore, the first author relied on the second author as a 'critical friend,' to ensure that findings are reflected in the data and to promote reflexive practice of alternative explanations and interpretations of the data (Smith and McGannon 2017).

Limitations Hsieh and Shannon (2005) report that a potential limitation of conventional content analyses is developing an incomplete understanding of the context underpinning the study, which can undermine the accuracy of the findings.

In addition, unlike other qualitative methodologies, content analyses do not lead to the development of theory (Hsieh and Shannon 2005). Therefore, ethnographic and observational approaches investigating how the content of the curricula analyzed herein is enacted in practice are needed (Twigg et al. 2011; Wolkowitz 2002).

Organization

The organization phase consists of categorization, abstraction, and interpretation of the data, as well as confirming how trustworthy and representative the findings are to the data (Elo et al. 2014). We used an inductive approach whereby codes are identified from the data rather than being pre-determined (Elo et al. 2014; Hsieh and Shannon 2005). As such, no hypothesis or theoretical framework informed our data collection.

According to Hsiu-Fang Hsieh and Sarah Shannon (2005: 1278), undertaking a qualitative content analysis consists of a “systematic classification process of coding and identifying themes and patterns.” In terms of coding procedures, the first author carefully read the training materials for the chosen curricula in their entirety and highlighted passages that (1) referred to aging; and (2) referenced work processes that the exercise instructor undertakes (such as competencies, roles, job duties, scope of practices, legal liabilities, etc.), with specific attention to bodywork. To ensure a vigilant, iterative reading of the data and to check for coding consistency, the first author re-read the highlighted portions of the curricula and re-coded these passages according to the aforementioned scheme (Zhang and Wildemuth 2017). The first author created a table, organizing

data by curriculum and topics (of which there were 32, such as ageism, older bodies, older population, etc.). From this table, the first author abstracted codes relevant to the research question into eight distinct categories (Elo et al. 2014): Screening as a form of bodywork; Older adults as a special population; Work to create a fitness community; Older bodies as untouchable; Physiological aging and the outcomes/benefits of bodywork; Safe and effective bodywork; and Components of fitness guiding bodywork. The first author studied these categories, and the data contained therein, to collapse related categories into the three meaningful and representative themes: (1) Commodified Bodies; (2) Controlling the Aging Body; and (3) Resisting and Engendering Ageism.

Reporting

Commodified Bodies

Across all curricula included in this study, older adults were collectively described as comprising a “special population.” AFAA® defines a special population as “A group of people who have similar conditions or characteristics that require alterations to the general exercise plan.” The general exercise plan is constructed for healthy bodies, or as ACE® puts it, “individuals who have no apparent physical limitations or special medical needs.” Therefore, “Many instructors have lacked the knowledge and confidence to provide safe and effective fitness programs for the senior participant” (Golden Hearts®) and thus require special training and certification to gain expertise. Furthermore, according to ACE®, “focusing on a specific ... participant demographic (e.g. older adults) can

prove helpful in establishing the group fitness instructor as a recognized and sought-after expert in a given discipline.”

Curricula further justified labeling older adults as “special” by citing global trends in population aging. In Canada, individuals aged 65 or older already outnumber those under age 15 (Statistics Canada 2019). Part of this demographic transition includes an epidemiologic transition marked by improvements in population health, with greater longevity and life expectancies as deaths attributed to acute illnesses decline whilst rates of chronic diseases increase (Wister 2019). Consequently, this “special population” of older adults, in particular those with chronic illness, are scapegoated as an economic burden to society, a concept known as apocalyptic demography, purporting to cost vast amounts of public money for social and health care services (Robinson 1991). Indeed, SFIC calls population aging in Canada a “major social issue impacting healthcare costs 60% of hospital patient days,” and the ACE® Sr Specialization promotes exercise for older adults, as bodywork, as a means “to prevent social and economic burden associated with” aging.

In order to mitigate the real and exaggerated health and social care costs attributed to aging, the aim of fitness-related bodywork performed collectively on older bodies, as promoted in every curriculum included in this analysis, is to increase longevity and quality of life by affecting health, mobility, functional, and independence outcomes:

The ACE® certified Group Fitness Instructor realizes that group fitness is a service industry focused on helping people enhance fitness and modify risk factors for disease to improve health. (ACE® Sr)

[The goal is] improving this population’s ability to carry out general daily tasks. Experts have shown that exercise is a must at any age, and maintaining a regular exercise program throughout life may lead to longevity and to a better quality of life. The primary goal of any exercise program is to improve or maintain the health of the individual exercise participant. Aside from the obvious health benefits...exercise has also been shown to be one of the key factors in successful aging. (Golden Hearts®)

However, these health, mobility, functional, and independence needs, as identified by all included curricula, narrowly target a specific subset of the older population: independent, community dwelling older adults. What this means is that individuals who exist at either end of the functional spectrum, older adults who are frail and require further modifications or specialize guidelines (SFIC, ACE® Sr, Golden Hearts®) and elite Master’s athletes whose needs are performance related (canfitpro™, ACE® Sr), are either omitted from consideration in the programming or require further specialization. This paves the way for additional commodification of products to further train instructors. Therefore, the “special population” of older adults (older adult versus mainstream fitness -SFIC & SilverSneakers®) contains further “special populations,” stratified by dwelling (community versus

institutional -SFIC), ability (frail to elite performance -ACE® Sr), generation (Baby Boomers versus older and/or younger generations -canfitpro™), and health (specialized programming for certain chronic conditions -SFIC).

As population aging shifts the demographic age structures comprising our society, additional programs and services are needed to serve the growing population of older adults. Aligned with estimates that bodywork plays a significant part of the economy (Shilling 2011), fitness for older adults is conceived as a commodified product and service within the curricula analyzed. Indeed, Golden Hearts® and canfitpro™ were especially attuned to this niche business opportunity calling for the fitness industry to meet the needs of older consumers, especially baby boomers, and purporting excellent “customer service” (SilverSneakers®). Extending findings from previous scholarship that found that bodies were conceived in exercise manuals as objects of consumption of fitness culture (Maguire 2002), this research positions older consumers as objects of consumption.

Controlling the Aging Body

According to Debra Gimlin (2007): “All societies require that their members do work on their bodies to transform them from the ‘natural’ state to one that is more explicitly ‘cultural’” (Gimlin 2007: 355). In a culture rife with anti-aging sentiments (Katz 2001), exercise, as depicted in the curricula, is positioned as work done on the body to resist aging (e.g., ACE® offers a training entitled “Anti-Aging Benefits of Exercise;” canfitpro™ identified anti-aging as primary concern in our society). Additionally, the curricula cited potential outcomes of

exercise for older adults as improvements in health (chronic disease prevention and management), longevity, falls-prevention, quality of life, cognition, mobility, body composition, social participation, and independence, as well as the slowing or reversal of aging (SFIC & Golden Hearts®).

Alongside Jennifer Smith Maguire (2002: 456), we argue that “The point is not to discount the (real) benefits of exercise—for which there is compelling scientific evidence—but to highlight how the fitness discourse equates exercise with control over health” and one’s body. The cultural ideals espoused by the curricula analyzed are healthy and fit, as well as privileged in that higher social status is afforded to those who undertake bodywork in an effort to control the body (Wolkowitz 2002). Indeed, some scholars have found that older adults who work to control bodily aging feel entitled to a greater status than their sedentary peers (Allain and Marshall 2017). This older, agentic body is embodied in the curricula by statements such as: “Much of the aging process is within our control and can be slowed or even prevented through leading a healthy lifestyle” (Golden Hearts®). However, such statements are at odds with the realities of corporeal aging.

Juxtaposed against depictions of control over the aging process in the curricula is a deterministic view of aging, as evident in the statement, “The physiological consequences of aging cannot be offset indefinitely” (ACE® Sr). Herein, material aging is recognized as “universal” (ACE® Sr) and impacts, according to the curricula, nearly every system of the body. According to SFIC and other curricula focused on aging, age-related changes in muscular and

cardiovascular systems begins in one's 20s, thus recognizing the body as dynamic. Despite this recognition that the aging process begins in young adulthood, the mainstream curricula (canfitpro™ FIS, ACE®, and AFAA®) simultaneously depicts anatomy as static and unchanging, failing to describe changes to the body that often accompany age.

Resisting and Engendering Ageism

The curricula devoted to aging all explicitly define ageism, acknowledge that age-based discrimination, wherein “older adults often are stereotyped or patronized” (ACE® Sr), is prevalent in our society, and contain some type statement of valuing anti-discrimination practices. In these curricula, professionals working with older exercisers are openly taught to resist ageism. For example, SilverSneakers® describes its program as “a free fitness program for older adults that is helping millions of boomers and beyond defy the odds, shatter stereotypes and answer every challenge with, ‘I can do this!’” Ageist attitudes, as cited by SFIC, can act as a barrier to exercise participation, perpetuate the fallacy that older adults need rest, and fail to recognize the heterogeneity of the aging process. Likewise, the curricula each advocate for person-centred, individualized bodywork (exercise programming), that respects the heterogeneity of the older populace and confronts misconceptions around age and aging.

According to Carol Wolkowitz (2002), the ways in which bodies are defined seems to affect the work that professionals perform on said bodies. The ways in which older adults are defined in the curricula vary substantially. The canfitpro™

Active Aging course tells instructors to avoid using the term ‘senior,’ claiming that “the active aging adult does not want to be labeled, wants to be able to move and live a rich, full life, and when you use that terminology, they may lose their will.” Conversely, ‘senior’ is front and centre in the title of the Seniors’ Fitness Instructor Course. SilverSneakers® explicitly tells instructors to use the phrase “older adults” and to:

Refer to the individual first, rather than their age. For example, a participant may be retired, but avoid calling them a ‘retiree.’ Refer to the individual first, rather than their condition. For example, a participant may have diabetes, but avoid calling them ‘a diabetic.’ Avoid stereotyping participants. Stereotypes may offend the populations you are attempting to reach, thus negating your message. (SilverSneakers®)

Thus, the labels used to denote older bodies vary across curricula, but attempts are made to resist ageist terminology.

Part of the debate regarding how to label older adults exists at the nexus of chronological versus biological / functional definitions of aging:

At SilverSneakers®, we start first with chronological age and define an older adult as those who are eligible for our program benefits, or generally, those who are 65 and older. But, keep in mind, each members’ biological age may be different. The physiological signs of aging may be more, or less, present amongst participants in the SilverSneakers® fitness program. Our

programs must meet the needs of a wide variety of members although they are the same ‘age.’ (SilverSneakers®)

Each curriculum acknowledged this tension between biological / functional and chronological aging in much the same way as the excerpt from SilverSneakers® above. On one hand, these curricula are seeking to create a community of older adults, but on the other, resisting ageism requires rejecting age-based identity politics.

One way in which ageism is resisted is by statements explaining that older adults are similar to younger adults: “Older adults benefit from the same types of exercises as people of all ages” (ACE® Sr). As described across all curricula, the components of mainstream and older adult specific group fitness generally share many commonalities: a warm-up; the body, consisting of cardiovascular and/or strength-based work; and a cool-down. However, when it comes to older adult fitness, some these components are adjusted or additional considerations are included because, according to AFAA®:

Most general exercise guidelines are designed specifically for healthy individuals between 18 and 65 years of age. Evidence exists on the benefits of exercise for youths and older adults, but participants in these populations may require some adaptations for safety and effectiveness.

Some examples of adaptations to the guidelines and components of fitness when considering age include: a longer warm-up in order to gradually increase heart-rate and joint lubrication (ACE®, ACE® Sr, canfitpro™, canfitpro™ FIS, and Golden

Hearts®); greater emphasis on working body parts neglected in mainstream fitness (fingers, hands, grip and feet - canfitpro™, SFIC, and Golden Hearts®; and pelvic floor muscles to combat incontinence -SFIC and canfitpro™); balance, mobility, stability, posture, coordination, and reaction time as skill-related components of fitness in order to affect falls prevention outcomes (all curricula); muscular power, because of age-related changes in musculature (all curricula); and a longer cool-down (Golden Hearts®). It is in this manner that ageism is engendered, because different treatments, guidelines, and physical work are being recommended on the basis of age.

Reflections

We found that exercise instructors are trained to work with healthy, ideal bodies, thus labeling older bodies as “special.” As such, the older body is conceptualized as a target for a fitness product that promises to sell health, longevity, and increased quality of life in order to resist aging and control the aging body in order to more closely embody the ideal, healthy body. Because the aging body is conceived as “special,” these curricula also noted that instructors who work with older adults require additional training to “specialize” therein. Indeed, it was acknowledged that older bodies are diverse, dynamic, and undergo a number of corporeal changes as part of the aging process. These age-related changes were given as the rationale for the differential guidelines touted by the curricula for working with older bodies in group exercise setting.

While the curricula analysed purported to resist ageism, discrimination or stereotyping based on one's age (Wister 2019), the aforementioned bodywork undertaken with older bodies to emulate healthy, ideal bodies engenders ageism. It is in this manner that the fitness industry, as textually represented in the curricula analysed, subtly reinforces age-graded social hierarchies whereby older adults are marginalized to youthful ideals (Evans, Davies, and Rich 2009; Gilleard and Higgs 2013). Additionally, the specialized bodywork required to work with older bodies also engenders ageism by treating older bodies as different from healthy ideals. However, this latter example is necessary to ensure safe and effective exercise delivery for older exercisers. This creates a problematic condition whereby exercise instructors must resist ageism, to treat older adults as social equals to younger adults, while also engendering ageism, to respect corporeal differences that require specialized bodywork.

Scholars and exercise instructors might reconcile the dichotomy between resisting and engendering ageism by looking to poststructuralist theorizations of age and aging as advanced by van Dyk (2014: 101), who advocates for recognizing “difference while removing the inequality.” Such an approach would acknowledge the heterogeneity of older exercisers and the diverse bodywork required to fit their distinct, corporeal needs, without marginalizing older adults. In addition, van Dyk (2014) draws on poststructural thought to argue that hierarchies are historically situated, proposing instead that we might find it useful to employ the Post-Colonial concept of strategic essentialism (Spivak 1988), whereby identity is leveraged to

affect outcomes, such as special supports, that advance the agenda of the identity-group, such as older adults. Indeed, older adults invoke a strategic essentialist frame to argue for specialized exercise classes in response to the fitness industry's inability to meet their needs (Ecclestone & Jones, 2004; Massie & Meisner, 2019).

The notion of providing special supports to older persons because of inherent need due to age-related processes, such as the case of adapting exercise-related bodywork, is known as new or compassionate ageism (Kalish 1979). The virtuous intentions of compassionate ageism have been criticized for upholding the decline narrative whereby aging is associated with dependency, decline, and disability (Gullette 1997). However, a strategic essentialist frame would elucidate that agentic bodies exploiting decline may create the social change desired by the collective. In political domains, for example, compassionate ageism was the motivation for age-based welfare programs (e.g., Old Age Pension) (Kalish 1979). Likewise, strategically engendering compassionate ageism has created, and can continue to create, specialized exercise classes serving the needs of older exercisers.

To conclude, we echo van Dyk's (2014: 101) call for recognizing differences while mitigating social inequalities. Recognizing the realities of corporal aging and appreciating difference calls for engendering compassionate ageism, which we argue has the capacity create better, more inclusive fitness spaces and programs for older adults. However, not all forms of ageism are acceptable, and as such, scholars and practitioners alike must continue to combat forms of ageism that result in social inequalities and reinforce age-graded social hierarchies.

Toward this aim, we call on the fitness industry to rethink conceptualizations, representations, and practices idolizing youthful ideals, as these serve to marginalize older adults.

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Table 1: Curricula Included in Content Analysis

Abbreviation	Organization	Certification / Certificate	Modality & Training Curricula
canfitpro™ FIS	Canadian Fitness Professionals Inc.	Fitness Instructor Specialist [FIS] certification	Print manual, print study guide, 25-hour in-person course, and online course resources consisting of learning modules and practice exams
canfitpro™	Canadian Fitness Professionals Inc.™	Active Aging certificate	Online and comprised of video modules, handouts, transcripts, and quizzes
SFIC	Canadian Centre for Activity and Aging [CCAA]	Seniors' Fitness Instructor Course	Print manual and 32-hour in-person training
ACE®	American Council on Exercise®	Group Fitness Instructor Certification	Print manual only
ACE® Sr	American Council on Exercise®	ACE® Senior Fitness Specialization	Online and comprised of video modules, handouts, transcripts, and quizzes
AFAA®	Aerobics and Fitness Association of America®	Group Fitness Instructor Certification	Print manual only
Golden Hearts®	Aerobics and Fitness Association of America®	Golden Hearts®: Senior Fitness Training continuing education course	Online and comprised of video modules, handouts, transcripts, and quizzes
SilverSneakers®	SilverSneakers®	Foundations	Online and comprised of video modules, handouts, transcripts, and quizzes

**Paper 3: (In/Ex)clusive Physical Cultures: An Institutional Ethnography of
Group Exercise for Older Adults**

The third paper in this thesis was submitted to the Journal *Ageing & Society* on June 16th, 2020. The paper was reviewed and on October 5th, 2020 I was invited to revise and resubmit. The first draft of the manuscript is included in this thesis, as it was not possible to include the revised version at the time the thesis was submitted. Paper 3 is reproduced with permission in this thesis.

Building off of Paper 2, Paper 3 explores the separation of older adult fitness from mainstream fitness. Herein, attention was paid to the relative physical cultures and how these cultures engender inclusivity and exclusivity. Extant literature has argued that older adult fitness and physical cultures focus more on health and function; whereas, mainstream fitness and physical cultures focus on performance and competition. Employing an IE approach, Paper 3 maps the social influences informing the curricula used to train exercise instructors (looking at the same eight curricula from Paper 2), and maps how these curricula influence how exercise instructors teach older adult fitness. Thus, this paper empirically connects how policy and practice decisions are embedded in the curricula, which in turn (re)produce exclusion of older adults from certain fitness cultures.

It becomes evident in Paper 3 that older adults have been excluded from mainstream fitness cultures' lack of normative data when undergoing assessment and screening procedures, which are not often employed by instructors in practice. Indeed, screening practices for potential exercise clients differs by age and is

embedded in discourses of safety and risk. Instructors who participated in this study shared that screening is not often practiced according to the curricula's outlined standards. Then, an in-depth analysis on how exercises are modified reveals that the process of multi-level teaching, touted by the curricula as a means of producing inclusive exercises classes, may not be enough to be inclusive for all abilities. Finally, this paper looks at the variety of ways in which contraindicated exercises (exercises that are deemed unsafe and thus not advised for certain populations) are recommended by some, but not all of, the curricula. Herein, some curricula employ age-based criteria, once again embedded in discourses of safety and risk, which is ageist, undermines instructors' competence, and disregards exercisers' agency.

Consequently, it was observed that instructors practiced varying degrees of uptake of, or resistance against, the recommendations of their certification as taught to them by the curricula. Exercisers in this study expressed an appreciation for instructors who used their professional judgement with regards to how and when to adhere to the guidelines of their certification. Herein, exercisers were empowered when instructors would teach them about the safety of particular exercises: how to perform the movement safely; to whom contraindications apply' and in what ways to modify or adapt exercises based on health- and functional status. In so doing, exercisers could use their judgement as to what was safe for them and their bodies based on their individual needs and circumstances. The absence of this education, however, left exercisers feeling unsure about the appropriateness of performing certain exercises.

Taking up the standpoint of older exercisers, this paper focuses on how older adult physical cultures often conflate age with (lessened) ability, which marginalizes frail and competitive older adults alike, as well as younger adults whose abilities are not well served in mainstream fitness. Thus, the work undertaken in the fitness industry to create inclusive group fitness classes produces age-exclusive exercise markets that uphold the decline narrative by implicitly equating youth with health and ability and older age with disease and disability. Paper 3 contributes in an applied sense by providing material evidence for the ideological and discursive conflation of age and ability. Herein, Paper 3 argues that the arbitrary division of fitness by age is an ageist practice (as was mentioned in Paper 2) and that mainstream fitness needs to embrace options that appeal to exercisers of all abilities, regardless of age, in order to create more inclusive physical cultures.

Paper 3

**(In/Ex)clusive physical cultures: An institutional ethnography of group
exercise for older adults**

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Abstract

Older adults benefit greatly from being physically active; yet they are the least active generation. To appeal to older consumers, to reduce barriers older adults experience to becoming physically active, and to increase the number of physically active older adults, the exercise market has been divided into mainstream fitness and age-segregated programming, the latter of which specifically targets older adults. To better understand the social discourses and material practices that shape socially (in/ex)clusive physical cultures for older exercisers in both mainstream and older-adult group exercise classes, this research employed an Institutional Ethnography [IE] approach. Textual analyses, interviews, and field observations revealed that the material and discursive work practices intended to promote inclusivity in group exercise fitness and physical cultures actually engendered age-exclusive markets. Herein, we discuss how the guidelines and policies put forth by these certifying bodies, and the training curricula they publish, govern group exercise practices in a manner that tends to align with dominant ideological discourses conflating age and ability. We conclude by arguing that in order to create more inclusive physical cultures, mainstream fitness providers need to embrace options that appeal to potential group exercise consumers of all abilities, regardless of age.

Keywords

Institutional Ethnography, Older Adults, Physical Activity, Exercise Instructors, Fitness Leaders, Physical Cultures

Introduction

It is widely accepted that older adults benefit greatly from being physically active (Battaglia, et al., 2016; Hartley & Yeowell, 2015; Kim, Chun, Heo, Lee & Han, 2016; Yamada, 2016;). Indeed, a vast majority of older adults express that they are aware of the benefits of physical activity (Costello, Kafchinshi, Vrazel, & Sullivan, 2011; Crombie et al., 2004; Newson & Kemps, 2007). Despite this awareness, many older adults are sedentary, with their participation in physical activity below established levels necessary for health improvement (Mehra et al., 2016; Nyman, 2011). In the United States and Canada specifically, older generations are consistently less active than younger cohorts (Physical Activity Council, 2017; Statistics Canada, 2015). As a result, a generational disparity exists in physical cultures, a concept which refers to the practices, rules, rituals, beliefs, norms, and values that are present within spaces of physical activity (Lox, Martin, & Petruzzello, 2003; Shilling & Mellor, 2007).

The dominant discourses shaping the physical cultures within which older adults tend to be physically active are: 1) successful ageing (Katz, 2001; Rowe & Kahn, 1997), wherein one remains active and is both mentally and physically healthy; and 2) the decline narrative (Guillette, 1997), whereby ageing is associated with dependency and disability. Other counter-discourses shaping the physical cultures within which older adults might be physically active are less concerned with successful ageing's and the narrative of decline's focus on corporeal ageing. Rather, these count-discourses emphasize developing physical cultures centred

around: 1) pleasure, fun, and enjoyment (McPhate et al., 2016; Phoenix & Orr, 2014; Poole, 2001); 2) socialization and community (McPhate et al., 2016; Tulle & Dorrer, 2012); and 3) notions of serious leisure (Stebbins, 2007) wherein physical activity is reconceptualized as a ‘career,’ with participation affected by the ebbs and flows of contextualizing factors, such as learning to remain active in the face of injury or illness (Palmer, Bowness, & Tulle, 2019).

These discursive perspectives inevitably influence the exercise environment and impact the subjective experience of exercisers (Paulson, 2005). One way in which they do so in a group exercise environment is via the ideological positions of the exercise instructors. Accordingly, the meanings that older adults attach to their exercise experiences shape the meanings of physical cultures for older adults (Sims-Gould, Clarke, Ashe, Naslund, & Liu-Ambrose, 2010). Scholars have found that instructors who embody the decline narrative in their teaching create barriers by imposing unnecessary limitations, based on ageist assumptions, on older exercisers (Kluge & Savis, 2001). Conversely, instructors who embody the discourse of ‘successful ageing’ in their teaching have been critiqued for failing to relate to older exercisers by ignoring the realities of corporeal ageing (Andrews, 1999) and focusing on constant improvements, as measured by metrics of exercise quantity, rather than focusing on the quality of the exercise experience (Tulle & Dorrer, 2012). Both environments tend to result in low attendance and adherence to exercise because the physical culture created by the instructor fails to align with the desires of the older exercisers.

Following this line of inquiry, this research employed an Institutional Ethnography [IE] approach in order to uncover the social discourses that shape socially (in/ex)clusive physical cultures for older exercisers in both mainstream and older-adult group fitness classes. Herein, specific attention was paid to the influence of the exercise instructors. Leaders of exercise classes have been found to be vital determinants of exercise enjoyment and adherence (Carron, Hausenblas, & Mack, 1996; Carron & Spink, 1993; McAuley & Jacobson, 1991; Petrescu-Prahova, Belza, Kohn, & Miyawaki, 2015), acting as facilitators of group cohesion, cultural intermediaries, and educators (Harvey & Griffin, 2019; Maguire, 2008; Poole, 2001). Our aim in undertaking this research was to contextualize and understand the socio-cultural influences that affect the teaching methods that exercise instructors employ in both mainstream and older-adult group fitness classes. Herein, we argue that attention must be paid to the policies and professional practices that govern how exercise instructors conceptualize and deliver older adult exercise programming (Smith, 2002; 2007), "...so that how [this world] is being put together can be made observable from the point of view of those caught up in it" (Smith, 2007: 411).

Methodology

The method of inquiry underlying this study is an Institutional Ethnography [IE]. We deemed this to be the best approach because in IE the subject of study is not an objectified research subject, but rather a social process, which in this study's case is the process of teaching that takes place between instructors and older

exercisers (Smith, 2006). Because IE is attuned to the shared experiences of the social groups under investigation, IE's social ontology is well aligned to the constructivist position (Smith, 2002; 2005; 2006).

IE neither contributes to theory nor makes any assumptions as to the meanings ascribed to social processes; therefore, we did not impose a pre-conceived theoretical framework (Rankin, 2017b; Smith, 2002; 2007). That said, IE's roots are in critical theory, and thus aligned with our aim at elucidating influences of power governing the interactions taking place between instructors and older exercisers (Smith, 2007). Modern iterations of power are said to be "...exerted through the documentary processes used to describe, categorize, define, direct, visually represent, or otherwise coordinate and control the everyday world" (Townsend, 1996: 188). Given that fitness is an institution governed by rules and policies, as articulated and passed across time and place via texts, reliant on competent social actors, such as instructors, to enact these rules (Campbell & Gregor, 2004; Ecclestone, & Jones, 2004; Jarvis, 1985), IE was the best methodology to address our research question.

The research question underlying this study was: What are some of the socio-cultural discourses represented in the training and workplace policies that govern how exercise instructors conceptualize and deliver older adult exercise programming, and how might this affect the (in/ex)clusivity of social exercise environments? To answer this question, we: 1) investigated the local, or daily experience, of the exercise exchange between instructors and older exercisers,

drawing attention to older exercisers' experiences of (in/ex)clusivity; and 2) mapped the socio-cultural influences (also known as ruling relations in IE) at the translocal level (influences that are beyond observation in the 'local' experience) that affect these daily experiences (Campbell & Gregor, 2004).

Methods

IE does not specify how one should conduct their research, but rather outlines that for which one should look (Campbell & Gregor, 2004). DeVault and McCoy (2006) describe this approach as emergent, and approaches vary for each project. In IE, the researcher follows leads, following ruling relations, to map the ways in which embodied subjects are connected to larger networks of influence (Campbell & Gregor, 2004). When it appears that no novel data can be added, and when no further mapping can occur, the study is considered complete (Campbell & Gregor, 2004). To this end, IE might employ several methods for data collection, such as interviews, observations, and texts (Campbell & Gregor, 2004), all of which were employed in this study.

The Local. The local focus in IE is on people's actual behaviours by attending to how people engage in work, defined broadly from Marx and Engel's conceptualizations of work as a material practice (Campbell & Gregor, 2004; Quinlan, 2009; Townsend, 1996; Townsend, Langille, & Ripley, 2003). Informants who work within the institution under investigation are a means of entry into the topic being researched; therefore, we sought first to speak with informants, as research participants are called in an IE, about their day-to-day work experiences

(Campbell, in Smith, 2006; Campbell & Gregor, 2004). Informants in this study consisted of older exercisers and exercise instructors.

To investigate the local, lived experience, the first author utilized a go-along method and semi-structured interviews with 14 older exercisers for a total of 25 observational hours in community group exercise classes (both mainstream and classes specific to older-adults). [Insert Table 2 near here] Go-alongs consist of in-depth, qualitative interviews in the context of the observational setting (Carpiano, 2009), which permits a phenomenologically-informed method for capturing reflexive embodiment “*in situ*” (italics in original, Kusenbach, 2003: 455). Thus, the first author accompanied and exercised alongside the exercisers to the group exercise classes that they normally attend, after first obtaining permission from the instructor of each class, and interviewed each informant after the exercise class so that questions about the class experience could be asked.

We deemed go-alongs to be the most appropriate method, because interviews in IE are framed as “talking to people” (Campbell, in Smith, 2006: 77), much in a manner like a go-along interview. Informants may not be explicitly aware of the ways in which their work is organized, thus IE aims to actively involve informants in the process of uncovering and describing the influence of these social processes (Campbell, in Smith, 2006). Thus, our focus was on what the informant disclosed about their work, materially, and how it connected them to a larger network of social actors engaged in that work, ideologically (Rankin, 2017b; Smith,

2002). It was also here where we grounded our ‘standpoint’ (Rankin, 2017a), centring our analysis on the embodied experiences of these older exercisers.

In an IE, the aim is “...to locate and trace the points of connection among individuals working in different parts of institutional complexes of activity” (DeVault & McCoy, 2006: 18). Thus, extending from the local experience of older exercisers, we next investigated the work of exercise instructors. The first author observed, for a total of 47 hours, and conducted semi-structured interviews with 22 exercise instructors. [Insert Table 3 near here] Instructors were purposively sampled with an aim for heterogeneity such that instructors possessed range of social characteristics (e.g. race/ethnicity, age, body type, gender/sex, etc.). We did not limit this sample to only those affiliated with the older exercisers involved in the study, as this would restrict the contexts in which instruction is observed, and as such we would not be able to ascertain if our observation were idiosyncratic or normal operational procedures (Campbell & Gregor, 2004).

All exercisers and instructors signed an informed consent form to participate and instructors signed an additional form acknowledging that their employers were aware of and consented to the instructor’s participation in the study. All participants of the classes observed were notified of the researcher’s presence and data were only collected as it pertained to those consenting to participate in the study. Ethics was approved by the university ethics board. All interviews, except one, were digitally recorded and transcribed verbatim (one informant did not consent to the use of the recorder for their interview and so hand written notes were taken).

The Translocal. In an IE, texts are a “means of access, a direct line into the relations it organizes” (Smith, 1990: 3). Texts, such as manuals and modules that comprise the training curricula used to certify group exercise instructors, were thus essential in this IE in order to identify influences of power beyond the scope of observable interactions, because they train instructors how to perform their jobs (Smith, 2002; 2007). This is because texts are unchanging and a means by which work practices are standardized, even if the ways in which the texts are read and enacted may differ by individual interpretation (Gergen, 2009; Quinlan, 2009; Walby, 2007). Therefore, to uncover the translocal influences embedded in the curricula that are used to train and certify exercise instructors who work with older adults, we collected myriad texts as data (Rankin, 2017a). In so doing, our aim was to explicate the socio-cultural discourses represented in the training and workplace policies that govern how exercise instructors conceptualize and deliver older adult exercise programming, thus discerning the influences of power exerted by ruling relations.

Ruling relations are “individuals, organizations, professional associations, agencies and the discourses they produce and circulate” (Mykhalovskiy & McCoy, 2002: 9) that govern the work in which, in this study, exercise instructors undertake and constrain the everyday exercise experiences of older adults (Smith 2002; 2007). In this study, the ruling relations consisted of the national and international policy documents that influence certifying bodies, as well as the certifying bodies themselves, that develop and deliver the curricula that are used to train and certify

exercise instructors who work with older adults. For this study we analysed how the language utilized in these curricula (Smith 2002), as well as how the discourses contained therein are embodied and carried out in the daily context of older adult exercise groups (DeVault & McCoy, 2006).

Ultimately, we included eight curricula used for training and certifying exercise instructors from five certifying bodies in Canada and the United States in this study. [Insert Table 1 near here] The first author participated in all face-to-face and online trainings for these certifications and certificates. The curricula varied in terms of mode of delivery and materials included, thus texts included in analysis were comprised of: print manuals; print study guides; handouts; online course resources including video learning modules; transcripts; and practice exams. We also included marketing materials and information from these body's websites where applicable.

Reflexivity & Rigour

In IE, the researcher is considered to be part of the social environment and their role is an analyst who should side with, and advocate for, the subject under scrutiny (Campbell & Gregor, 2004; Smith, 2005), which in this study was taking up the 'standpoint' of older exercisers. It is this notion of 'taking sides' (Freire, 1974/1993) that expose IE's critical underpinnings. It is also a critical emphasis that informs IE's orientation toward social democracy and advocacy (Campbell & Gregor, 2004). It is therefore imperative that researchers engage in reflective practice to acknowledge the power their position might entail, which is particularly

vital when research is undertaken by ‘insiders,’ like the first author, who is a professionally trained group exercise instructor (Rankin, 2017b). Reflexive practice helps ensure that findings are reflected in the data, establish the ways in which the researchers’ positionalities could influence the study’s outcomes, and mitigate any potential for the abuse of that power, thus preventing acting as an ‘imperialist’ researcher (May, 2002; Smith, 2005; Walby, 2007). Therefore, the authors engaged in the practice of reflexivity throughout the course of the study via written, reflexive field notes and working as ‘critical friends,’ wherein the first author discussed challenges and reflections with the second author (Groenewald, 2004; Smith & McGannon, 2017).

To ensure rigour end, we employed principles put forth by Smith and McGannon (2017). Firstly, we made use of member reflections by asking informants in interviews if the findings from a literature review on the topic of study was compatible with their lived experience (Campbell & Gregor, 2004; Smith & McGannon, 2017). Secondly, we engaged in the aforementioned practice of consulting critical friends (Smith & McGannon, 2017). Finally, because rigour is established in IE through the accuracy of mapping social relations (DeVault & McCoy, 2006), we employed empirically-based, relativist criteria ensure that the social relations mapped were grounded the data collected and the resultant networks were a correct representation of that which was established in the data (Smith & McGannon, 2017).

Findings

An IE investigation centres around the problematic, the contradictions and tensions that render individuals in the local setting powerless (Rankin, 2017a; Townsend et al. 2003). According to Rankin (2017b):

The problematic is generated from the data, and it often rests on stories (accounts) that reveal troubles arising in (or conflicts between) authorized and experiential knowledge; whereby the tensions that standpoint informants know about and experience are either invisible or misrepresented within the authorized accounts (italics in original: 3).

The primary problematic underlying this study is that the work undertaken in the fitness industry to create inclusive group fitness classes produces age-exclusive exercise markets that conflate age and ability, thus upholding the decline narrative by implicitly equating youth with health and ability and older age with disease and disability. In the findings that follow, we share data that weave together material and ideological accounts whereby authorized knowledge embedded in curricula used to train and certify exercise instructors, and hence practiced by instructors, is at odds with both the experiential knowledge possessed by instructors, as well as the standpoint of older exercisers. Additionally, at times, we highlight contradictions between these accounts.

Curricula and Certification

Segmenting the exercise market stems from national and international guidelines, as well as professional standard of practice documents, that influence what information is taught for entry-to-practice group exercise instructors. The

United States (Jones & Clark, 1998) and Canada (Canadian Centre for Activity and Aging [CCAC], & Health Canada, 2003, as cited in Ecclestone & Jones, 2004) independently developed national guidelines to inform curricula development for group exercise instructors who work with older adults. This was because they recognized that, given the increased incidence of chronic health conditions in the older population, “programming for older adults require[d] more care and expertise than for other age groups” (Jones & Clark, 1998: 208) and entry-to-practice training for mainstream group exercise was insufficient for working with older adults (Markula & Chikinda, 2016). These guidelines thus acknowledge that older exercisers require adapted exercise instruction for their unique physical and psychosocial circumstances. Specifically, they call for “moderate-intensity programs” for “independent senior adult participants with medical clearance” (Jones & Clark, 1998: 214), thus excluding frail older adults, who would require instructors with specialized training. Among the certifying bodies included in this study, partners in adopting these curricula guidelines were ACE® and AFAA®, in the United States, and CCAC, who is the originator of the SFIC, in Canada, thus demonstrating a direct link between these guidelines and the curricula included in this analysis.

These national guidelines were later developed into the *International Curriculum Guidelines for Preparing Physical Activity Instructors of Older Adults* (Ecclestone et al., 2004). Led by Ecclestone, CCAC in Canada, and Jones, American College of Sports Medicine in the United States, coalitions also included

representatives affiliated with ACE® (Wokteck Chodzko-Zajko) and AFAA® (Laura Gladwin).

The *International Curriculum Guidelines for Preparing Physical Activity Instructors of Older Adults* (Ecclestone et al., 2004) have been praised for taking a holistic approach to understanding physical activity and ageing (Grant & Kluge, 2007). Comprising this approach are 9 suggested training modules: 1) an overview of physical activity and ageing; 2) multidisciplinary conceptualizations of ageing; 3) screening and assessing as part of goal setting; 4) exercise program planning and design; 5) how to adapt exercises for older adults diagnosed with common medical conditions; 6) educational skills; 7) business, communication, and leadership skills; 8) safety and first aid; and 9) professional, ethical, and legal considerations (Ecclestone & Jones, 2004). With the exception of modules 1, 2, and 5, when mapped onto mainstream group exercise performance standards (i.e. Fitness Leaders of Canada, 2020), there is considerable overlap between the expectations for mainstream and older adult fitness. In the sub-sections that follow, we explore how some of these modules are represented in the training curricula, enacted by the instructors informing this study, and received by the older exercisers who participated in this research.

Screening to Ensure Safety

According to most certifications (SilverSneakers® excluded), and as aligned with suggested modules #3 (screening) and #7 (legal issues) from the international guidelines, proper screening of the prospective exerciser is a vital

practice for identifying exercisers who are at risk of injury or death as a result of becoming more physically active. In canfitpro™'s training, wherein they cite leading medico-legal experts Drs. JoAnn Eickhoff-Shemek and David Herbert (& colleagues), “Pre-exercise screening is part of your duty to care, and it is your legal responsibility;” therefore, by not screening exercise professionals are at risk for ‘unnecessary’ liability and clients are at risk. Negligence, including failing to screen participants, could lead to liability for instructor and their employer where applicable.

Despite emphasizing the important of screening, the curricula also acknowledged that screening was outside of the scope of professional practice for many group fitness instructors. Indeed, this was the case as observed by the first author. Herein, we observed that most group exercise instructors employed by a gym, or similar establishment, did not perform any assessments or screening measures, except in the rare circumstance where required by the employer. However, instructors who were self-employed were required to keep on file a copy of clients’ completed Physical Activity Readiness Questionnaires (PAR-Q), developed by the Canadian Physiological Society. One rationale provided by instructor informants for this was that self-employed instructors purchase their own liability insurance; whereas, instructors employed by a gym or facility are covered under the business or organization’s insurance policy. Therefore, the onus to complete assessments shifts depending on who is the purchaser of the liability insurance.

There were three approaches to client screening outlined in the curricula: 1) anthropometric measurements, such as measuring of body fat; 2) a battery of tests to quantify the type of work of which the individual is capable; and 3) health questionnaires, which includes the aforementioned PAR-Q. Each approach, however, is laden with age-based assumptions, thus demonstrating how the separation between mainstream and older adult fitness and physical cultures is materially embodied in these screening methods. For instance, the ACE® Sr manual described the work to measure body composition. One test, hydrostatic weighing, they acknowledge, “may make older adults uneasy, as they must be completely submerged underwater” and “only a small portion of the older adult population (e.g., competitive seniors) can perform the forced expiratory volume procedure” required. Another option, measuring skinfold thickness, was also “not optimal for older adults” because “the normative data used to determine the actual percentage of body fat are grouped together in a category listed as 60+ years” (ACE® Sr).

The latter problem of lacking normative data for older adults in regards to performance testing was acknowledged by SFIC, ACE® Sr, and AFAA®’s Golden Hearts®. Thus, each curriculum recommended various testing protocols developed by researchers for use specifically with older adults, as these tools “provide normative data for the older adult” (ACE® Sr), which as discussed above is absent from many tests used in mainstream fitness. Additionally, these tests can be adapted for use of assistive devices where applicable (Golden Hearts®), making these tools

more accessible. Nevertheless, these tests assess for functional skills related to activities of daily living (e.g., chair sit-to-stand) and balance, rather than performance measures used to assess younger bodies, revealing a function versus performance dichotomy stratified by age.

In practice, none of the observed instructors performed anthropometric nor performance / fitness testing. Indeed, despite the urging of SFIC's curriculum to perform skills testing, none of the instructors participating in this study who were certified under this training performed any form of performance testing. The rationale instructors provided for this were employment-based constraints, citing lack of money and time. For instance, Instructor1, who worked for a regional fitness-chain, explained to us that they have to clock out after class: Instructor1 is paid for the hour of teaching her class, and not for socializing with participants, preparing or planning their classes, or screening their exercise participants. Instructor2, on the other hand, shared that they spend an extra 2-3 hours on bureaucratic work required by their employer:

So, the sign in sheets, I have to do them. I have to redo them because there's a lot of new people. I have to get the PAR-Q for them, like the ... you know that, right? So, I have to make sure those new people, get them signed in. So, there's a lot of little paperwork. Then I've got to go and clean the equipment, so sanitise it...So a lot of little things but, believe it or not, they take time.

This stands in stark contrast to Instructor3, who is self-employed and thus is not constrained by the same institutional forces as Instructor2. Instructor3 expressed to us that they valued taking time to socialize after class, citing that they felt this practice was important for combating social isolation, engendering group social cohesion, and boosting attendance and adherence among their older clients.

Health questionnaires, including the aforementioned PAR-Q, were the most often utilized screening tool by the group exercise instructors observed. In our appraisal, these questionnaires made similar age-based considerations. A copy of the PAR-Q was provided by all curricula (except SilverSneakers). With the exception of canfitpro™, who recommends the latest iteration of the PAR-Q (the PAR-Q+ which is for screening everyone, regardless of age), these curricula acknowledged that the PAR-Q was only validated for people aged 15-69, thus excluding a good proportion of older adults. Based on publication dates, the PAR-Q+ may not yet have been available before some of the other curricula were being developed and published (see Table 1), thus this exclusion can, in part, explained by a structural lag.² However, it stands to note that older adults were once excluded from many screening and testing procedures in fitness and physical cultures, because of a lack of empirical work to validate tools for this population. Moreover, in the absence of screening tools appropriate for use with older adults, or with persons diagnosed with one or more chronic conditions, these curricula

² The PAR-Q+ was first introduced in 2010, but underwent expert review and validation process in subsequent years before being officially released for practice in 2014 (Warburton, Jamnik, Fredin, & Glenhill, 2014).

recommended medical clearance (for example, canfitpro™ required medical clearance with provision of intensity and contraindications when prospective exercise clients are diagnosed with 1 or more chronic illness), which was acknowledged in the curricula as a potential barrier to exercise participation.

Instructors who employed the PAR-Q recognized its shortcomings. According to Instructor4:

I know if you have 50 people in the class you won't sit with each one before the class and get to know them, but when you ask them a question, "Is there anyone here that has or suffer from whatever, do you guys get dizzy or if you're intensely working out with high" – whatever, any of those simple questions they will let you know. You will know what's in your class, you know, and at the end there is the waiver, you're safe but at least you know how to deal with them. So that's the way I do it before – if I'm going to a new class at the beginning.

Now it's different because I coordinate different programs and I have certain ways when I start the program. So, like us here they have to register with me and I have the PAR-Q, I have the health questionnaires. I have an individual kind of conversation with them in case if needed, but in general, I check everybody is okay, we're okay to do that. Now changes happen, sometimes things happen during your class, before the class maybe something happened yesterday and I didn't know, I always tell them if

something happened that I don't know and I have to know it before we start, please let me know.

What this demonstrates is instructors' use of informal screening methods. Whether due to lack of time, resources, or mandates from employers to formally assess exercisers or due to the recognition that the information collected by the PAR-Q is static, but exerciser's health status is dynamic from day-to-day, Instructor4 will informally assess their clients before, during, and after class and adapt their exercise program accordingly to meet exercisers' needs in situ.

Grant and Kluge (2007) posit that predominately focusing primarily on quantifying physical functioning and abilities of older adults, as in the case of screening tools, the biographical meaning making on the part of older adults is absent and marginalized from these official texts. Thus, they argue that it is vital to explore older exercisers' experiences of being screened. Yet, from the standpoint of older exercisers who participated in this study, very few were on the receiving end of any screening measures and did not express being aware that these screening tools were exclusive based on age. Therefore, older exercisers were ignorant to the ways in which these screening tools quantified their ageing bodies. What was important to older exercisers, however, was the actual exercises selected by the instructor and how these exercises were progressed, regressed, or modified.

Progressions, Regressions, and Modifications

One aim of screening, as cited by the training curricula, is to ensure that the exercises selected by the instructor are considered safe for the exerciser. Thus, the

information derived from screening should inform modules #4, exercise program planning and design, and #5, how to adapt exercises for older adults, from the aforementioned international guidelines. This approach, as outlined, works well in personal training where exercise interventions can be personally tailored, but is not as feasible in group fitness whereby the needs of the individuals are subordinated to the needs of the group (Carron & Spink, 1993). Instead, training curricula suggest that "Appropriate progression and regression options should be included within class blueprint in order to ensure...inclusive movement experiences" (ACE®), which Instructor5 articulated is their aim as an instructor:

I say this to people all the time...that's what we pride ourselves on, is that we want anyone to be able to step into a class and feel accomplished when they step out. So, like, it's a tough part of the job of the instructor, but that's part of my job, that's what I signed up for, and if you step into my class, I want you to feel like you went out, having the workout that you came for.

It therefore appears that the provision of options, known as multi-level teaching, may indeed foster more inclusive physical cultures.

Every curriculum promoted inclusive instruction via multi-level teaching styles wherein modifications, regressions, and progressions were offered. Training manuals explained that progressions 'progress' and make an exercise more challenging; whereas, modifications and regressions describe the ways in which the exercises are adapted when a particular body/person cannot or should not perform a particular movement. Herein, manuals specified that modifications and

regressions may include safer substitute movements, such as low- or non-impact exercises (SilverSneakers®) to replace those that are high-impact. Informants, instructors and older exercisers alike, expressed the importance of progressions, modifications, and regressions. Consider Instructor5's experience:

We do fitness in the park so I teamed up with another instructor last summer. So, I took Pilates and this instructor was probably like maybe 22 and trains athletes. Who knows who's going to show up? So, he's ready to do boot camp, you know, run and down the trail and calisthenics and he had three people show up that probably hadn't worked out in 10 years and then a bus pulled up of special needs people. And that was his group that he had to work with. And he panicked, like he didn't know what to do. And at the end he just looked at me like a deer caught in headlights and he was just like I just wasn't expecting that. So, like I think when you do SilverSneakers® like you learn all your modifications for everything and that carries over to every group. So, it's not necessarily, you know, a 30-year-old could have blown out their knee and they come in the gym, what are you going to do, if you don't know how to modify? So, that's my approach to every class.

From the standpoint of older exercisers, modifications were highly valued, as exemplified by Exerciser1:

...there are some things that I used to do on the floor a lot before...that I don't know if I could do now. That's why, like, she's going to do yoga with us, but we're going to do yoga in the chair. So, no problem, although I did

do yoga two years ago and that was on a mat, but I can't do as much as I used to in that respect. When I did yoga before, I could stand without holding on, but after I broke my femur, I don't have the type of balance I had and I think that injury is more than age and trying, because Helen over there is 95 and she moves like crazy.

Both of these examples not only underscore the importance of modifying exercises in order to be more inclusive, but also highlight the importance of health and functional ability-based, rather than chronologically age-based, criteria. The latter conflates age and ability, and is therefore ageist because age as the sole criteria in determining what is considered to be safe practice (Kluge & Savis, 2001). Moreover, ability-based criteria are grounded in reality that bodies (of all ages) vary in their performative abilities.

However, instructors and exercisers alike pointed out shortcomings with the multi-level approach touted by the curricula. As Instructor⁷ observed: "I find that when you teach even when you give modifications people tend to do what you're doing." Instructor⁸'s answer to this was to normalize the modification, but also push when necessary:

Some of the times [I] just to say, "Hey, everybody, I'm giving you permission to use the block. I'm on it." Like, you know, that kind of thing, I think is important. The modifications would definitely be something that I'm bringing to peoples' level to make it more accessible. I push myself to

make sure that everybody's getting a challenge. So, I may be bringing it up sometimes, so I think it's up and down during a practice.

Instructor5 elaborated how modifying was even more challenging in a class serving heterogeneous clients, such as a group exercise class for older adults, by asserting that, "...there's always a range in every class that you have to be prepared for, but it's really, really large in [the low-impact group]."

Exercisers too commented on the limitations they perceived with regards to multi-level teaching. Exerciser2, for example, emphasized that modifications may not be enough to create inclusive physical cultures:

Because you've got more people with different abilities and everybody tries to up it a little bit. No, some people can do some things better than others, but it's not like so far out of the realm that you're never going to get there. They tell you to modify it. But if you're the only one modifying it...you never think you're going to get to there. Yeah, there's certain restrictions, physically, as you get older. And, you know, like I said, if you're struggling with introductory to algebra, you don't want to sit in the calculus class.

Exerciser2's comparison of mainstream exercise to calculus brings to the fore an essential problem with teaching multi-level classes: one can modify, but only so far from the benchmark; at some point, there is a need to change the benchmark in order to meet the needs of people whose abilities are not otherwise met. Herein, again, Exerciser2 draws attention to ability-based interventions; however, some of

the analysed certifications have taken to age-based criteria for determining what exercises are appropriate for a given population.

Contraindicated Exercises

Modification might, at times, mean foregoing specific movements altogether, as is the case of contraindicated exercises, or exercises that are deemed inappropriate, unsafe, and not recommended for certain populations. The national and international guidelines do not provide any advice regarding specific exercises; therefore, each curriculum is free to take a different approach to contraindicated exercises. Neither of the canfitpro™ curricula specify contraindicated movements for older adults. Conversely, the ACE®, ACE® Sr, AFAA®, and Golden Hearts® curricula all describe circumstances under which certain exercises are contraindicated, such as in cases whereby a person with a particular chronic condition should not perform a particular movement for safety reasons. Additionally, AFAA® does outline some contraindicated movements that no member of the general public should perform.

While ACE® and AFAA®'s manuals endorse ability-based criteria for the determination of contraindicated movements, SFIC and SilverSneakers®, the two organizations where older adults are the sole receivers of the exercise product (the others have mainstream fitness equivalents serving people of all ages), specify distinct exercises that are contraindicated for all older exercise participants, regardless of ability or health. The rationale these curricula provided was that broad application of contraindications for all exercisers ensures safety of the masses given

that an instructor may not know everyone's health status, older exercisers might not be aware of or forthcoming about their health status, and/or the group exercise instructor might not perform screenings or assessments.

In practice, abiding by the rules of one's certification varied with respect to contraindicated exercises. Consider the following observations whereby instructors either: willingly or mistakenly failed to respect the contraindications mandated by their certification; employed relativist criteria for the application of contraindications, respecting contraindications in group exercises classes branded by their certification but not transferring these contraindications to their mainstream classes even when the same older adult attends both class formats; or applied contraindications to only those in the class for whom those contraindications are appropriate. Firstly, Instructor9, who is not certified, was observed including moves that are, in the first author's estimation, no longer considered safe in either older adults or mainstream exercise; whereas, Instructor10, an SFIC certified instructor, included two contraindicated moves in their exercise class (as determined by comparing observations to contraindications outlined in the SFIC manual). The contraindicated movements Instructor10 included are often employed in mainstream fitness, and were indeed observed therein.

Secondly, Instructor6 was observed abiding by the contraindicated regulations of SilverSneakers®, but only in SilverSneakers® branded classes, not in mainstream or other branded classes. Likewise, Instructor11 was observed abiding by the contraindications dictated by SilverSneakers®, but used their

professional judgement when teaching their Zumba® Gold class. Herein, Instructor11 was observed using a microphone despite the fact that Zumba Gold®'s professional practice is for exercisers to follow the instructor's lead, and as such instructor's do not talk during the class. Instructor11 violated this professional practice, because they shared with us that they believe it is important to be able to verbally communicate to older clients during class. However, no other Zumba Gold® instructor observed violated this principle. Finally, rather than applying across the board contraindications, some instructors applied contraindications to only those in the class for whom those contraindications are appropriate, thus allowing exercisers to use their judgement as to whether or not to perform the potentially contraindicated exercise. This was indeed the case observed wherein Instructor2 told people that a particular exercise is contraindicated for people with a hip replacement.

Employing relativist criteria, as Instructor2's example exemplifies, requires professional expertise. However, instructors are taught that they must abide by the curricula in order to maintain their certification, which at times can mean subordinating their expertise. However, the following provides a poignant example where we witnessed an instructor push back against institutional ruling relations that govern the actions of the exercise instructor, thus prioritizing their professional judgement. Instructor4 shared with us how they pushed back when going through one particular instructor training. They disagreed with the certification body's requirement that instructors teach in accordance with their guidelines, including

contraindications outlined in the certifying body's curriculum. Indeed, as in Rankin and Campbell's (2009) study of nursing, the guidelines to which exercise instructors must abide according to their certification subordinate their professional competence and serve as a means to rationalize when and with whom certain exercises are employed.

Instructor4 questioned how this particular certification body's requirement to apply condition-specific contraindications benefited the older exerciser. They shared with us that this approach distils the exerciser down to only one health problem, rather than considering them as a holistic person with many other potential needs and/or conditions. Rather, Instructor4 emphasized the importance of pre-screening and listening to the exerciser to ascertain their concerns and needs in order to determine what exercises are appropriate and inappropriate for each individual exerciser. The example Instructor4 shared was: if the individual has osteopenia and is at a slight risk for fracture, then a spinal rotation stretch is considered contraindicated. However, if this individual also is diagnosed with Parkinson disease, then trunk rigidity is a concern and a spinal rotation stretch is highly indicated. Thus, a holistic approach would be to weigh the benefits and risks and teach proper form.

Like Instructor4, Instructor7 questioned the rationale for certain contraindications, calling them 'limiting,' and instead deferred to their own expertise and competence as a group exercise instructor:

...So, technically I'm not supposed to do grapevines but I'm like why would I tell someone not to do something that works on agility and balance, and side movement when they can do it? So, I give them options.... If you don't want to go - I know that I cued it today but sometimes I'll say if you're comfortable going away from the chair but not crossing your feet you can march to the side and come back. Why would I hold somebody back when they can do it?

Here, Instructor7 weighed the benefit of the exercise against the risk and implicitly endorsed ability over age, which resulted in going against the advice of their training and certification. Instructor7 continued:

I have people that come to SilverSneakers® class and now they want to do other of my classes, right? So, I just explain and again I've told you my philosophy is I want it to be accessible on as many levels as I can so to me the only difference is you have to be able to get on the floor.

Recognizing that older adults can, and do, attend both her mainstream and older-adult specific classes, Instructor7 exposes the problematic of applying age-based criteria without consideration of ability, that is undermines the inclusivity of mainstream and older-adult group fitness alike.

Depending on the training of the instructor, older adults attending both mainstream and older adult specific group exercise programming can receive different directives as to what constitutes safe movements, as was evident in the examples above. This dichotomy arises from the tension between the application of

health and ability-based criteria or age-based criteria to contraindications that arises from lack of consensus among certifying bodies and their curriculum. Take Exerciser3, who questioned if they should “show off” their (flex)abilities in front of their older peers:

Me, I can bend over and put my hands flat on the floor still. So, and I tend to do that to stretch my back, and I sometimes think maybe I shouldn't be doing that, occasionally, around everybody else that's older. Can a lot of people do that? But to me, that feels great. So, and it's a flexibility I still have.

Exerciser3 attended a SilverSneakers® class, and as such the stretch they describe would be contraindicated, thus limiting what ‘feels good’ to Exerciser3’s body. Their (flex)abilities are thus limited during the class based on age alone, leading them to probe the appropriateness of their actions.

Instructors’ adherence to the application of age-based contraindications, as specified by SFIC and SilverSneakers® curricula, not only subordinate instructors’ professional competence, but fail to account for exercisers’ agency. For instance, Instructor6, as per their SilverSneakers® training, tells participants, “Keep your head above your heart.” However, that did not stop an older exerciser in the class from defying Instructor6 and fully bending to touch her toes, like Exerciser3. Consequently, exerciser agency can undermine the best intentions of ensuring safety by employing broad contraindications. Furthermore, we argue that applying contraindications to only those in the class for whom those contraindications are

appropriate offers teachable moments that can serve to either reassure older exercisers that the exercise is appropriate for them to perform, or educate older exercisers to avoid movements that undermine their safety. So rather than cueing, ‘Keep your head above your heart,’ Instructor6 could have cued, ‘Keep your head above your heart if you suffer from x, y, or z,’ in order to respect the agency of older exercisers.

Indeed, older exercisers seemed to prefer instructors apply contraindications to only those in the class for whom those contraindications are appropriate:

If you have an issue, like I said someone has an issue with their shoulder, “Okay but watch your shoulder. Now pick up weights.” So, [the instructor] educates us really in things that we should or shouldn’t do, you know if we are limited. So, [the instructor] does talk about limitations and that, if you – she doesn’t point anybody out, but like “If you have this, remember you can’t do this,” so she does educate us in what we can and can’t do and that’s important. (Exerciser4)

This approach that Exerciser4 described requires a higher degree of competence on the part of instructors, but results in greater inclusivity. It is also in this instance where it becomes apparent that instructors’ application of ability-based criteria not only teaches exercisers how to modify appropriately given their health-based limitations, thus creating inclusive exercise environments aligned with the notion of teaching multi-level classes, but also overcomes the inherent ageism of widely implementing age-based contraindications.

Discussion

Previous research has pointed to a lacuna in scholarship that connects what instructors are taught by certification bodies to what instructors in turn teach to their exercise clients (Markula & Chikinda, 2016). For instance, Markula and Chikinda (2016) employed Foucauldian analysis to investigate the influence of the American College of Sports Medicine curriculum, and the policies embedded therein, on exercise instructors in a university setting. This present research adds to this previous scholarship by examining multiple curricula and elucidating the degree of power that these certifying bodies exert in governing the daily experiences of exercise instructors and the older clients they serve (Smith, 2002; 2007).

The actions that take place in the group-exercise encounters are highly governed by the ruling relations emanating from the governing bodies that certify group exercise instructors, but remain largely invisible to the older exercisers who are the intended beneficiaries of such policies. Policy and practice decisions, such as decisions made to label certain exercises as contraindicated for all older exercisers attending age-exclusive classes, become embedded in the curricula written by these certifying agencies as rules that (re)produce exclusion. Echoing previous literature, this present study advocates that age-based criteria without consideration of ability is ageist and problematic, in that it conflates age and ability (Kluge & Savis, 2001). Instructors in this study who resisted such potentially exclusionary practices did so by using their professional competence in order to employ relativist criteria by applying contraindications only where appropriate, for

which older exercisers in this study expressed a preference. This approach not only respected exercisers' autonomy, but taught exercisers vital lessons on how to adapt exercises based on their individual health-based circumstances.

Certifying bodies were not the only influence affecting the interactions between exercise instructors and older exercisers. This research revealed that employer policies could undermine practices promoted by the certifying curricula. For example, screening, touted by the curricula to engender participant safety, was highly influenced by employer policies and practices. Screening, and other employer-based bureaucratic practices, were described as taking considerable time, which for some instructors served as barriers toward pro-social aims. Additionally, instructors recognized that these screening tools were static and failed to capture the dynamic nature of working with older exercisers. These instructors spoke about employing informal screening before and during classes to gauge exercisers' capabilities in daily practice, as well as engaging in multi-level teaching.

In order to engender inclusivity, certifying bodies recommend multi-level teaching, but the social process of group exercise delivery to older adults is more nuanced than training curricula suggest. Previous research has found that adapting exercises to support exercisers' limitations does indeed foster inclusivity (D'Abundo, 2007; Nau, Nolan, & Smith, 2019), but our research suggests that multi-level classes may not always be sufficient to foster support and inclusivity. Pitfalls not overcome by multi-level teaching include: 1) when exercisers mirror what the instructor demonstrates and thus fail to modify or customize the exercise

to their abilities; and 2) when the abilities of the exercisers comprising the group are exceedingly heterogeneous. As Exerciser2 suggested, “if you're struggling with introductory to algebra, you don't want to sit in the calculus class;” hence, some of the shortcomings of multi-level teaching may be overcome by stratifying group exercise classes by ability, whilst still continuing to employ multi-level options.

Regrettably, the fitness industry is not clearly stratified by ability. To appeal to older consumers, and thus increase the number of physically active older adults, it has been said that the exercise market has been divided by age into mainstream fitness and older adult fitness, the former emphasizing performance and competition and the latter emphasizing health and function (Gilleard & Higgs, 2013). It has also been suggested that older adult fitness emerged in response to older adults' unique health and functional needs that could not otherwise be addressed in mainstream exercise classes (Ecclestone & Jones, 2004; Massie & Meisner, 2019; Tulle & Dorrer, 2012). Scholars have argued that this division not only validates the exclusion of older adults from the more youth and competition oriented mainstream physical culture, but the meaning of such a division has been observed to be internalized by older adults and used as a strategy to justify less intense engagement with physical activity (Tulle & Dorrer, 2012; van Dyk, 2014).

The health-oriented culture exclusively targeting older adults ignores the heterogeneity of this segment of the population, ranging from masters athletes, who engage in competitive athletics, as well as older adults embodying fourth-age characteristics, such as frailty, and for whom even fitness interventions targeting

older adults is too vigorous (Clarke, Currie, & Bennett, 2020; Dionigi, 2006; Higgs & Gilleard, 2015; Massie & Meisner, 2019; van Dyk, 2014). Indeed, the range of abilities that older adults possess is more heterogeneous than is represented in these curricula, and as such large portions of the older adult populace are excluded from the practice recommendations rooted in these texts. Therefore, the creation of older adult specific exercise classes may indeed foster a more inclusive physical culture for *some* older persons, but this is at the exclusion of *many* older adults whose ranges of abilities are not well-suited to these programs. Moreover, age-segregated, as opposed to ability-segregated, group exercise classes overtly exclude younger adults whose needs and abilities might be better addressed in an older adult fitness class (or more aptly named a low-impact fitness class), as well as implicitly exclude younger individuals who not want to be identified as ‘old’ by being part of a social group devoted to older persons (Dionigi, 2006). Therefore, we argue that exercise classes stratified by ability might create more fitness opportunities for persons of all ages and abilities.

What this study adds to this literature is a map connecting the material and the discursive. For example, institutional forms of knowledge, such as screening tools employed in the fitness industry, reproduce the exclusion of older adults from mainstream fitness by normalizing the younger, fitter body; whereas, the norms embedded in the tools for screening older adults measure health and function as defined by activities of daily living [ADL]. Katz (2000) has previously argued that tools to measure function via assessing ADL medicalizes activity, problematizing

older adults as at risk for dependency and thus in need of interventions to increase levels of physical activity. Moreover, conflating age with ability ignores socio-cultural determinants of health (Katz, 2000), as well as non-health related reasons for exercising, such as for pleasure (McPhate et al., 2016; Phoenix & Orr, 2014; Poole, 2001), socialization (McPhate et al., 2016; Tulle & Dorrer, 2012); and serious leisure (Palmer et al., 2020; Stebbins, 2007).

Limitations

IE, although touted to be emancipatory (Campbell & Gregor, 2004; Smith 2005), has been criticized for objectifying the ‘subject’ of analysis (Walby, 2007, p 1017), which in this instance would be older adults. The authors acknowledge that, despite trying to centre the analysis on the experiences expressed by the older adults in the group exercise environment who participated in this study, the informants’ experiences might well not be shared by all older adults. Thus, by keeping the subject of analysis focused on the material practices that have a downstream effect on the exerciser, we aimed to reveal the tensions and contradictory professional practices that have the potential to affect older adults who participate in group exercise. This research alone cannot emancipate older adults from the power enacted by ruling relations, but can serve as a means for consciousness raising (Freire, 1974/1993).

The focal point of IE analysis is mapping or recording the ways in which social processes related to the embodied experience of a phenomena are organized by the aforementioned ruling relations (Campbell & Gregor, 2004). The end

product, rather than theory, is explication, wherein one illuminates the hidden forces governing the embodied experience under scrutiny (Campbell, in Smith 2006). IE's findings are, therefore, empirical, but subjective and thus lack generalizability outside of the specific institutions under investigation (Campbell & Gregor, 2004; Smith, 2005). Thus, this research neither makes claims to contribute to social theory, nor is it generalizable to other group exercise instructor certifications. Moreover, influences of power cannot be mapped comprehensively (Smith, 2006), as IE "...is, in principle, never completed in a single study" (Smith, 2002: 30). Therefore, further inquiry that extends the scope of this IE, such as investigating the experiences of younger adults whose abilities are not well met by mainstream fitness, is needed.

Conclusion

The aim of this study was to apply an IE approach to elucidate the socio-cultural discourses that are represented in the training and workplace policies that govern how exercise instructors conceptualize and deliver older adult exercise programming. In so doing, we explicated some of the ways in which these curricula, and the ideologies they espouse, are enacted by group exercise instructors to engender (in/ex)clusive social exercise environments. Specifically, this study reveals the problematic conflation of age and ability in fitness and physical cultures and how the discourse of multi-level teaching, as a means of producing inclusive physical cultures, perpetuates norms regarding ability and health that excludes many potential exercisers. The standpoint of older exercisers reveals the importance

of ability-based criteria; therefore, we argue that, in order to be more inclusive, there is a greater need for physical cultures that cater to a greater range of abilities.

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Table 1: Curricula Included in Content Analysis

Abbreviation	Publication Date	Organization / Certifying Body	Certification / Certificate	Modality & Training Curricula
canfitpro™ FIS	2009, 2010, 2012, 2014	Canadian Fitness Professionals Inc.™	Fitness Instructor Specialist [FIS] certification	Print manual, print study guide, 25-hour in-person course, and online course resources consisting of learning modules and practice exams.
canfitpro™	Undetermined [Online], but contains 2015 version of PAR-Q+	Canadian Fitness Professionals Inc.™	Active Aging certificate	Online and comprised of video modules, handouts, transcripts, and quizzes.
SFIC	2013	Canadian Centre for Activity and Aging [CCAA]	Seniors' Fitness Instructor Course	Print manual and 32-hour in-person training.
ACE®	2016	American Council on Exercise®	Group Fitness Instructor Certification	Print manual only.
ACE® Sr	2014	American Council on Exercise®	ACE Senior Fitness Specialization	Online and comprised of video modules, handouts, transcripts, and quizzes.

AFAA®	2019	Aerobics and Fitness Association of America®	Group Fitness Instructor Certification	Print manual only.
Golden Hearts®	2007, 2013	Aerobics and Fitness Association of America®	Golden Hearts®: Senior Fitness Training continuing education course	Online and comprised of video modules, handouts, transcripts, and quizzes.
Silver-Sneakers®	Undetermined [Online]	Silver-Sneakers®	Foundations	Online and comprised of video modules, handouts, transcripts, and quizzes.

Table 2: Exercisers

Name	Country	Age / Gender	Ethnicity	Modality Observed
Exerciser1	Canada	83 / F	White/ Caucasian	Chair Exercise
Exerciser2	USA	69 / F	White/ Caucasian	SilverSneakers®, Zumba Gold®
Exerciser3	USA	71 / F	White/ Caucasian	SilverSneakers®
Exerciser4	USA	80 / F	White/ Caucasian	SilverSneakers®
Exerciser5	Canada	84 / F	White/ Caucasian	Water Aerobics
Exerciser6	Canada	67 / F	White/ Caucasian	Aerobics
Exerciser7	Canada	64 / M	White/ Caucasian	Yoga
Exerciser8	Canada	80 / F	White/ Caucasian	Water Aerobics
Exerciser9	Canada	69 / M	White/ Caucasian	Yoga
Exerciser10	Canada	75 / F	White/ Caucasian	Cycle, Aerobics
Exerciser11	USA	86 / M	White/ Caucasian	SilverSneakers ®
Exerciser12	USA	70s / F	White/ Caucasian	SilverSneakers®, Zumba Gold®
Exerciser13	USA	69 / F	White/ Caucasian	SilverSneakers®
Exerciser14	USA	70s / F	White/ Caucasian	Tai Chi

Table 3: Exercise Instructors

Name / Country	Age / Gender / Ethnicity	Certification	Experience (Years worked, Status, Average number of classes taught per week, Field)	Employer
Instructor1 USA	60s / F / White Caucasian	OTHER*	1-5 years, Part-time, Teaching 2 classes per week, Retired from another field	For-profit chain gym & Aged- Care Home
Instructor2 Canada	60s / F / White Caucasian	CCAA and canfitpro™ Active Aging	5-10 years, Full- time, Teaching 5+ classes per week, Retired from another field	Community Support Services
Instructor3 Canada	58 / F / White Caucasian	OTHER	10+ years, Full-time, Teaching 5+ classes per week, Fitness	Self- Employed & Aged- Care Home
Instructor4 Canada	44 / F / Middle Eastern	CCAA and OTHERS	10+ years, Full-time, Teaching 5+ classes per week, Health Promotion	Community Support Services
Instructor5 Canada	30s / F / White Caucasian	canfitpro™ and OTHER	1-5 years, Full-time, Teaching 5+ classes per week, Education	Non-profit fitness centre
Instructor6 USA	45 / F / American Indian	Silver- Sneakers® and OTHERS	10+ years, Full-time, Teaching 5+ classes per week, Fitness	Non-profit fitness centre
Instructor7 USA	53 / F / White Caucasian	Silver- Sneakers® and OTHERS	10+ years, Full-time, Teaching 5+ classes per week, Fitness	Non-profit fitness centre
Instructor8 Canada	61 / F / White Caucasian	OTHER	10+ years, Part-time, Teaching 2 classes per week, Health Promotion	Non-profit fitness centre
Instructor9 USA	“senior” / F / White Caucasian	Not Certified	5-10 years, Part- time, Teaching 2 classes per week, Retired from another field	Volunteer

Instructor10 Canada	80 / M / White Caucasian	CCAA	1-5 years, Part-time, Teaching 2 classes per week, Retired from another field	Volunteer
Instructor11 United States	64 / F / White Caucasian	AFAA® Silver- Sneakers® and OTHERS	10+years, Full-time, Teaching 5+ classes per week, Retired from another field	Self- Employed and Senior Centre
Instructor12 Canada	41 / F / Asian	OTHER	10+ years, Full-time, Teaching 5+ classes per week, Gerontology	Self- Employed
Instructor13 Canada	37 / F / White Caucasian	canfitpro™	10+ years, Full-time, Teaching 5+ classes per week, Healthcare	Non-profit fitness centre
Instructor14 Canada	40s / F / White Caucasian	canfitpro™	10+ years, Full-time, Teaching 5+ classes per week, Healthcare & Fitness	For-profit chain gym
Instructor15 Canada	56 / F / White Caucasian	OTHER	10+ years, Part-time, Teaching 2 classes per week, Business and Healthcare	Non-profit fitness centre
Instructor16 Canada	45 / F / White Caucasian	OTHER	10+ years, Full-time, Teaching 5+ classes per week, Fitness	Non-profit fitness centre
Instructor17 Canada	50s / F / White Caucasian	CCAA and OTHERS	10+ years, Full-time, Teaching 5+ classes per week, Health Promotion and Fitness	Self- Employed
Instructor18 Canada	26 / F / White Caucasian	OTHER	1-5 years, Full-time, Teaching 5+ classes per week, Business	Non-profit fitness centre
Instructor19 Canada	27 / M / Hispanic	OTHER	5-10 years, Full- time, Teaching 5+ classes per week, Fitness	Non-profit fitness centre
Instructor20 United States	80s / M / White Caucasian	Not Certified	10+ years, Full-time, not currently teaching, Retired from another field	Municipal Government

Instructor21 United States	20s / F / White Caucasian	Silver-Sneakers® and OTHER	5-10 years, Full-time, Teaching 5+ classes per week, Health Promotion and Fitness	Non-profit fitness centre
Instructor22 United States	55 / F / White Caucasian	OTHER	1-5 years, Part-time, Teaching 2 classes per week, Business	Non-profit fitness centre

*Other means that the instructor held a certification, or certifications, that did not correspond to the 8 certifications and/or certificates included in this study (as noted on Table 1)

**Paper 4: Group fitness instruction for older adults: Toward a substantive,
grounded theory of age capital**

The fourth, and final, paper in this thesis was submitted to the journal *Educational Gerontology* on November 2, 2020 and is under review. It is reproduced with permission in this thesis.

Paper 3 introduced the concept of multi-level teaching as a practice meant to engender inclusivity in group exercise classes. However, from the standpoint of older exercisers, findings revealed that multi-level teaching alone may not be sufficient toward this aim. Thus, Paper 4 builds off of this finding by providing an in-depth analysis of the educational methods that instructors employ in the context of older adult group exercise classes.

Paper 4 presents the findings of the CGT portion of this research. Findings speak to the need to balance education and entertainment in the group exercise class. On one hand, instructors are expected to be role models for older exercisers. The performance of being a role model requires a balance between being inspiring alongside promoting acceptance of the need to rest or modify during the exercise class. This performance is also affective, in that an energetic and animated, but low impact, performance is required.

Findings also reveal the need for fitness instructors to better understand and appreciate the sociocultural and biographical experiences of aging (e.g. slang, music, and dance forms popular across older adults' life course), as well as the somatosensory and experiences of corporeal aging. Indeed, there exists a gap

between what/how instructors are trained and how they design exercise routines. The educational methods discussed herein are verbal cueing, visual demonstration, and touch as a means of teaching bodily awareness and drawing attention to that which the instructor wishes to teach the exerciser. However, the curricula used to train instructors fails to teach and appreciate how the aging process may impact these three educational methods. Instructors learn about the aging process in a textually disembodied manner, rather than a subject manner that is alive and full of vitality (Smith & Lloyd, 2006). Therefore, some instructors seem to not fully understand or appreciate what it is like to exercise as an older person.

To address these findings, Paper 4 introduces the concept of age capital as a social process that influences the teaching and learning relationship enacted by instructors and exercisers. Building on Bourdieu's theorizations of cultural capital, as well as Mauss' (1934/1973) habitus (the embodiment of habits, abilities, preferences, and other sociocultural qualities) and body techniques (the culturally-specific ways in which individuals move and use their bodies), age capital is an embodied knowledge of the sociocultural influences and practices throughout a given cohort's life course. Furthermore, age capital helps one develop a performative practice whereby, in this case, exercise instruction is modified but energetic. Thus, age capital permits the instructor to inhabit a proxy 'habitus of later life' and the body techniques therein so that they can teach in an inclusive manner whereby age is performed in a respectful, embodied, and empathic manner.

Paper 4 concludes by recommending several teaching avenues for building age capital, including the use of narratives, aging simulations, and learning about age-related body techniques (such as dance forms that were popular when older adults were younger, age-inclusive language practices, etc.). In so doing, the hope is that the more age capital an instructor possesses, the more they can teach group exercise classes in a manner that fosters greater inclusivity and solidarity.

**Group fitness instruction for older adults: Toward a substantive, grounded
theory of age capital**

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Abstract

One vital role of fitness instructors is that of educator, yet scant theorization about this educative role exists. To address this lacuna in scholarship, we utilized a constructivist grounded theory methodology to develop a theory of embodied education that takes place between the fitness instructor and older exercisers in group exercise classes. The aim was to explain how fitness instructors could teach in a manner that would enhance the inclusivity of the social exercise environments for older exercisers. We collected data from: 1) eight certification and certificate programs used to train fitness instructors who work with older exercisers; 2) observation of and semi-structured interviews with 22 fitness instructors in various group exercise settings; and 3) go-alongs and semi-structured interviews with 14 older exercisers. Findings revealed the need for fitness instructors to better understand, and develop teaching competencies that take into consideration, the embodied and sociocultural experiences of aging (e.g. slang, music, and dance forms popular across older adults' life course), as well as teaching in a manner that balances drawing attention to the body through education with distracting from the affective experience of exercise through energetic performance. Toward this aim, we introduce the concept of age capital as a pathway for fitness instructors to empathize with what it might be like to be an older exerciser.

Introduction

The fitness instructor's role as an educator is widely recognized yet under theorized (Harvey & Griffin, 2020; Howley & Franks, 2003; Markula, 2004). In extant literature, a focus on motor and kinesthetic approaches to teaching predominates. Conceived in this manner, the educative role of fitness instructors is reduced to teaching physical movements and exercise sequences (Ecclestone & Jones, 2004; Gillett et al., 1993), thus centering the material body as the locus of learning. This preoccupation with the body in exercise and the privileging of the mind in education (Roulston, 2010) reflects the notion of Cartesian mind/body dualism, which has dominated sociology and education alike (Williams & Bendalov, 1998). It has been speculated that favoring the mind in theorizing about learning and education has resulted in an underappreciation, in both research and practice, of public educative spaces, such as exercise environments (Roulston, 2010; Sandlin, O'Malley, & Burdick, 2011).

Overcoming this mind/body dualism in education, embodied pedagogy, defined as teaching via the body (Lawrence, 2012), is said to be multidimensional in that the material body and the socio-cultural influences governing those bodies are considered (Freiler, 2008). Embodied pedagogy is communal, occurring with and within relationships, and are said to respect learner personhood (Jarvis, 2001; Lawrence, 2012). Embodied pedagogy is also physical, spatial, emotive, and performative, and can help teach empathy, develop critical praxis, and respect heterogeneity (Kerka, 2002; Nguyen & Larson, 2015; Wilcox, 2009). Being that

older adults are a very heterogeneous population, a theory of embodied pedagogy in group fitness for older exercisers could provide a potential pathway for appreciating the diversity, relationality, and personhood inherent therein.

Scholars have argued that conceptualizations of fitness instruction as merely teaching physical exercises is reductionist, and call for more holistic, experiential, and embodied perspectives that take into account cognitive, kinesthetic, affective, somatosensory, critical, experiential, and socio-cultural ways of learning and teaching (Freiler, 2008; Griffin, 2017; Kluge & Savis, 2001; Markula, 2004). An embodied perspective to education in group fitness serving older adults is all the more vital, given the somatic changes in gathering and perceiving sensory information that accompany the aging process, the cognitive and motor changes due to neural and muscular aging, and the sociocultural notions of age and aging (Jarvis, 2006; Saxon, Etten, & Perkins, 2010). These bodily changes and sociocultural conditions impact the ways in which older adults learn and should be taken into account by educators (Jarvis, 2006; Saxon, et al., 2010). Thus, the aim of this research was to unpack how fitness instructors teach older exercisers and in so doing facilitate the interactive transfer of affective, cognitive, kinesthetic, and culturally embodied knowledge. While the body and kinesthetic teaching/learning in exercise and fitness remains central to the teaching relationship, we argue that a broader, more holistic teaching approach has vast potential to create more inclusive social exercise environments for older exercisers. Toward this aim, we introduce

the concept of age capital as a pathway for fitness instructors to empathize with what it might be like to be an older exerciser.

Methodology

From an interpretive ontological and epistemological position, we employed a constructivist grounded theory methodology to address the research question: What educational role do exercise instructors for older adults play, and how might this affect the (in)/(ex)clusivity of the social exercise environment? Constructivist grounded theory outlines a systematic, yet flexible, guide to data collection and inductive analysis consisting of: 1) initial and focused coding of data; 2) memo-ing; and 3) abduction (Charmaz, 2006; Charmaz & Belgrave, 2012).

Methods

Data Collection The data underlying this study was threefold. Firstly, we performed a textual analysis of eight curricula from five different certifying bodies in the United States and Canada that are used to train fitness instructors to categorize data related the educative role of fitness instructors and the educative methods they employ. [Insert Table 1 near here] We selected curricula that specifically addressed older adult group exercise from certifying bodies that are well-known and highly regarded in the fitness industry.

Secondly, we observed for a total of 47 hours, and conducted semi-structured interviews with 22 fitness instructors. We purposively sampled with an aim for heterogeneity (e.g. various racial/ethnic backgrounds, ages, body types, genders, etc.). Later, we theoretically sampled instructors who possessed a high

degree of age capital and expertise/experience in the field. [Insert Table 2 near here]

We performed several observations per instructor, being attentive to the educational methods employed. The focus of the interviews was to provide insights into how instructors select, employ, and adapt educational methods to create inclusive fitness classes for older exercisers (See Appendix 1).

Finally, we utilized a go-along method (Carpiano, 2009), for a total of 25 observational hours, and semi-structured interviews with 14 older exercisers in group fitness classes. All exercisers were white/Caucasian with a mean age of 79 (ranging from age 64 to 86). The initial, purposeful inclusion criteria for exercisers was: 1) subjectively identifying as an older adult, senior, or elder; and 2) currently participating in one or more group fitness classes. Participants were later theoretically sampled based on their experiences, such as experiencing ageism in group fitness environments. [Insert Table 3 near here] The first author joined and observed each exerciser at the fitness class(es) they regularly attended, asking them questions during the class. Following the final go-along, the first author conducted semi-structured interviews with each exerciser (See Appendix 2).

We recruited participants via social media (the first author's Facebook and LinkedIn pages, and shared by contacts with whom the authors are affiliated) and posters at, with permission, private gyms, community centres, non-profit organizations and governmental programs offering group exercise classes, and 'senior' centres. To theoretically sample, the first author sent emails containing the letter of information and consent for this study to notable instructors in the field

asking if they could pass along the recruitment materials to instructors and/or exercisers, including those who they thought could speak to emerging ideas, check hypotheses, and address gaps in the data (Charmaz, 2006).

In order to participate in this study, all participants signed an informed consent form; instructors also signed a form acknowledging employer's consent for the instructor's participation in the research. All exercisers in the classes observed were notified in advance of the researcher's presence. Data were only collected from those who signed consent forms. Ethics was approved by the university ethics board. All interviews, except one where hand written notes were taken as per the participant's wishes, were digitally recorded and transcribed verbatim.

Data Analysis The first author read through the textual, observational, and interview data as it was collected. They selected and transferred data pertaining to education (e.g. exercisers' and instructors' perceptions of the instructor as educator) and educative methods (e.g. 'multi-level' teaching and 'edutainment') into a spreadsheet, ultimately merging all data into one large data set. As data was collected, the first author wrote down initial codes to define, summarize, and categorize this data in an adjacent column (Kenny & Fourie, 2015). From these initial codes, they selected the focused codes that were most significant within the data (Kenny & Fourie, 2015). [See Appendix 3] From there, the first author identified emergent categories, which was aided by written memos and drawing diagrams to aid in theoretical development (Charmaz, 2006; Charmaz & Belgrave, 2012). Engaging in constant comparative analysis, the first author continued to

collect and analyse data until identifying core categories and reaching theoretical saturation (Charmaz, 2006; Charmaz & Belgrave, 2012).

Rigour We employed Smith and McGannon’s (2017) three criteria to demonstrate rigor. Firstly, we engaged in member reflections by asking participants for feedback on emergent theorizations and if the findings from extant literature on the topic of study were compatible with their lived experience (Charmaz, 2006). Secondly, we consulted with critical friends, a practice that is aligned with abduction in grounded theory (Campbell & Gregor, 2004; Charmaz, 2006) wherein the first author discussed challenges, reflections, and emerging findings with the second author. Thirdly, we employed empirically-based, relativist criteria, which in constructivist grounded theory includes credibility, originality, resonance, and utility (Charmaz, 2006). Herein, we followed a systemic approach to data collection to enhance credibility of the research, aimed for originality by consulting extant literature to ensure findings added a novel perspective to the line of inquiry, and confirmed that findings resonated with and were useful to fitness instructors, older exercisers, and scholars.

Limitations

A constructivist approach “...acknowledges that the resulting theory is an interpretation” (Bryant & Charmaz, 2007, p. 239). Hence, the substantive theory outlined here is one interpretation aimed at partially explaining the teaching within group fitness classes serving older adults. Additionally, the ontology of constructivist grounded theory is social, in that it assumes that collective

experiences and relations constitute society (Bryant & Charmaz, 2007; Charmaz; 2006). Thus, individual stories are subordinated by the collective story of all participants (Charmaz & Belgrave, 2012). Researchers are part of this process, acting as interpreters to provide one, albeit dominant, voice among the collective voices encompassed within the data (Dey, 2007). Therefore, to ensure that findings were represented in the data and mitigate the impact that their identity and beliefs might have on data collection and analysis, the researchers engaged in reflexive practice via written field notes and working in consultation with critical friends (Groenewald, 2004; Smith & McGannon, 2017).

Findings

From the data collected, we merged focused codes into four broad categories, which we then merged into two core categories: *Training in the sociocultural and somatosensory experiences of aging*; and *Balancing education (challenge) and entertainment (energy)*. [Insert Figure 1 near here]. In this section, we outline the properties of these core and sub categories to support the formation of a substantive theory of *Age Capital*. Further extending Bourdieu's (1984) conceptions of capital, and related to cultural capital specifically, we define age capital as possessing knowledge, both cognitive and embodied, of the socio-cultural practices that a given cohort likely experienced throughout the course of their lives. We posit that the more age capital one possesses, the better one can understand and appreciate what it might be like, biographically and corporeally, to be an older

adult. This may, in turn, foster social connectedness, solidarity, and shared identity between, in this case, fitness instructors and older exercisers.

Training in the Sociocultural and Somatosensory Experiences of Aging

This category encompasses data that speaks to instructors' lack of training in the sociocultural, corporeal, and somatic experiences of aging. Instructors' lack of training in the sociocultural experience of aging meant that instructors who were younger, and thus did not live through the same circumstances or learn these practices, would draw from present day sociocultural norms when teaching. Specifically, the music that group exercise instructors play, the choreography, the exercises/movements, and the trends in exercise formats (e.g. water aerobics, Zumba, etc.) are new trends that older adults did not experience earlier in their lives:

People didn't grow up doing [exercising like we do today]. You know, maybe in another 10 years it'll be different. It'll be people like me doing the class from somebody else and I'll be like, "I can do that. I know how to do that." -Tracey, instructor

Some instructors were aware of this and incorporated age-inclusive language practices into their classes, both using and avoiding generation-specific slang:

I've done things like, "...let your fingers do the walking through the Yellow Pages?" Well anybody that doesn't use a phonebook would not get [it], so I don't use that anymore unless I've got all seniors who would get it. -Olivia, instructor

Data also spoke to the use of music from older adults' generation to creative inclusive group exercise classes. However, other sociocultural practices, such as dance forms that were popular in past generations, were not routinely integrated into classes. Thus, this category highlights the need for training in the sociocultural and somatosensory experiences of aging.

Disjuncture Between What/How Fitness Instructors are Taught and How They Design Routines The teaching methods touted by the curricula centered around demonstration (visual sense), kinesthetics (touch), and cueing (verbal explanation). Instructors and exercisers alike echoed these approaches:

You think you're doing them right, but then when they push your butt down, you think oh, I should have been, you know. -Audrey, exerciser

I'm usually trying to get people to stack their knees over top of their ankle and explain why we're doing it. ...I explain we want to protect our joints, and when we stack, there's less pressure on our knee joints and our ankles..., and I find that that gets a lot more response in that self-awareness because they have to feel it. -Kim, instructor

These methods were used by instructors to teach bodily awareness to exercisers as a means to improve form. However, the curricula used to train fitness instructors failed to fully appreciate the ways in which age-related changes to the sensory system, and by extension perception, might have on instructor-exerciser teaching-learning relationship.

Well, I could do without [the music] because I have hearing aids too.

Sometimes when she has her mic and the music, it's, I can't understand what she says. -Stan, exerciser

Some exercisers, like Stan, felt excluded from environments in which they could not see instructor demonstrations or hear instructor verbal cues. Other exercisers would wonder what information from the instructor they were missing due to their inability to see or hear. Some instructors perceived this as 'being slow to catch on' or 'not paying attention,' but those who understood the sensory-barriers would turn music off during important explanations or repeat the material several times using different methods (demonstrating, verbal cues, and touch).

Needing to Understand a Body That One Has Not Yet Experienced

Instructors are taught to teach multi-level classes in order to foster inclusive exercise classes in which people of all abilities can participate (Harvey & Griffin, forthcoming). This means teaching exercisers how to modify exercises that might otherwise be too challenging:

Judy: They tell you to modify it. But if you're the only one modifying it, you know.

Interviewer: Is that not as motivating to stick with it or to return then?

Judy: No, because you never think you're going to get to there.

Whilst instructors are taught to, and thus design, multi-level classes, the resultant effect, in Judy's experience, is feeling like one does not fit in: unable to keep up because the exercises are unachievable.

Underlying the notion of teaching multi-level classes is the need to understand a body that not all fitness instructors have experienced. Joan, another older exerciser, explains:

...it's wonderful, a younger person's energy. ...It's magnetic to see, but it's very hard to follow. And they don't usually have any comprehension of how much pain people are in, trying to do what they are doing.... When there are younger instructors, they tend to go too fast, too far, too hard, too whatever.

No fault of their own. They just don't know.

Understanding the aging process, by possessing gerontological competence, is crucial when working with older exercisers (Harvey & Griffin, 2020). The curricula analyzed for this study support this aim, teaching fitness instructors about the aging process and common chronic conditions older adults might experience, but this is taught by relying on biomedical discourse via disembodied text (Lloyd & Smith, 2006). Our findings demonstrate that possessing a disembodied gerontological competence by reading about the aging process is different from understanding the lived experience of aging to which Joan refers.

Balancing Education (Challenge) and Entertainment (Energy)

This category points to fitness instructors' balancing of educating and entertaining in the group exercise class, or what ACE® calls "edutainment."

To me the role of an instructor is twofold. One ...you're an entertainer. You are putting on a show and helping people have a good time while they are exercise. The other flipside of that role is the educational component of that,

which would include good form, safety, the ‘whys’ behind why we’re doing things, how it’s going to benefit you, how it should feel, all that stuff. I think anyone who’s really good at being an instructor is going to include both of those things. -Jessica, instructor

Balancing Being a Role Model with Adaptation Balancing education and performance was complemented by a need to balance multi-level teaching, or modifying exercises, with the instructors’ performance of being a role model.

[The instructor] is great and I think – and she’s good on telling you how to do it, and if you’re tired to go sit down, she’s good. I don’t think [the other instructor] cared if you fell on your face, I mean she was brutal with us old people. There are great teachers and there are not good teachers; [our instructor] is a great teacher. She...zooms you up, but she slows you down too. I think she’s very good for older people. -Greta, exerciser

Reminiscent of Judy’s experience in the previous section, older exercisers felt more accepted in the group exercise class when modifications were tailored to their capabilities. In stark contrast to fitness cultures’ preoccupation with pushing and constant improvement (Gilleard & Higgs, 2013; Katz, 2001), being a role model for older adults meant, to these older exercisers, performing and modeling acceptance of ‘doing what you can.’

Affective, Energetic Performance Without the Intensity That Can Harm Older Bodies Entertainment requires an affective performance, which instructors described as required the ability to radiate energy to animate the

exercisers. Instructors described exaggerating facial and bodily expressions and exaggerating movements to display this energy. However, there was a recognition that instructors needed to “pull back” on the intensity of the exercises that had the potential to harm older bodies:

We try to always teach multi-level. What I may do if I have a predominance of younger people in my class, I may teach level one, level two, level three but then stay with level three. If I have a predominance of those who maybe need level one or level two, I may quickly show level three but ... if I'm seeing that maybe they're trying to do level three but should be at level two then I may come back; so I may come back and demonstrate the level that I believe that they need. Especially newer people, ... I think it's just too much of them to absorb. I think they're just going to follow what I'm doing, so for those people I may need to ... I'm pulling back, I'm not doing what level is best for me I'm doing what level is best for them. -Jennifer, instructor

The curricula emphasize that lower intensity exercises can be important for some older exercisers as high intensity can harm joint health. Thus, instructors, like Jennifer, are taught to “pull back” on intensity to affect safety.

However, low intensity does not mean low energy, the latter of which undermined the affective performance of the exercise class. In the section above, Joan shared that younger people's energy could be uplifting but overwhelming, but a lack of energy was also problematic:

[The instructor] didn't do anything, she just stood, we didn't like her. She didn't make the class fun. You could tell she was only here for the money....

-Barb, exerciser

To signal interest in the exercisers' experiences, Jennifer and other instructors mastered teaching modified, less intense routines without compromising on energy, making for a much more "fun" performance. Smith and Lloyd (2006) describe this energy as vitality, which is "...less associated with youthful energy and more about living fully and holistically, including with conditions of impairment" (p. 72). Thus, the ability to add energy and vitality to modified and low impact exercises was highly valued among the older exercisers in this study.

Discussion

We found that fitness instructors for group exercise classes utilized demonstration, verbal cues/instructions, touch, and multi-level teaching methods to teach the exercise movements from a cognitive and kinaesthetic perspective. These methods are explicitly taught to fitness instructors, and are the same methods used in mainstream fitness. Our findings also pointed to the need to balance education with performance. Hence, to facilitate the interactive transfer of affective and culturally embodied knowledge, fitness instructors put on an affective performance. According to our data, this performance was best received when it included vitality, energy, and created a culture whereby everyone performed what was best for their body.

To better understand the affective performance in group fitness specifically, we must first explore the performance of age generally. Performing age, or accomplishing age (Laz, 2003), is an embodied experience that takes years of aging to develop. This performance of age forms a ‘habitus of later life’ that is “enacted in different ways, at different times, and in differing settings when age becomes, or is made, personally and socially salient” (Gilleard & Higgs, 2015, p. 18). Habitus, in this context, refers to Mauss’ (1934/1973) definition whereby habits, abilities, preferences, and other sociocultural qualities are embodied. These qualities can also be practiced in the form of body techniques (Mauss, 1934/1973), which describe the culturally-specific ways individuals move and use their bodies. Crossley (2007) explains, “Body techniques are embedded in cultural contexts where they have a symbolic significance, are normatively regulated and perhaps also ‘rationalized’” (p. 86). He offers an example wherein certain sports, being considered ‘unladylike,’ were once off-limits to women (Crossley, 2007). Likewise, fitness was off-limits to older adults until the latter half of the 20th century (Gilleard & Higgs, 2013).

Being that the group exercise trend emerged in the 1980s (Gilleard & Higgs, 2013), the body techniques that make up the cultures of fitness with which we are presently familiar have roughly been developed over the past 40 years. If using the arbitrary chronological marker of 65 to define older age, this means the youngest older adults were 25 when group exercise emerged. Thus, if the ‘habitus of later life’ include “dispositions laid down and fashioned from earlier, ‘historical’ forms of embodied knowledge and practice” (Gilleard & Higgs, 2015, p. 18), then the

disposition to exercise is inversely related to age. Meaning, older adults who were previously excluded from physical cultures may lack foundational fitness experiences, or older exercisers may have previous experiences that must first be unlearned before they can re-learn present-day standards. It is thus important for fitness instructors to teach older adults how to appropriately conduct themselves within present-day physical cultures, but these physical cultures have been found to value able-bodied, healthy, and youthful ideals that may exclude older exercisers (Gilleard and Higgs 2013; Griffin, 2017; Katz 2001).

To create inclusive fitness cultures in group exercise classes delivered solely to older adults, this study suggests the need for physical cultures that embody the historical and sociocultural practices that values the heterogeneity of older adults. Older instructors would have an embodied knowledge of their own subjective aging process and thus occupy the ‘habitus of later life,’ but because younger instructors lack experiential knowledge of aging, they are often targeted for their inability to relate to older exercisers (Gillett et al. 1993; Jin, Lee, & Baumgartner, 2019). This creates a problem of ‘embodied difference’ related to age-based identity politics whereby some older exercisers criticize younger instructors for their inability to understand the aging body (Gilleard & Higgs, 2015). Still, older instructors might not understand what it is like to age with disease or disability. Therefore, we argue that these biographical, embodied, and sociocultural properties that make up age-related body techniques and the ‘habitus of later life’ can be taught alongside the gerontological competencies concerning biological and cognitive aging.

Collectively, these findings speak to a need for fitness instructors that work with older adults to: 1) understand and develop teaching competencies that respect corporeal and somatosensory aging, as well as the socio-cultural and historical circumstances that make up older adults' life course; and 2) develop a performative practice that demonstrates an appreciation for older adults' preferences for modified instruction that tempers, without completely abandoning, energy. Toward this aim, we argue that the development of age capital would permit fitness instructors to inhabit a proxy 'habitus of later life' and develop a proxy for body techniques inherent therein as a means of performing age in a respectful, embodied, and empathic manner. Previously, we defined age capital as the possession of a cognitive and embodied understanding of corporeal and somatosensory aging, as well as knowledge of the socio-cultural and historical contexts surrounding the life course of a given cohort of individuals. Consequently, we offer a substantive theory that posits that instructors who possess a higher degree of age capital create more inclusive group exercise classes for older adults. It is our hope that fitness instructors' development of age capital can provide a pathway for their appreciation of the heterogeneity and personhood of older exercisers, as well as strengthen the social connectedness, social cohesion, and relationships between fitness instructors and older exercisers.

Recommendations for Practice To develop age capital, instructors would need to learn about what it is like to age. Extant literature, coupled with findings from this study, suggest that age capital can be taught through the meaningful use

of narratives, age simulations, and age-related body techniques. Narratives engender learning through storytelling and scholars have found that teaching with narratives is an effective gerontological educative method for engendering empathy and solidarity (Gattuso & Saw, 1998; Merriam & Baumgartner, 2020; Sparkes, 2011). Thus, the curriculum used to train fitness instructors who work with older adults could add real stories from a variety of older adults and encourage instructors to consider the diverse lived experiences of exercising in older age, as well as exercising and aging over time.

Exercisers in this study also suggested that fitness instructors who lack experiential knowledge of aging to undertake aging simulations, wherein students wear specialized clothing (e.g. gloves to mimic arthritis, glasses to simulate cataracts) and/or equipment (e.g. cotton balls in ears to simulate hearing loss, chickpeas in shoes to mimic loss of the fat pads on one's feet with age) to engender empathy for older adults (Gardner & Alegre, 2019):

I would love it if younger instructors who specifically are going to be teaching older students [take] classes that explain to a younger person what it's like [to age in order] to have more empathy and sympathy and understanding and tolerance.” -Audrey, exerciser

Age simulations can be problematic and have the reverse effect of reinforcing ageism (Rittenour & Cohen, 2016), so we caution that these would need to be developed and empirically tested carefully in order to ensure the desired effect.

Finally, we suggest that learning age-related body techniques as they pertain to exercise would enhance fitness instructors' age capital. We define age-related body techniques as the historical forms of exercise that were popular throughout the older adults' life course. Presently, fitness instructors are trained in the basics of choreography, but instructors who work with older adults could benefit from learning dance forms that were popular when older adults were younger. Examples of age-related body techniques might include: Square Dancing; The Foxtrot; and The Bunny Hop. Often, fitness instructors use music that was popular when older adults were younger, but they could also be taught and adopt other practices, such as linguistic practice/slang and cultural references (like rotary phones and party lines) that resonate with older adults. These body techniques would need to be revised as cohorts of older adults succeed one another over time, also known as cohort flow, as the body techniques associated with each cohort differ.

Embodied pedagogy, or teaching via the body (Lawrence, 2012), is both physical and performative (Nguyen & Larson, 2015). Herein, the body can teach in accordance to embodied norms, or teach in alignment with habits of culture embodied in marginalized populations (Granger, 2010). Aligning with the latter, we have argued that possessing age capital would challenge the cohort centrism (i.e. perceiving the world through the lens of one's own generation; like ethnocentrism but in the context of age) embedded in some existing physical cultures and, as a result, foster more inclusive, equitable, empathic, and socially just group exercise environments (Granger, 2010). We proposed three means by which

fitness instructors could gain age capital: through narrative learning, age simulations, and immersion in age-related body techniques. In so doing, we believe that instructors who build on their age capital would be better able to relate to older exercisers.

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Appendices

Table 1: Curricula Analyzed

Abbreviation	Organization	Certification / Certificate
canfitpro™	Canadian Fitness Professionals Inc.	Fitness Instructor Specialist [FIS] certification
canfitpro™	Canadian Fitness Professionals Inc.	Active Aging certificate
SFIC	Canadian Centre for Activity and Aging [CCAA]	Seniors' Fitness Instructor Course
ACE®	American Council on Exercise®	Group Fitness Instructor Certification
ACE®	American Council on Exercise®	ACE® Senior Fitness Specialization
AFAA®	Aerobics and Fitness Association of America®	Group Fitness Instructor Certification
Golden Hearts®	Aerobics and Fitness Association of America®	Golden Hearts®: Senior Fitness Training continuing education course
SilverSneakers®	SilverSneakers®	Foundations

Table 2: Fitness Instructors

Name / Country	Age / Gender	Ethnicity	Modality Observed	Certification
Kim Canada	41 / F	Asian	No Observations Performed Due to Geographic Distance	Integrative Yoga for Seniors Professional Training
Denise Canada	58 / F	White/ Caucasian	Aerobics, Falls Prevention	British Columbia Recreation and Parks Association
Jessica Canada	37 / F	White/ Caucasian	Cycle	YMCA of Canada, canfitpro™, Zumba®
Jennifer Canada	40s / F	White/ Caucasian	Goodlife® branded Body Flow & NewBody	canfitpro™ Pro Trainer
Amina Canada	44 / F	Middle Eastern	Nordic Walking, Aerobics	YWCA-YMCA, Urban Polling, Water Aerobics, CCAA, BoneFit™
Olivia Canada	61 / F	White/ Caucasian	Yoga	YMCA of Canada
Jackie Canada	30s / F	White/ Caucasian	MOSSA™ Group Power®, Barre, Cycle, Gentle Fit	YMCA of Canada, MOSSA™ Group Power®, canfitpro™ Personal Training Specialist
Jillian Canada	56 / F	White/ Caucasian	Cycle	YMCA of Canada
Shannon Canada	45 / F	White/ Caucasian	Barre, Cycle, Step Aerobics	YMCA of Canada
Dick Canada	80 / M	White/ Caucasian	‘Senior’ Fitness	CCAA
Raquel Canada	50s / F	White/ Caucasian	Zumba Gold®, Pilates	CCAA
Michelle Canada	26 / F	White/ Caucasian	Gentle Fit, Strength & Tone	YMCA of Canada
Miguel Canada	27 / M	Hispanic	Gentle Fit, Cycle, MOSSA™ Group Power®, Strength & Tone	YMCA of Canada, MOSSA™ Group Power®,
Kathy Canada	60s / F	White/ Caucasian	‘Senior’ Stretch	CCAA, canfitpro™ Active Aging

Suzanne USA	60s / F	White/ Caucasian	Yoga, Chair Yoga	International Sports Conditioning Association
Tracey USA	64 / F	White/ Caucasian	SilverSneakers® Classic, Zumba Gold®	AFAA®, SilverSneakers®, Zumba®, Pound®, Turbo Kick®
Antonia USA	53 / F	White/ Caucasian	Stretch and Abs, SilverSneakers® Classic	YMCA of the USA, Mad Dogg Athletics®
Bob USA	80s / M	White/ Caucasian	No Observations – Trains Instructors; Not Currently Teaching	Not Certified
Harper USA	20s / F	White/ Caucasian	TRX®, SilverSneakers® Classic, SilverSneakers® Yoga	TRX®, SilverSneakers® Classic, SilverSneakers® Yoga
Jane USA	55 / F	White/ Caucasian	Cycle	Mad Dogg Athletics®
Heather USA	45 / F	American Indian	SilverSneakers® Classic, SilverSneakers® Yoga, SilverSneakers® Boom Mind, Barre, Pilates, SilverSneakers® Stability, Zumba Gold®	SilverSneakers®, Barre, Pilates, Zumba®
Mary Helen USA	“senior” / F	White/ Caucasian	‘Senior’ Fitness	Not Certified

Table 3: Exercisers

Name / Country	Age / Gender	Ethnicity	Modality Observed
Angela Canada	84 / F	White/ Caucasian	Aqua / Water Aerobics
Elizabeth Canada	67 / F	White/ Caucasian	Aerobics
Philip Canada	64 / M	White/ Caucasian	Yoga
Bette Canada	80 / F	White/ Caucasian	Aqua / Water Aerobics
Christopher Canada	69 / M	White/ Caucasian	Running Group, Yoga
Audrey Canada	75 / F	White/ Caucasian	Cycle, Aerobics
Ingrid Canada	83 / F	White/ Caucasian	Chair Exercise
Stan USA	86 / M	White/ Caucasian	SilverSneakers® Classic
Greta USA	70s / F	White/ Caucasian	SilverSneakers® Classic, Zumba Gold®
Marilyn USA	69 / F	White/ Caucasian	SilverSneakers® Classic
Judy USA	69 / F	White/ Caucasian	SilverSneakers® Classic, Zumba Gold®
Marlene USA	71 / F	White/ Caucasian	SilverSneakers® Classic
Joan USA	70s / F	White/ Caucasian	Tai Chi
Barb USA	80 / F	White/ Caucasian	SilverSneakers® Classic

Appendix 1: Initial Interview Questions – Fitness Instructors

- 1) Let's start out by you just telling me a bit about yourself. (Age, educational and employment background / experience, exercise training and certification, etc.)
- 2) How do you approach teaching your exercise classes? (probe for class preparation, music choices, in-class activities, any post-class considerations)
- 3) In what types of settings and for what populations do you deliver older adult exercise?
- 4) Are there any differences in your approach based on the audience and the setting in which the class takes place? If so, how? (probe for class preparation, music choices, in-class activities, any post-class considerations)
- 5) How does the space/environment in which you teach influence your approach to exercise instruction? Why do you think that is?
- 6) How does your certification influence your approach to exercise instruction? How/why do you think that is?
- 7) How does the type of class you are delivering influence your approach to exercise instruction? Why do you think that is?
- 8) How does the intended audience of your exercise class influence your approach to exercise instruction? Why do you think that is?
- 9) How does your employer influence your approach to exercise instruction? Why do you think that is?
- 10) What is your attitude regarding older adult exercise? (and why?)

- 11) What are your thoughts regarding group-exercise classes specific to older adults? (probe for particular challenges, facilitators, and why they feel this way based on their experiences)
- 12) What are your thoughts regarding older adults attending group-exercise classes aimed at persons of all ages? (probe for particular challenges, facilitators, and why they feel this way based on their experiences)
- 13) Have your perceptions of older adult fitness have changed over time? In what ways has your perceptions changed? Has your own process of aging may influence your perception? If so, how?
- 14) Is there is anything you want to change regarding your approach to older adult exercise instruction, and why? (If so) How would go about making such changes? Have you made any changes to your approach in the past?
- 15) Are there changes you would like to make but are unable to do so (for any reason)? Why can't you make those changes?
- 16) Do you perceive yourself as an educator in the exercise classes that you teach? If so, what do you perceive is your educational role? Why?
- 17) What educational methods do you use? Why do you use these? What affect do you see these methods have on your exercise participants?
- 18) I observed (insert observed educational method). Tell me more about this method? Can you elaborate on this for me? [Were you aware that you were using this method? Why do you use this method? What influences your decision

to use this method? When do you find yourself using this method? How do you use this method in other contexts (other classes, with other populations, etc.)]

Appendix 2: Initial Go-Along and Interview Questions – Older Exercisers

- 1) Let's start out by you just telling me a bit about yourself. [Age, history of exercise participation, current schedule of physical activities (and why you choose these activities)]
- 2) What exercise activities do you prefer? And why do you prefer these?
- 3) Why do you choose to participate in group-exercise classes?
- 4) Has your experience of group-exercise have changed over time? If so, how and in what ways?
- 5) In what ways, if any, has the process of aging may influenced your exercise experiences?
- 6) What has been your experience exercising in group-exercise classes specific to older adults?
- 7) What has been your experience exercising in group-exercise classes aimed at persons of all ages?
- 8) What, if any, differences have you noticed (or do you experience) between the group-exercise classes in which you participate? (probe for differences between older adult specific classes versus mainstream fitness classes; differences in instructor approach/teaching; differences in the group environment; etc.)
- 9) In what ways do exercise instructors teach you? (about exercise, health, your body, nutrition, etc.)? Describe for me what you feel you have learned over the years from the exercise instructors you have encountered. How were these lessons delivered by the instructor?

- 10) How do you believe you learn best (in an exercise setting)?
- 11) Describe for me the qualities of exercise instruction that you like best and explain why you prefer these. (probe for specific educational qualities)
- 12) Describe for me the qualities of exercise instruction that are most effective for you and why you think these qualities work. (probe for specific educational qualities)
- 13) What make you feel most included in an exercise class? (probe for instructional qualities)
- 14) What makes you feel unwelcome in exercise settings? (probe for instructional qualities)
- 15) Have you experienced any instances of discrimination in a group-exercise setting (either by peers or the instructor)? If so, how was this situation handled (by the instructors / their employer / other exercisers)?
- 16) Is there is anything that you would want the exercise instructors you work with to change? If so, why? Please describe for me those changes.
- 17) I observed your exercise instructor did (insert observed behaviour). Tell me how this example affected you as an exerciser?

Appendix 3: Initial Codes and Focused Codes

Initial Codes	Focused Codes
Guidelines; jargon; changing practices or recommendations; privileging (some) evidence; outdated practices; Western (& some Eastern) knowledge; scientific versus experiential knowing; medicalizing; promoting ‘old wives’ tales and other outdated practice	Determining what is taught using evidence
Class size; using the space; teaching to the format rather than the participants; needing more format options; fitting within the overall schedule; setting up for demonstration and interaction; creating a learning environment; accessibility; weather; displaying educational materials; excluding some people; bringing in healthy food; paring with seminars; being territorial: hiding in the back or seeing in the front; overstimulating and distracting; finding the right fit; being influenced by the culture; conflating gym with younger adults and assuming about other physical cultures; creating authority through separation and space; non-traditional settings	Creating a learning environment
Asking permission; judging; feeling that the routine is easy but thinking it’s the right challenge for older exercises; complaining about not getting a good workout; teaching permits adapting the class to one’s own bodily needs; ignoring when exercisers do their own thing because it suggests self-efficacy; assigning values to subjective experience; exercising freedom to do as one pleases rather than what the group is doing; thinking you’re doing it right until corrected; making your own choices; restricting autonomy; empathy; respecting preferences; universalising based on subjective experience	Imposing what is best vs deferring to the expertise of the lived body: the instructor-teacher subjectivity dichotomy
Disliking new movements that replace older, familiar ones; satisfying exercise requirements for the day and moving on; disliking turnover and change; promoting positivity (rejecting negativity); discouraging risk given liability; dominating the market; trying to be part of the healthcare continuum; part of the health and service industry; providing own equipment; purchasing cheap equipment; using children’s equipment; professionalism (or lack thereof); branding; trying to make ends meet by teaching multiple classes; freestyle versus pre-choreographed; accommodating disability; bureaucracy; devalued labour; endorsing products or services; lacking oversight; failing to attract people on the fence; expecting people	Evolving with the group exercise market trends

<p>to exercise regularly but changing up the instructor/format undermines this</p>	
<p>Practicing live scenarios; asking questions; applying the material; live versus online options; learning about aging by working with older adults; passive learning; scripting; learning in two dimensions; taking other classes</p>	<p>How instructors are taught</p>
<p>Becoming rote with practice; disguising medical for socially accepted, trendy formats; monitoring the self; learning lifelong; specializing; practicing, honing, and improving; mentoring; legitimizing through certification, following the trends; refining; learning informally; learning formally; seeing progress embodied in old notes; consulting credible sources; working on the self in order to help others; learning by teaching others; needing multiple experiences in different contexts; scripting to improvising; getting more out of learning when possessing a firm experiential foundations; learning to be more flexible; learning from mistakes; learning common errors and anticipating mistakes; dealing with the unexpected</p>	<p>Continuing education</p>
<p>Diverging positions amongst instructors; confidentiality; industry standards; excellence; maintaining consistency; reading research; teaching skills, aptitude, and talent; credibility; quality assurance; scope of practice; expertise; regulation, licensure, and certification</p>	<p>Competencies</p>
<p>Educating as a higher order skill; facilitating the learning experience; andragogy; planning frees up attention to focus on exercisers; teaching to music offloads knowing the count; deciding the routine in situ based on how the group feels that day; focusing too much on memorization to attend to the participants; giving the guise of choice while still in charge; asking; using teaching tools; teaching multi-level; evaluating with feedback; preparing and priming with music and equipment; creating atmosphere with themes; defining clear expectations; creating behaviorist learning objectives; making eye contact: monitoring and observing; walking around the class; designing is an art and a science; designing for success; having a back-up plan; testing; disseminating information; active and experiential methods; using mirrors; wanting to match what the instructor is doing; mimicking activities of daily living; mimicking sports for reminiscence; teaching formulas (layering and breaking down); reflecting; teaching to music: pacing, timing, synchronization, and patterns; physically stimulating; using touch for kinesthetic awareness; adapting and modifying; demonstrating; demonstrating doing it wrong; visualizing with</p>	<p>Educational methods</p>

<p>metaphors; imagining with similes; contrasting group classes and personal training; setting limits; stalling with place holders; responding to the group; correcting; shying away from providing feedback; validating; survey formatively; summarizing; scanning the group for mobility problems; discreetly correcting after class; varying the demonstration angle; emphasizing with vocalizations; inflecting with tone of voice; memorizing with acronyms, acrostics, and mnemonics; teaching with equipment</p>	
<p>Inspiring; motivating; encouraging; supporting; performing; being authentic; acting as a role model; instructor as a determinant; doing more when the instructor does more; energizing and pleasant; entertaining and fun; changing the routine; having trouble following a younger person’s energy; transmitting passion and energy; edutainment; playing games; showing off; using the equipment participants use; building rapport; thanking participants; earning respect and trust; projecting confidence; acknowledging mistakes; exaggerating the movements, postures, voice, and energy; distracting to engender enjoyment; making the time go faster, being patient; humanizing when the instructor isn’t “able”</p>	<p>Performing</p>
<p>Cueing; coaching; teaching styles; inviting; doing what you can; relating cues to daily life facilitated better understanding; transitioning; modeling; visualizing what the body needs to do; habits to be acquired; reacting; compliment sandwich; multi-sensory; drawing attention to the face; stopping if feeling pain; breathing; posture; succinct; positivity; controlling the body; providing option; breaking for water</p>	<p>Cueing</p>
<p>Listening to institution over the body; having a better understating of older adults the older you get; embodying the beat; feeling for the time; experiential knowing and connecting the cognitive later; connecting mind and body through choreography; getting easier with practice; going with the flow/vibe of the class; working through the routine in one’s head; transformative; getting energy through facial expressions; embodying the values of the certifying body; synching with the instructor; draining energy through lack of caring; equating experience with qualified; having a fully developed/holistic practice; learning by doing it; telling a story through the music; bringing lessons learned from personal injuries into class; representing nondominant body types; transferring energy into the equipment; tuning into the music and environment; avoiding anything offensive (embodying middle-class values)</p>	<p>Embodied education</p>

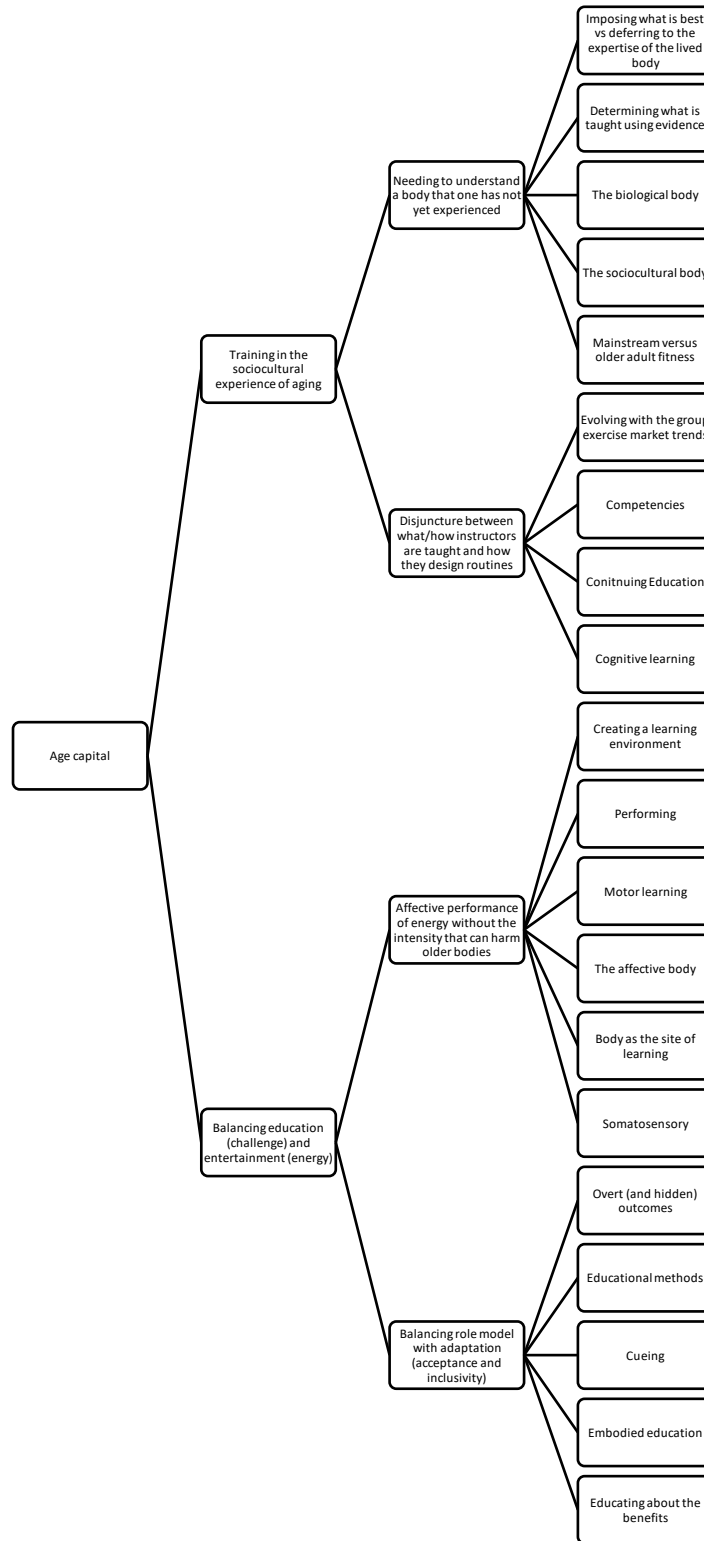
<p>Educating about...what muscles are working; where the exercise should be felt; when to move; why/the purpose of the exercise; how the exercise should feel; the body and bodily awareness; adherence; healthy and active lifestyle; mental and physical benefits; behaviour change; safety; form; ramifications; skills and abilities; self-responsibility; goal setting; theory as a foundation; physician’s advice; function; independence; falls; balance; mobility; stability; choreography; movement patterns; outdated information; services; components of fitness; quality of life; aging process; nutrition; progressions, modifications, and adapting; myths; assessments; relaxation; breathing; form, frequency, and intensity; disease management; incontinence; heuristics and jargon; roles; equipment</p>	<p>Educating about the benefits</p>
<p>Being process over outcome focused; de-emphasizing power (makes older adults not powerful?); quitting when no longer able to get into all the positions; safe, enjoyable, effective and efficient; prehab and successful aging; feeling accomplished: self-efficacy, confidence, and resilience; improvements: health, wellbeing, cognition, strength, and function; increasing active life expectancy; transfer skills: ADLs, posture, etc.; learning outcomes (rather than expressive); fixing faulty movement patterns; function-health-fitness-performance (means older adults are dysfunctional, unhealthy, unfit, and unable to perform?); empowering; loving exercise; enculturation into fitness culture; developing physical literacy (lacking from a structural lag); identifying as an exerciser; feeling better; living in the past; mental and physical strength; attending; falling short of the guidelines (group exercise is not enough); learning that there’s a “right” way to move; modifying or doing less means cheating</p>	<p>Overt (and hidden) outcomes</p>
<p>Learning through the body; learning as an internal process (involving external “data” gathering); learning requiring body work and permission; autonomy; needing emotional intelligence; noticing clients in pain, etc.; ‘reading’ the exercisers but some divert eyes for privacy/respect; focusing inward; focusing on the movement; drawing attention to teach; paying external attention more when the pace is quick but it takes away the joy as one feel’s rushed/in danger; seeing the vibe in body language; working well together when instructor and exercisers are in the same mindset; reacting to external cues: music, body language, etc.; learning through the interaction with the instructor; asking and bringing attention to the other’s body;</p>	<p>Body as the site of learning</p>

<p>giving feedback about the exerciser’s body about which they were unaware; more than just a mirror</p>	
<p>Efficient communication between neurological and musculoskeletal; getting lost if instruction is too quick; training through repetition; unconscious trained response; training the posterior chain; muscle memory; swinging to loosen the body; learning process: motor neurons; having difficulty putting motion into language; disrupting communication due to dysfunctional muscles; developing neuromuscular control; (a)symmetry; lacking coordination; pulsing to fire fast twitch muscles; stimulating neuromuscular; functional, integrated, and holistic movements; (Epicurious: kinetic pleasure versus static satisfaction); equating age with decreased neural and functional abilities; losing form with pain; slowing reaction times</p>	<p>Motor learning</p>
<p>Physiology of aging from a disembodied, medicalized process; (not) connecting theory to practice; aging process; recovering; declining cardio-respiratory function with age; alternating for “rest” but actually increasing vascular work; targeting muscles affected by age (sarcopenia)</p>	<p>The biological body</p>
<p>Receiving, processing, and responding; learning curves; stages of learning: cognitive, associative, and autonomous; retention; crossing the body’s midline; offloading mental energy to focus on form; losing focus; counting; consciousness raising; moving is good for the brain; moving consciously; needing to understand in order to do it right; conscious incompetence; mentally taxing choreography; equating age with decline in neural efficiency; trying not to think of anything; flow; processing cognitive later (already motor and embodied learning); making it easier to understand; requiring working memory; assuming disinterest in explanations; beginner’s mind; inhibited neural drive; pausing so participants have to rely on working memory; operant conditioning/behaviorism: wanting to dance whenever you hear a song from group exercise; multi-tasking</p>	<p>Cognitive learning</p>
<p>Spiritual; comfort zone; enhancing mood; feeling happy; feeling reserved; finding peace; feeling pain; energizing; looking forward to class; feeling healthy; intrinsic motivation; storytelling/narrative & oxytocin release related to learning; feeling proud; feeling ‘weird’ or ‘trippy;’ disappointed when the class doesn’t live up to expectations; fearing injury; feeling self-conscious; feeling embarrassed for being unable to keep up; undermining happiness by always increasing goals; liking aspects of the class once familiar; feeling guilty for not exercising; avoiding religion</p>	<p>The affective body</p>

<p>Proprioception; perception matters; interoception; feeling the feet when they touch the floor; recalibrating the somatic clock; developing postural awareness; perceiving; aging senses (especially vestibular, vision, and hearing); psychosomatic balance; feeling and seeing improvements; the weights feel lighter; feeling the exercise; feeling the change in form; mechanoreceptors; massaging the inner organs; reassuring about body sensations; integrating sensory-motor information; listening to the body; “the body likes that;” re-weighing sensory input due to inactivity; being receptive to touch; keeping the body happy; feeling the heart-rate elevate and breathing hard; feeling sore; missing subtle cues due to hearing loss; lacking the bodily awareness to respond; needing to feel it to be able to learn; feeling off balance in the pool</p>	<p>Somatosensory</p>
<p>Performing a dangerous move for an ego boost; feeling unsuccessful: sad and frustrated that the body doesn’t respond; telling stories to build empathy; playing music “from our era” that the group likes; identifying as an exerciser; motivating to identify as successful; knowing one’s limits and changing one’s expectations; remembering what one used to be able to do and no longer can; feeling fallible; having never been this age before; starting an exercise career with transition to widowhood; forgetting earlier life experience and needing reminders; trying to keep up; protecting the self; learning wrong and needing to unlearn and re-learn</p>	<p>The biographical body</p>
<p>Knowing the group; socializing; connecting; interacting versus transactions; balance group and individual needs; delegating to veteran participants/ambassadors; showing interest and support; creating community cohesion; forming teams and cliques; making eye contact; getting at eye level; having a group personality; making friends or acquaintances; knowing names; feeling noticed; singing, smiling, laughing, and joking; valuing that this is how exercisers choose to spend their time; having a group mantra; solidarity and common goals; celebrating (birthdays, holidays, etc.); having fun; asking about absent group members; rejecting socializing as unprofessional and unproductive; sharing stories; learning through relationships; watching out for one another; going through significant life events together; humanizing the instructor; adding new people changes the group dynamic; undermining connection by staring a phones (usually a younger instructor); disrupting the class to provide individual attention; reminiscing; shying away from</p>	<p>Socializing</p>

<p>individual feedback so as to not offend anyone, so offering feedback to the group instead</p>	
<p>Teaching ‘old school’ formats; bridging timelessness: anachronisms of old dance styles with new; vicarious learning; learning through watching and interacting with the instructor and other exercisers; adhering to cultural norms; enticing people to join by putting the class on display; making social comparisons; resisting ageism; fitting in and helping out; competing; missing class for appointments, caregiving, etc.; contributing by setting up; understanding the sociocultural contexts in which older adults grew up; understanding cultural references; wanting to share the joys of exercise with others; intimidating spotlight effect; pushing is part of our culture-> slacker or cheater otherwise</p>	<p>The sociocultural body</p>
<p>Recognizing heterogeneity of older adults: wide range of abilities and health statuses; conflating ability with the ‘best’ students; encouraging star students to become instructors; Othering; equating older adult fitness with lessened intensity, slower pacing, and simplified version of mainstream fitness; progressing with head and eye movements; age politics confers credibility; supporting balance with chairs; selecting “appropriate” activities for older adults; needing reminders and repetition; being unaware of ageist experiences; balancing pushing and modifying; adapting for success; privileging safety over efficacy; teaching ‘old dog’ new tricks; being too busy to cue safely when coaching a lot of choices; catering to younger demographic excludes; having older adult fitness in the community includes; limiting the exercises means less to learn each class; trying to keep up results in injury; needing more recovery time</p>	<p>Mainstream versus older adult fitness</p>

Figure 1: Grounded Theory, Core Categories, Themes/Subcategories, Focused codes



Conclusion

The intent of this thesis was to better understand the educative role of group exercise instructors and how this role is approached when working with older exercisers. The four papers comprising this thesis employed different approaches and methodologies, and thus findings offer diverse and wide-spread insights into group exercise instructors as educators. The objective of this section of the thesis is to bring these papers together to discuss key findings, acknowledge the limitations of this thesis, and suggest future areas of research. To conclude, I attend to the substantive, theoretical, methodological, and applied implications of these findings, as well as return to the research question and sub-questions that guided this study.

Key Findings and Their Implications

Substantive. This research addresses a lacuna in scholarship by providing an in-depth exploration of the educative role of the exercise instructor and how this educative role affects the (in/ex)clusivity of the physical culture. Rather than reiterate what has been said with each of the four papers comprising this thesis, I will instead revisit the research question that guided this thesis. To do this, I will first respond to each of the sub-questions that make up the principal research question:

- *What are the social and cultural contexts in which exercise instructors of older adults teach?*

Critical educational gerontology calls for inquiry to be embedded in the socio-cultural context within which the education takes place (Glendenning &

Battersby, 1990). To address this principle, Paper 3 points to the social and cultural contexts in which exercise instructors teach as being a market segmented between age-specific physical cultures and mainstream fitness encompassing people of all ages. Additionally, Paper 2 outlines how the former is labelled as a ‘special’ population, thus ‘othering’ older persons against a healthy norm and providing an example of the ways in which the age inequalities that exist in our society are mirrored in the physical cultures in which older exercisers participate. To respond to van Dyk’s (2014) call to recognize difference while removing inequalities, Paper 2 (and the others in this thesis) supports that instructors for older exercisers need additional knowledge and competence to foster more inclusive physical cultures for populations, such as older populations, that fail to fit in with mainstream physical culture’s ‘healthy’ norm.

Extending the notion of older exercisers as a ‘specialized’ population, Paper 3 highlights the ways in which the conflation of age with ability is present in authorized accounts, such as policy [e.g., *International Curriculum Guidelines for Preparing Physical Activity Instructors of Older Adults* (Ecclestone & Jones, 2004)] and training documents, as well as screening practices whereby there is a lack of age-based norms that serve to exclude older exercisers. The findings of Paper 3 suggest that the sociocultural conditions under which instructors teach aligns with the decline narrative (Gullette, 1997). Interestingly, exercise is often touted as one of the primary means by which to affect successful aging (Rowe & Kahn, 1987), yet physical cultures exclusively for older adults seemingly operate

under the notion that age-based interventions are also ability-based, and that older persons' abilities are lesser than younger persons' abilities.

As discussed in Paper 1, Calasanti (2016) critiques the decline narrative and successful aging as being a problematic binary that perpetuates ageist notions of (dis)ability and (in)activity. The decline narrative (Gullette, 1997) is intricately linked to disengagement theory whereby old age is associated with decline and mutual withdrawal between older people and society (Cumming & Henry, 1961). Conversely, successful aging is related to activity theory, which posits that social engagement is vital for quality of life in later years (Havinghurst 1961). Disengagement and activity theories are both grounded in the functionalist paradigm. Functionalist theorizations of gerontology investigate how age-related roles, norms, and values constrain individual's behaviours. Herein, education and physical activity are both viewed as a means of improving the quality of life of older persons (Estes, Biggs, & Phillipson, 2003; Glendenning, 2000). However, critical educational gerontology calls for distancing from functionalism (Glendenning & Battersby, 1990).

In contrast to these functionalist perspectives, critical theorizations of education recognize that not all education is intrinsically beneficial, and thus might not improve the quality of older people's lives (Battersby & Glendenning, 1992). Likewise, not all group exercise is beneficial. This is evident in Paper 3, which concludes by claiming that that age-based interventions are aligned with a health-oriented physical culture, which fails to appreciate the heterogeneity of older

people. Herein, the needs of competitive masters athletes and older adults exhibiting fourth-age characteristics, such as frailty, are overlooked and thus excluded (Clarke, Currie, & Bennett, 2020; Dionigi, 2006; Higgs & Gilleard, 2015; Massie & Meisner, 2019; van Dyk, 2014). Thus, the social definition of what it means to be an older adult is highly limited and people existing outside of this narrow definition are excluded from some of the aforementioned physical cultures. In relation to education, Glendenning and Battersby (1990) call for an intersectional framework to address the rampant homogenization in programming therein. Indeed, an intersectional framework that considers the diverse intersections of age and ability could broaden how age is conceived within physical cultures (as evident in Paper 2).

Glendenning and Battersby (1990) also argue that education can be used to combat the decline narrative and the oppression of older adults by posing questions that centre on the purpose of and who benefits from educational, and I would add physical activity and exercise, programming. The oppressed, according to Freire (1974/1993), are those who are poor, marginalized, and sick, and who are described by the oppressors as ‘lazy’ and ‘incompetent.’ This was evident in Paper 4 wherein instructors interpreted older exercisers inability to follow instruction as exercisers’ individual failures to ‘pay attention’ or ‘catch on,’ notions of which are perpetuated by the decline narrative wherein mental capacities are said to diminish with age. The aim of critical theory is to address the ways in which socio-cultural conditions lead to age-based inequities (Estes et al., 2003; Glendenning, 2000), and from a

critical perspective this study elucidates that it was neither laziness nor incompetence that impeded older exercisers' learning in the group exercise environment, but rather extrinsic factors, such as the inability to hear over the loud exercise music.

Another example of the marginalization of older exercisers in this study is evident in the practices surrounding contraindicated movements. The socio-cultural context of 'risk' (Kaufman, 1994) is embodied in the practice of contraindicated exercises, as described in Paper 3, in some older adult group fitness trainings. Underlying the implementation of blanket contraindications for older exercisers, regardless of health status, is a paternalistic conception of the older body as fragile, weak, and in need of protecting (Katz, 2011). The fact that an older exerciser could attend a mainstream group fitness class with the same instructor who was just imposing safety restrictions in a "senior's fitness" class without being limited by those same restrictions in the mainstream class begs the question as to who the contraindication protects. Are contraindications in place protect the instructor and the certifying body from liability, or the older body from injury?

Paper 4 further suggests that the social and cultural contexts in which exercise instructors teach are based off variations of mainstream physical cultures. For example, the incorporation of "oldies" music is said to appeal to older exercisers and offer a more age-inclusive atmosphere, but consideration of other socio-cultural factors, such as dance forms, are not considered. Moreover, the "oldies" music played in group exercise classes is not pure; meaning, the music has

been retrofitted to align with the standard beat and phrase patterns (32-count blocks) required for group exercise choreography. As Paper 4 outlines, exercise and aerobics as we know it today did not emerge until the 1980s (Gilleard & Higgs, 2013), so exercise music was not “invented” until about that time. Music prior to this was neither designed nor composed with group exercise choreography in mind. Therefore, the social and cultural contexts in which exercise instructors teach are manufactured to fit the needs of the physical cultures and what is borrowed from broader society is fairly limited in scope.

- *What educational methods do exercise instructors employ, and how are these educational methods used, when teaching older adult fitness classes?*

Paper 3 and Paper 4 expound the educational methods that exercise instructors utilize. Paper 3 acknowledges that personalized teaching is challenging, if not impossible, in the group exercise setting, but befitting for personal training. Paper 3 also explains how instructors teach multi-level classes consisting of progressions, to make the exercises more difficult for those who need an additional challenge, and regressions and modifications to make the exercises easier for those who require it. However, an exerciser herein critiques the notion of multi-level teaching, which they claim does not meet the needs of those whose abilities are outside of the progressions, regressions, and modifications offered. Moreover, Paper 3 provides accounts of instructors who were unable to appropriately modify their classes, lacking the training to know how to do so.

The inconsistent application of contraindicated exercises across physical cultures, as noted in Paper 3, warrants mentioning, as this greatly impacts how instructors teach. Some instructors would abide by the rules taught to them during certification, thus restricting the movements available to older exercisers. Some instructors failed to respect the contraindications mandated by their certification, which calls into question as to whether or not this puts older exercisers at risk for injury. Then there were instructors who willingly defied some of the contraindications mandated by their certification, but only in circumstances where they felt that their training and competence warranted such actions. For example, the one instructor would teach grapevines, citing the movement's benefit for balance training, but offer a side-step for exercisers with hip replacements or who otherwise could not perform a grapevine. In so doing, this latter teaching method whereby the instructor provides options and educates the group about who should or should not perform a given exercise (and why they should or should not perform the exercise) respects exerciser agency to make informed decisions on their own behalf and carry these lessons with them to their individual exercise sessions or to other group exercise classes.

As evident in the example above, older exercisers who have potentially inappropriate contraindications forced upon them because of their age are treated as subordinate to the ruling relations, the certification bodies and writers of the curricula, who are dictating to instructors that these contraindications be respected. Critical educational gerontology calls for emancipating older adults from their

subordinate social status via education (Glendenning & Battersby, 1990). This again is exemplified in the instances whereby instructors defied the mandates of their certifications and deferred to their expertise. Their education gave them the tools to think critically and mitigate the risk of injuring the exercisers, without imposing unnecessary constraints that limited the benefits of the exercise program. Moreover, the instructors who taught the exercisers when and how to modify appropriately to their individual bodies were engaging in critical praxis so as to promote exerciser agency.

Paper 4 discusses three prominent teaching methods: demonstration (visual), cueing (auditory), and touch (kinesthetics), which some curricula call V.A.K. teaching methods. V.A.K. is aligned with one prominent learning styles model (Kirschner, 2017; Merriam & Baumgartner, 2020; Newton, 2015). However, this is but one model and largely considered to be neither valid nor reliable (Kirschner, 2017; Merriam & Baumgartner, 2020; Newton, 2015). Moreover, the V.A.K. model is not amended to consider the aging process. Demonstration would need to consider age-related changes in visual acuity and neck range of motion (for example, if the instructor is on a stage where the exerciser needs to look up). Verbal cueing would need to consider the possibility of age-related hearing changes. Finally, touch would need to consider age-related changes in mechanoreceptors, thermoreceptors, etc.

Paper 4 goes on to conclude that the educational methods that fitness instructors use are drawn from present day sociocultural norms, because of

instructors' lack of training in the sociocultural, corporeal, and somatic experiences of aging. Instructors learn about the aging process, and possible common chronic conditions therein, via disembodied text reliant on biomedical discourses (Lloyd & Smith, 2006), which, according to findings from Paper 2, conceives the body as static rather than dynamic. Paper 4, then, posits that reading about the aging process is different from understanding the lived experience of aging and instructors need to understand a body one has not yet possessed in order to affect more empathetic teaching methods. Toward this aim, this thesis introduces the performative, educative substantive theory of age capital (see sub-section that follows).

- *How do exercise instructors of older adults perceive themselves as educators?*

Although not fully addressed in the papers comprising this thesis, findings from this study did suggest that instructors largely, although not unanimously, perceived themselves as educators. This finding mirrors Paper 4's assertion that public educative spaces, especially those that emphasize the body rather than the mind, are underappreciated in research and practice alike (Roulston, 2010; Sandlin, O'Malley, & Burdick, 2011). For those instructors who did not perceive themselves as educators, some stated that they had not thought about themselves as educators until participating in this study and others expressed that they felt that they were educators in personal training, but not in group exercise. Personal training is more aligned with humanistic education and individual development (Findsen, 2007), which is congruent with Jarvis' (1985) description of liberal education. Herein, the

personal trainer engages in assessing and measuring the exerciser's body (as described in Paper 3) and creating behavioural learning objectives to favourably improve upon these measurements.

Likewise, not all training curricula spoke to instructors' educator roles. Indeed, information within the curricula regarding exercise instructors' educative role varied. Some curricula made little to no mention of instructors' educator roles; whereas, other curricula contained well developed sections about teaching skills. With an entire chapter devoted to teaching skills, canfitpro™'s Fitness Instructor Specialist training included information on teaching formulas, and visual, auditory, and kinesthetic cueing. Similarly, AFAA®'s curriculum included several chapters on teaching skills and outlined how to develop objectives during the process of planning group exercise classes. Similar to personal training, this approach is in line with the neoliberal principles of liberal education, utilizing behavioural learning objectives to specify that which the outcome of the learning encounter should be to affect individual development (Findsen, 2007; Formosa, 2011; Jarvis, 1985). Liberal education is often linked to enculturation and strong social institutions (Jarvis, 1985), which like Paper 3 demonstrates the strong influence the fitness industry exerts over the instructor-exerciser relationship. However, in group exercise, the individual must sacrifice for the needs of the group (Carron and Spink, 1993), so a collective approach is required. Indeed, none of the instructors observed in this study created behavioural learning objectives when planning their group

exercise classes, but rather informally utilized expressive learning objectives, which describe the educational encounter (Jarvis, 1985).

SilverSneakers® also included content on class design, but its purpose is to enculturate instructors to SilverSneakers®'s branded approach, thus signifying one of the ways in which physical activity is a commodified product sold to consumers, as discussed in Paper 2 (Katz, 2000; Gilleard & Higgs, 2013). Paper 4 offers another branding example, describing ACE®'s term 'edutainment' to describe instructors' dual roles as educator and entertainer. This is then echoed in a quote from an instructor, pseudonym Jessica, who was not trained under ACE®, who shares the same sentiment. The instructor described instructors' educative role as encompassing teaching proper form and general safety, explaining the rationale for what the instructor is doing and how the exercise benefits the exerciser, and describing how the exercise should feel. Unlike the literature reviewed to introduce Paper 4, Jessica's description of instructors' educative role encompasses far more than merely teaching the physical exercises. Rather, this instructor's conceptualization of the educative role is aligned with embodied pedagogy in that it is performative, kinesthetic, and somatic (Lawrence, 2012), as well as cognitive and respectful of exerciser/learner agency.

This is in contrast with descriptions of how exercise instructors are taught by SFIC, a certification that teaches their instructors that their educative role is to teach exercisers about the Canadian Physical Activity Guidelines for Older Adults (Canadian Society for Exercise Physiology, 2011) and how to reach them. This is

no different from the aforementioned examples of teaching in accordance to branding. These guidelines place the onus on the individual to be sufficiently physically active to reap the health and wellbeing benefits of exercise, which is in accordance with Gilleard and Higgs (2013) theorizations of fitness as a civic virtue and a public good, in order to repel disease and disability. However, this conceptualization lacks consideration of the social factors highlighted in Paper 1 that can either facilitate or serve as barriers to being physically active.

Dionigi (2016) argues that the “socio-cultural pressure, such as health promotion guidelines emphasizing regular physical activity as a way to age well, may promote a sense of obligation in older adults” (p. 57). Previous research has shown that certification influences how an instructor teaches, which in turn affects older exercisers’ experiences of physical activity (Robinson, Masud, and Hawley-Hague, 2016). This begs the question as to how SFIC’s emphasis on education about the physical activity guidelines impacts SFIC instructors and the older exercisers in these group exercise classes. Consider, for example, 80-year-old SFIC trained instructor whose personal mission was to encourage more older people to exercise in order to reduce the health and economic burdens on Canadian society because of inactivity, which is a discourse SFIC promotes (as discussed in Paper 2). While this instructor came into his SFIC training holding these views, as a social gerontologist I wonder if his embodying this ideology was further reinforced by his SFIC training and what effect there would have been if he had learned a more critical and nuanced conceptualization of teaching group exercise. Nevertheless, it

is evident that the curricula can influence how exercise instructors of older adults perceive themselves as educators, but there are some disconnections between how curricula and instructors each conceive of exercise instructors' educative role.

- *How do older adults perceive exercise instruction in different contexts (e.g. group exercise classes open to the general public which have older participants, versus senior-specific group exercise classes)?*

Papers 3 and 4 provided several examples of older exercisers in age-segregated group exercise who spoke to leaving mainstream fitness when they could no longer follow the routines. Especially poignant examples include Exerciser2 (in Paper 3) and Judy (in Paper 4):

Because you've got more people with different abilities and everybody tries to up it a little bit. No, some people can do some things better than others, but it's not like so far out of the realm that you're never going to get there. They tell you to modify it. But if you're the only one modifying it...you never think you're going to get to there. Yeah, there's certain restrictions, physically, as you get older. And, you know, like I said, if you're struggling with introductory to algebra, you don't want to sit in the calculus class.

Judy: They tell you to modify it. But if you're the only one modifying it, you know.

Interviewer: Is that not as motivating to stick with it or to return then?

Judy: No, because you never think you're going to get to there.

Examples such as these demonstrate that some older exercisers feel that their abilities are not met in mainstream fitness. This is similar, in a way, to Freire's (1974/1993) ideas regarding traditional education, which he saw as a form of colonization intended to oppress, dehumanize, and objectify through the imposition of hegemonic ideals. In this same vein, the mainstream fitness industry's valuation of health and youth as hegemonic ideals is imposed on diverse bodies, and so the needs of people with varying abilities or who do not identify as young are oppressed in mainstream fitness. Like Dionigi, Horton, and Bellamy's (2011) study, these exercisers largely accepted being 'old' and had positive associations with aging. As a result, these exercisers turned to age-segregated classes to better meet their needs, accept their limitations, and cohere with the age-matched peers.

Conversely, exercisers who continued to exercise in mainstream classes were like the highly active women in Dionigi et al.'s (2011) study in that they did not identify as being 'old.' As such, they perceived age-segregated classes as catering to older people with lower ability levels and were oblivious to the diverse exercise offerings targeting older adults in their communities. These offerings included chair exercise and modified programming, but also group exercise classes that were indistinguishable from the mainstream classes in which these older exercisers participated. Their rationale for attending mainstream exercise classes was a desire to be pushed and to compete, but still have permission to modify where necessary. Their participation in mainstream group exercise served

as a form of praxis to reinforce their identities as successfully aging, active people. Echoing the content analysis for Paper 2, these exercisers conflated age-segregated group exercise with lower abilities, but also with non-competition. This fits with previous research wherein mainstream fitness is associated with sport, youth, and competition, whilst older adult fitness is associated with health and (dis)function (Allain & Marshall, 2017; Tulle & Dorrer, 2012).

In this study, older exercisers equated mainstream fitness with a higher level of ability than age-segregated fitness targeting older exercisers. This suggests that exercisers have internalized the conflation of age and ability present within these physical cultures. Papers 3 and 4 show that some older exercisers welcomed this stratification by age / ability, as they felt that age-segregated fitness better met their needs and instruction was tailored to their abilities (or in some cases mainstream fitness better fit their needs and abilities, but they were pleased to know that there were options available to them should their abilities decline). This creates, as quoted in Paper 4, a problem of ‘embodied difference’ related to age-based identity politics around which these exercisers cohered (Gilleard & Higgs, 2015). Papers 3 and 4, however, also present shortcomings where the quality of the instruction varied, even in age-segregated fitness. These examples highlight and confirm the importance of fitness instructor’s teaching skills as a determinant for enjoyment and exercise adherence (Carron, Hausenblas, & Mack, 1996; Carron & Spink, 1993; McAuley & Jacobson, 1991; Petrescu-Prahova, Belza, Kohn, & Miyawaki, 2015).

The above sub-questions contributed to the following research question, which guided this dissertation:

- *What educational role do exercise instructors for older adults play, and how might this affect the (in/ex)clusivity of the social exercise environment?*

As discussed in Paper 1, the fitness instructor's role is educative, and as such, they are cultural intermediaries (Griffin 2017; Harvey & Griffin, 2020; Smith Maguire, 2008). As cultural intermediaries, Paper 4 reinforces the notion that instructors are role models. Role models must not be too fit, or else they risk alienating potential exercisers, or not fit enough, as then they fail to motivate (Greenleaf, McGreer, & Parham, 2006). Echoing Smith Maguire (2008), Paper 2 points to the role model's function in a neoliberal, capitalist society as a means of selling successful aging. The other function of the fitness instructor's educative role is to enculturate exercisers into a given physical culture (Griffin, 2017).

One means by which physical cultures are perpetuated is through implicit and explicit learning processes that result in becoming enculturated, wherein one takes up the rules, beliefs, norms, and values of the physical culture in which one is positioned (Griffin, 2017; Lox et al., 2003). The explicit learning experience, wherein one learns how to perform specific exercise movements (often in sequence), is less straightforward for older exercisers than it is for younger counterparts. The reasons for this, according to this thesis, are threefold: older adults were previously excluded from physical cultures, and thus lack foundational fitness experiences; older exercisers may have previous experiences that must first

be unlearned before they can re-learn present-day standards; and some older exercisers may face somatic and cognitive barriers to learning (Gilleard & Higgs, 2013; Jarvis, 2006; Saxon, Etten, & Perkins, 2010).

Markula (2004) calls for critical education so that instructors can reflect on how their teaching explicitly and implicitly reinforces social discourses embedded within fitness culture that objectify bodies. As demonstrated in Paper 3, exercise instructors were often unaware of the social discourses embedded in their teaching, nor were they aware of its effect in fostering socially (in/ex)clusive physical cultures for older exercisers. However, there is a tendency within the fitness industry to commodify exercise as an anti-aging product, wherein endless function and independence are commercialized products (Gilleard and Higgs, 2013). These discourses (successful aging, anti-aging, etc.) are reinforced by the teachings of exercise instructors through an implicit curriculum (Jarvis, 1985; Markula, 2004). Indeed, this thesis demonstrates fitness instructors must struggle with the fitness industry's quest for never-ending improvements with the corporeal realities of aging.

Concurrently, older exercisers struggled with the lack of age-based role models and representation of older adults in mainstream physical cultures. This drove older exercisers to exclusive, age-specific exercise cultures (e.g., those offered at senior centres) that may not sufficiently meet their physical activity needs. It is therefore not sufficient to create age-exclusive exercise cultures. As discussed in Papers 2 & 3, the heterogeneous abilities of older exercisers cannot be addressed

by age-segregated fitness alone. It is necessary to provide a pathway for solidarity, empathy, and inclusion in the group exercise classes that older exercisers attend. Paper 4 highlighted some instances where older exercisers criticized younger instructors' inability to understand the aging body, which resulted in reverse ageism and undermined inclusivity, solidarity, and group cohesion in the group exercise environment. To address this need, I introduced age capital in Paper 4 as one such pathway for instructors, of all ages, to develop stronger group cohesion with and understanding of the embodied experiences of older exercisers.

Theoretical. The key theoretical contribution of this thesis is the substantive theory of age capital presented in Paper 4. Age capital is an extension of Bourdieu's (1984) notion of cultural capital. Bourdieu (1984) extended Marx's definition of capital to consider other forms of capital, such as social and cultural capital. Bourdieu (1984) defined cultural capital as the accrual of knowledge, comportment, taste, and skill available to a person in order to display their social position and cultural competence.

How exactly is age capital related to Bourdieu's (1984) definition of cultural capital? Firstly, this definition hinges on accepting the social gerontological position that age is socially and culturally constructed (Laz, 2003). Secondly, age is performed, or what Laz (2003) calls accomplished. The performance of age is a display of an embodied knowledge and experience that takes years of aging to develop. Thus, this performance also displays older people's social position, particularly as it pertains to age-grading (Riley, Johnson, & Foner, 1972). Finally,

the comportment and behavioural aspects of cultural capital are related to age capital in two ways: 1) the ‘habitus of later life,’ wherein age-based habits, abilities, preferences, and other sociocultural qualities are embodied and then “enacted in different ways, at different times, and in differing settings when age becomes, or is made, personally and socially salient” (Gilleard & Higgs, 2015, p. 18); and 2) age-related body techniques that describe the culturally-specific ways individuals move and use their bodies.

There are also many ways in which age capital differs from Bourdieu’s cultural capital and the ways in which I have used ‘habitus of later life’ differ as well. Tulle and Dorrer (2012), for example use age habitus, synonymous with Gilleard and Higgs’ (2015) ‘habitus of later life,’ to describe age-based inequalities associated with the decline narrative (Gullette, 1997). Herein, older person’s actual and/or perceived declining physical capital parallels their cultural capital, thus marking older person’s devaluation in Western society. Bourdieu’s intent in extending Marx’s notions of capital was to explain social reproduction (Maton, 2014) of, in this case, late-life inequalities. As such, many of his ideas, especially his earlier works, have been criticized for being overly deterministic (Hardy, 2014). Conversely, I have been using age capital in this thesis to talk about social change, with instructors as agents of this change, by valuing that which older adults bring in terms of embodied knowledge.

Other scholars have also extended Bourdieu’s notions of capital to explain inequalities, but also advantages, related to other social locations. For example,

Huppatz (2009) introduced feminine capital and female capital to speak to the value of gender in labour. Huppatz (2009) notes that social change must also involve change to the doxic order. Doxa refers to the “unwritten ‘rules of the game’ underlying practices within that field” (Maton, 2014, p. 56), which in this study are the rules underlying physical cultures. Doxa becomes embodied, meaning we become enculturated into the physical culture. Markula (2004) rightly posited that fitness instructors teach movements and exercises, but also enculturate exercisers into a physical culture and the unwritten rules therein. Therefore, the doxic order must be disrupted in order to effect social change. Paper 4 proposes doing so by ‘consciousness raising’ (Freire, 1974/1993), by engaging instructors in critical socio-cultural, historical, biographical, and embodied gerontological education (Markula, 2004) so as to disrupt the doxic order that privileges youth, health, and ability in physical cultures. Results of this consciousness raising will vary considerably, and so too will individual instructors/exerciser responses to this disruption. As such, Paper 4 is neither prescriptive nor am I making claims that these recommendations are a panacea for discrimination and/or exclusivity in physical cultures.

That said, the aim of Paper 4 was to theorize as to how exercise instructors facilitate the interactive transfer of somatic, emotional, physical, and culturally embodied knowledge. To better contextualize this aim, one must turn to the cultural turn in gerontology. Cultural gerontology merges theorizations from humanistic gerontology, which is concerned with interpretation and meaning of age, and

critical gerontology (Cole & Ray, 2010). The cultural turn in gerontology draws attention to the nature of age and aging in myriad ways, including: 1) subjectivity and identity, meaning the lived experience and perspective of being aged; 2) body and embodiment; and 3) representation and the visual images of daily life (Twigg & Martin, 2015). Age capital addresses each of these three themes. Firstly, age capital considers age as one aspect of identity and the meaning older persons attach to exercise. Secondly, age capital calls for an embodied approach to education and exercise instruction. Furthermore, with regard to the body and embodiment, Katz (2011) calls attention to the neglect of theorizing about the older body in the corpus of embodiment literature, which this thesis aims to address. Finally, training age capital calls for representation and narratives, in addition to visual images, of older people's perspectives on and experiences with exercising in an older, aging body.

Liberal, humanist educational gerontology maintains that educational aims are not distinctive across the lifespan (Findsen, 2007; Formosa, 2011; Withnall, 2000). As previously discussed, exercisers' aims are diverse, but physical cultures are divided into mainstream fitness, emphasizing performance and competition, and older adult fitness, emphasizing health and function (Gilleard & Higgs, 2013). Paper 3 argues why this is a problematic conflation that excludes older persons whose abilities do not fit within the narrow conceptualizations of age and aging within these physical cultures. Formosa (2011), Glendenning (1993), and Findsen (2007), however, criticize liberal, humanist conceptualizations of educational gerontology, as failing to act as a driver of social change. Age capital can also

address this critique, as the intent of developing age capital is to engender solidarity between exerciser and instructor, such that instructors critically ‘take sides’ with older exercisers as an agent of social change (Freire, 1974/1993).

To understand how age capital can drive social change, we must look to and apply the concept of age capital to Formosa’s (2002) seven principles of critical geragogy (see Introduction to the thesis, page 19). Firstly, age capital is political in that it is related to gerontological competence, which Paper 1 argues is a necessary component for competent group exercise practice but is not required in either Canada or the United States. Secondly, the pursuit of developing age capital addresses the pervasive ageism in group exercise practices described in each of the papers comprising this thesis. Thirdly, age capital responds to what is perceived to be the failings and gaps in the disembodied curricula used to train instructors about age and aging, the latter of which fails to empower older persons. Fourthly, developing age capital would require instructors to ‘take sides’ (Freire, 1974/1993) with older people to better understand the sociocultural and somatosensory experiences of aging. For instance, instructors in Paper 3 who would override their training and defy adhering to the contraindications set forth in the curriculum under which they were certified were ‘taking sides’ with the older exercisers in their class. These instructors taught exercises, like side stretches, that were contraindicated for osteoporosis despite being highly efficacious for Parkinson disease. These instructors gave alternate options for these exercises to respect the safety needs of applicable exercisers. However, a high degree of competence and age capital is

required to make such judgements and resist the demands of their certification, which could also put them at risk with regards to liability.

Fifthly, by better understanding the diversity of aging discussed in Papers 2 and 3, age capital can provide a pathway for addressing the exercise needs for larger segments of the older populace. Sixthly, age capital embraces a self-help culture in that instructors give older exercisers more control in the group fitness classes. For example, Paper 3 outlined how instructors can educate exercisers about what types of exercises are, and are not, appropriate for aging bodies and for people with certain health and functional statuses. In so doing, instructors respect the agency of older exercisers. Instructors who possess a greater degree of age capital would have a greater knowledge base from which to draw when educating exercisers, which in turn could better promote exerciser agency. Finally, valuing age capital provides a pathway to resist the hegemonic youthful ideals in group exercise practices by promoting sociohistorical practices, such as music and choreography, that older persons may have enjoyed throughout the course of their lives.

As stated in the introduction, physical cultures are preserved as exercisers become enculturated via mimesis, repetition, and reflection (Griffin, 2017). This process, in group exercise, hinges significantly on vicariously learning through observing and imitating others within the exercise environment (Gallagher & Lindgren, 2015; Griffin, 2017). It is during this process that embodied cultural information is transmitted between and among bodies (Shilling, 2016). If the cultural information transmitted in group exercise classes serving older people is

predominantly drawn from current sociocultural norms, then only a small portion of older peoples' lived experiences are recognized during these exchanges. If the instructor were to possess a larger degree of age capital, then vicarious learning might be enhanced as the breadth of cultural information transmitted might better resonate with older exercisers.

Paper 4 outlines that fitness instructors that work with older adults needed to: 1) understand, appreciate, and develop teaching competencies that respect corporeal and somatosensory aging, as well as the socio-cultural and historical circumstances that make up older adults' life course; and 2) develop a performative practice that demonstrates an appreciation for older adults' preferences for modified instruction that tempers, without completely abandoning, energy. Herein, age capital is defined as possessing knowledge, both cognitive and embodied, of the socio-cultural practices that a given cohort likely experienced throughout the course of their lives. Moreover, it is a performative practice of corporeal aging that is full of vital energy, which is "...less associated with youthful energy and more about living fully and holistically, including with conditions of impairment" (Smith & Lloyd, 2006, p. 72).

Presently, instructors are not trained to develop age capital. Rather, instructors, and the physical cultures into which instructors are enculturated, draw from present day sociocultural norms when teaching. Indeed, exercise music, the choreography, and many of the physical movements and exercises used in group exercise environments are relatively newer trends, emerging within the past forty

years, that many older people did not experience earlier in their lives. Of these, the fitness industry supports and provides avenues for instructors to purchase “oldies” music adapted to current group exercise standards, but if instructors want to teach choreography for older dance styles, they must learn it on their own. This almost exclusive drawing from present day sociocultural norms might yet be another example of the valuation of youth in many physical cultures (Gilleard and Higgs, 2013).

Based on the data collected for this thesis, I theorize that the more age capital one possesses, the better one can understand and appreciate what it might be like, biographically and corporeally, to be an older person and inhabit an older body. Furthermore, the accrual of age capital would allow fitness instructors to develop a proxy ‘habitus of later life’ and age-related body techniques so as to perform age in a respectful, embodied, and empathic manner. Toward this aim, group exercise instructors’ possession of greater degrees of age capital has the potential to foster social connectedness, solidarity, and a shared sense of identity between instructors and older exercisers, as well as an appreciation of the heterogeneity and personhood of older exercisers. Consequently, age capital could foster more inclusive group exercise classes for older adults.

Methodological. Examples in the literature that set a precedent for the combined use of IE and CGT are scant. My novel juxtaposition of these two approaches for this research lead to unique insights not otherwise accessible when employed singularly, but this was not without pitfalls. Both IE and CGT employ

the same methods of data collection: interviews, observations, and texts, including literature reviews (Campbell & Gregor, 2004; Charmaz, 2006). Therefore, much of the data I collected served a two-fold purpose of contributing toward both IE and CGT. However, IE's focus on influence of power and CGT's concern with meaning are not mutually exclusive. These key differences posed particular challenges for this study. I planned for the challenges arising from the different aims of IE and CGT, as these impacted my role as research and my approach to data collection and analysis.

Despite many common foundations, ontologies, and theoretical positions, IE and CGT diverge in several respects. The primary difference between IE and CGT is what these methodologies aim to accomplish. While both serve to gain an understanding of social processes, IE is concerned with how embodied experiences are socially organized (Campbell & Gregor, 2004) and CGT aims to understand the meanings of that social process (Charmaz, 2006). IE neither contributes to theory nor makes any assumptions as to the meanings ascribed to social processes. Instead, IE addresses "...how power works through special institutional forms of knowing" (Campbell & Gregor, 2004, p. 13). By institutions, Smith (2006) means groups of ruling or administrative relations, as in the role specific, "...socially-organized exercise of power that shapes people's actions and their lives" (Campbell & Gregor, 2004, p. 32). For instance, both education and fitness are institutions in that they are governed by a set of rules and are reliant on competent educators / instructors, also known as social actors, to enact these rules (Campbell & Gregor, 2004;

Ecclestone & Jones, 2004; Jarvis, 1985). The focal point of analysis is mapping, or recording, the ways in which social processes related to the embodied experience of a phenomena are organized by the aforementioned ruling relations (Campbell & Gregor, 2004). The end product, rather than theory, is explication, wherein one illuminates the hidden forces governing the embodied experience under scrutiny (Campbell, in Smith 2006). IE's findings are, therefore, empirical, and like CGT, subjective and lack generalizability (Campbell & Gregor, 2004; Smith, 2005).

IE elucidates the powerful social processes influencing an embodied phenomenon, and CGT facilitates theorization about that process and phenomenon. As such, the product of CGT is an emergent, interpretive theory that explains a social process or phenomenon, and how people attribute meanings to it (Charmaz, 2006). Therefore, my challenge as researcher was not imposing interpretation and theorization into the IE portion of the study. The data collected for the IE, as well as its findings, added richness to the data for CGT, which I believe strengthened the resultant theory (Charmaz, 2006).

As data collection continues, IE and CGT further diverge. Both begin with purposive sampling, and at this point in data collection, my attention to the dual intents of IE and CGT helped mitigate the challenge of satisfying the conflicting aims of these otherwise compatible methodologies. However, as the research proceeds, the divergence between IE and CGT widens, such that data collection may become exclusive to each methodology, and no longer inform both aspects of the study. For example, IE follows leads established to map the ways in which

embodied subjects are connected to larger networks of influence (Campbell & Gregor, 2004), while as CGT proceeds, sampling becomes more theoretical, aiming to elaborate on emerging ideas, check hypotheses, and address gaps in the data (Charmaz, 2006). In order to manage this potential issue, I kept my data organized in a manner such that the IE and CGT data were kept separate for analysis. I analysed the data collected at different times, so as to focus on the divergent aims. This means I repeated the data analysis process several times: 1) familiarization with the data; 2) an initial reading of the data to separate data according to work, for the IE, and education, for the CGT; 3) separate and in-depth analysis of individual IE data and the CGT data; and 4) separate and concentrated analysis of the collective IE data and the CGT data. While this was a successful approach at mitigating this problem, there were still challenges arising from the data collection and analysis process.

Given the divergent aims of IE and CGT it therefore stands that the means to accomplishing these aims also differs. CGT outlines a systematic, yet flexible, guide to data collection and inductive analysis, wherein the researcher is constantly interacting with the data and emergent analysis (Charmaz, 2006; Charmaz & Belgrave, 2012; Dey, 2007). However, none of these approaches are formally employed in IE. For example, CGT makes use of *in vivo* coding, in which codes represent the language used by the participants; whereas, IE refrains from the use of professional jargon that informants might employ (Campbell & Gregor, 2004; Charmaz, 2006). This was a fairly straightforward issue with which to deal, as I

kept the data organized separately, but other issues were more challenging to navigate.

IE does not specify how one should conduct their research, but rather outlines what one should look for (Campbell & Gregor, 2004). DeVault and McCoy (2006) describe this approach as emergent, and thus it will vary for each project. Therefore, in IE, unlike CGT, there are no systematic guides to data collection or analysis, which did cause some tensions for this study. Indeed, some strands of data I followed for the IE portion of this study neither aligned nor informed the CGT; likewise, the iterative nature of CGT did not always align or inform the IE. To mitigate this, I had to approach this study as if I were undertaking two different studies simultaneously, rather than one mixed-methodological study.

In both IE and CGT, the researcher follows leads throughout the research process to inform data collection, and when it appears that no novel data can be added, the study is considered complete (Campbell & Gregor, 2004; Charmaz, 2006). In IE, this point is until no further mapping can occur (Campbell & Gregor, 2004), while CGT ends with saturation, whereby no new properties emerge (Charmaz & Belgrave, 2012; Charmaz, 2006). These two endpoints, however, were different in my study. This problem was less significant, as I was mindful that this could potentially occur, but this did result in the collection of a large amount of data.

The final divergence between IE and CGT that I wish to discuss concerns the role of the researcher. In CGT, the researcher is an interpreter, providing one,

albeit dominant, voice among the collective voices encompassed within the data (Dey, 2007). While both IE and CGT agree that the researcher is part of the process and thus situated within the research (Bryant & Charmaz, 2007; Campbell & Gregor, 2004), it is the dominant, interpretative role in CGT that is criticized in IE as ‘imperialist’ (Smith, 2005). In IE, the researcher is considered to be part of the social environment and their role is of analyst who should side with, and advocate for, the subject under investigation, which informs IE’s orientation toward social democracy and advocacy (Campbell & Gregor, 2004; Smith, 2005). These social democratic and advocate roles are aligned with CGT’s Pragmatist goal of democratic, social reform (Charmaz 2006; 2017). It is because of these compatible goals that I did not anticipate that the dual researcher roles of both interpreter and social analyst as posing any particular challenge. Meaning, as a critical researcher and acknowledging the power that position entails, I engaged in a reflective practice to mitigate any potential for the abuse of that power, thus preventing acting as an ‘imperialist’ researcher (Smith, 2005).

Applied. I intend to leverage the results of this research to inform best practices and policies regarding how exercise instructors can create more inclusive physical environments for older adults, which has the capacity to result in older adults feeling more welcome in physical spaces, and thus increasing the number of older people who are physically active. I plan to continue publishing findings from my doctoral dissertation in reputable and relevant journals. Also, I plan to engage in knowledge mobilization activities to disseminate my findings to professional

audiences via written publications in trade magazines, presentations at conferences hosted for exercise instructors, and presentations at the workplaces that permitted me to collect data. Toward this latter aim, I intend to produce a report, written in lay language, to disseminate to the participants in this study, and their employers if applicable, and offer to meet with their groups/employees to discuss my findings if they so desire.

I was accepted to speak at CCAA's 2019 Research 2 Action Conference that hosts SFIC trained exercise instructors in a 2-day conference in June; however, this event was cancelled due COVID-19. I hope to be able to present at a future CCAA event once they are able to gather or host an online event. Other events I have signposted to apply to speak at are the annual conferences offered by canfitpro™ in Canada and AFAA® in the United States. Likewise, canfitpro™ and ACE® take applications for articles to be published in their professional periodicals. Herein, I will continue to advocate, as introduced in Paper 1, for a better understanding and appreciation of the educative role of exercise instructors. I will do this, in part, by disseminating the results of Paper 4 to argue for teaching embodied gerontological competence to group exercise instructors in an effort to increase their age capital. As discussed in Paper 4, this will entail advocating for the use of narrative and age simulations in the training of fitness instructors, as well as the inclusion of age-related body techniques embodied in older dance forms and choreography in relevant group exercise classes.

I also, in accordance with Paper 3, will advocate for more fitness options for persons of all abilities. Herein, it is also vital to combat ageism and ableism within physical cultures. Toward this aim, I believe Paper 2's argument based on van Dyk's (2014) work, to recognize "difference while removing the inequality" (p. 101) must remain central. This will be crucial to ensure that older people's exercise needs are being met, that physical cultures expand services to older people, and that social inequalities are not replicated in physical cultures.

Limitations

One notable limitation of this study is the homogeneity among the exercise participants. Fourteen (N=7 Canadian; N=7 American) older persons participated in this study, all of whom were white and most of whom were women (N=11 women; N=3 men). While the gender breakdown does mirror that of what is typically observed in a group fitness environment (Gilleard & Higgs, 2013; Hoyt, 2018), the notable absence of diversity in other social categories bears attention. While I made attempts to recruit older exercisers from gyms and community centres that cater to diverse populations, I was unable to successfully recruit older exercisers from non-White racial backgrounds. This, in part, is mitigated by the diversity of the instructor sample, as the instructors who participated in this study served a very diverse clientele of exercisers. However, it remains that the older voices expressed in this study are largely homogenous.

Given the time and financial constraints inherent in research undertaken for a doctoral thesis, I was not able to report all relevant findings in this thesis. With

such a large data set, I ideally would have liked to also include a qualitative, conventional content analysis of the educational methods represented in the eight curricula studied. Indeed, the curricula emphasize teaching based on scientific principles and evidenced-based practices, yet some of the curricula perpetuated educational myths, such as retention charts (Subramony, Molenda, Betrus, & Thalheimer, 2014) and learning styles (Kirschner, 2017; Merriam & Baumgartner, 2020; Newton, 2015).

As indicated previously in this thesis, an IE “...is, in principle, never completed in a single study” (Smith, 2002, p. 30). As such, I also would have liked to include additional IE manuscripts, as I could only include a few of the major themes that I had found in the manuscript for Paper 3. I was unable to address data related to the musical practices employed in group exercise, how this relates to older exercisers, and the ways in which music in the fitness industry is governed. I was also unable to discuss data related to age-segregated exercise practices, ageism and reverse ageism, and age-based identity politics. I intend to continue to publish from this data and address these limitations, and as such the conclusions made in this thesis may shift as further insights add nuance to the understandings of the issues explored herein. Until then, conclusions should be interpreted with some caution, noting that the scope of the data represented in this thesis are somewhat limited.

Future Research

In addition to the aforementioned avenues for research, future research is needed with even more specialized populations. As indicated in Papers 2 and 3, the

fitness market is segmented by age. However, the fitness market for older adults is also segmented by chronic illness. There exist specialized group exercise classes for people diagnosed with Parkinson disease, for people diagnosed with Alzheimer's disease, for people who have had a stroke, etc. Thus, a natural extension of this research would be to extend our understanding of the role of the fitness instructor, who in these instances does not likely share in the exercisers' diagnoses, and investigate how to tailor teaching methods to create more inclusive exercise environments for people with chronic illnesses, in mainstream, age-specific, and condition-specific exercise classes alike.

This research was limited to five different certifying bodies from Canada and the United States. Future research could look at additional certifications offered in these, and other, geographical locations. Moreover, this research looked at the educative role of group exercise instructors. Future research could consider the educative role of personal trainers. Indeed, several respondents to this study felt that they were more able to educate as a personal trainer than as a group exercise instructor. Finally, this research focused on age and (in/ex)clusive physical cultures, but future research could also examine intersectional characteristics, including but limited to (dis)ability, culture/race/ethnicity, gender/sexuality, and/or socioeconomic status, and (in/ex)clusivity in group exercise and other physical cultures.

Conclusion

Collectively, the papers comprising this thesis support that exercise instructors play a vital educative role. They teach the exercise movements, the importance of exercise, how to perform exercises safely, and the rules and norms within physical cultures. In so doing, findings of this thesis suggest that instructors teach to present-day social norms that replicate the social marginalization of older persons within the exercise environment. This results in some older exercisers feeling that the instructor does not understand how to work with older people. Therefore, group exercise classes are inclusive for *SOME* older persons, but not *ALL* older persons. More options for persons of all abilities are needed, along with physical cultures that meet the heterogeneous needs of all older persons and exercise instructors who are able to empathize and work with older exercisers.

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