

MODULE 1

POPULATION AGING AROUND THE WORLD

Learning Objectives:

1. Describe the recent and future growth of the aging population from a global perspective
2. Describe the health and functional characteristics of the 50+ year old population
3. List common myths about growing older and identify why they are wrong
4. Identify the multiple cohorts that comprise the older adult population
5. Define ageism and its impact on individuals and professionals

Introduction

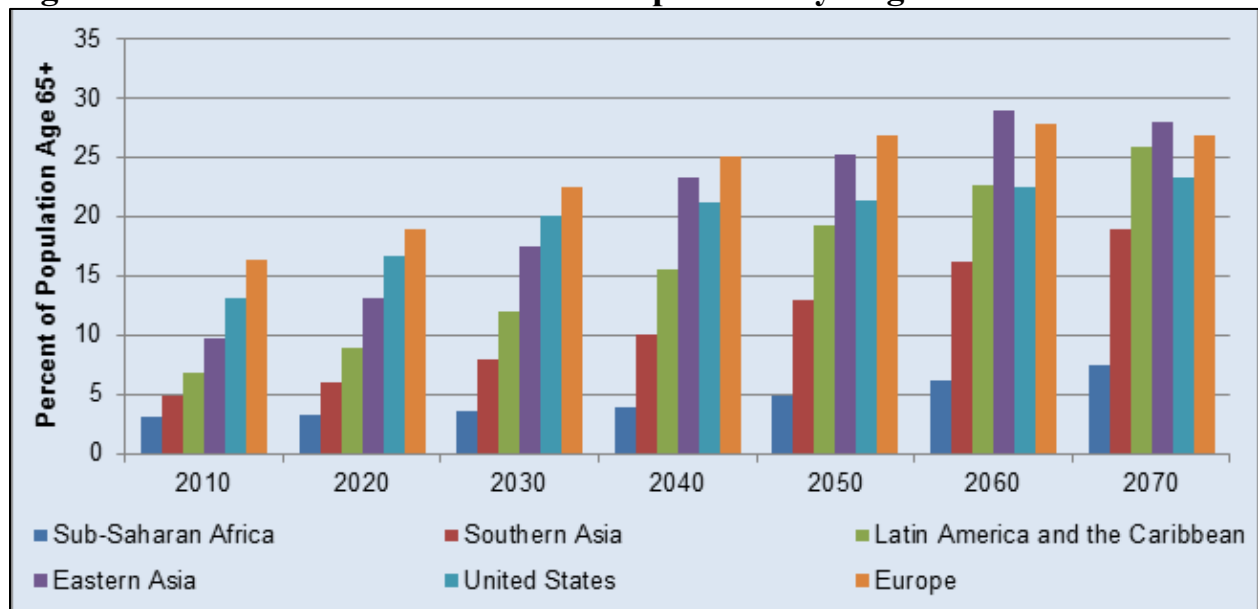
There have never, in human history, been more adults over the age of 55 as there are today. The global population of mature adults has grown exponentially over the past several decades and will continue to do so past the year 2100. By 2040 it is expected that the 65+ populations in Europe, the United States and Eastern Asia will exceed 20% of the entire population. By 2050 that percentage could be as high as 25%. According to data from [World Population Prospects: the 2019 Revision](#), by 2050, one in six people in the world will be over age 65 (16%), up from one in 11 in 2019 (9%). In 2018, for the first time in history, persons aged 65 or above outnumbered children under five years of age globally. The oldest-old is experiencing probably the fastest growth with the number of persons aged 80 years or over projected to triple, from 143 million in 2019 to 426 million in 2050. Population aging is affecting almost every country around the world. See the figures below that show the top 50 countries ranked by percentage of their population that is 65 and over. The chart also lists the total number of older adults in each country. The second figure shows the current and projected growth of the older population by region.

Figure: Countries with the Oldest Populations in the World (2020)

Rank	Country	% 65+ (of total population)	# 65+ (in millions)
1	Japan	28.2	35.58
2	Italy	22.8	13.76
3	Finland	21.9	1.21
4	Portugal	21.8	2.24
5	Greece	21.8	2.33
6	Germany	21.4	17.78
7	Bulgaria	21.3	1.49
8	Croatia	20.4	0.83
9	France	20.3	13.16
10	Latvia	20.3	0.39
11	Serbia	20.2	1.4
12	Sweden	19.9	2.05
13	Lithuania	19.8	0.55
14	Estonia	19.8	0.26
15	Denmark	19.6	1.14
16	Czech Republic	19.6	2.09
17	Slovenia	19.6	0.41
18	Hungary	19.3	1.89
19	Malta	19.2	0.1
20	Spain	19.1	8.99
21	Netherlands	18.9	3.27
22	Austria	18.8	1.67
23	Belgium	18.7	2.15
24	United Kingdom	18.3	12.24
25	Switzerland	18.3	1.57
26	Romania	18.2	3.52
27	San Marino	18	0.01
28	Poland	17.5	6.72
29	Liechtenstein	17.5	0.01
30	Norway	17.2	0.92
31	Canada	17.2	6.44
32	Ukraine	16.5	6.94
33	Hong Kong, China SAR	16.4	1.23
34	Bosnia-Herzegovina	16.1	0.56
35	Slovakia	16	0.87
36	United States	16	52.76
37	Australia	15.8	4
38	New Zealand	15.3	0.76
39	Barbados	15.3	0.04
40	Montenegro	15.2	0.09
41	South Korea	15.1	7.83
42	Belarus	15	1.42
43	Georgia	14.8	0.59
44	Russian Federation	14.6	21.42
45	Cuba	14.4	1.62
46	Andorra	14.4	0.01
47	Luxembourg	14.4	0.09
48	Iceland	14.2	0.05
49	Uruguay	14.2	0.5

Source: <https://www.prb.org/countries-with-the-oldest-populations/>

Figure: Growth of the World's Older Population by Region



Important points from these two figures:

- Japan has the highest percentage of older adults in their population but the United States has the largest number of older adults
- The Russian Federation is ranked #44 in percentage of older adults in their population but rank third in the number of older adults
- In 2020 only two regions exceed 15% but by 2070 all but one region will exceed 15%.
- In 2020 no regions exceed 20% but by 2070 four regions will exceed 20%
- By 2040 Europe will hit the 25% mark and by 2070 three regions will exceed the 25% mark

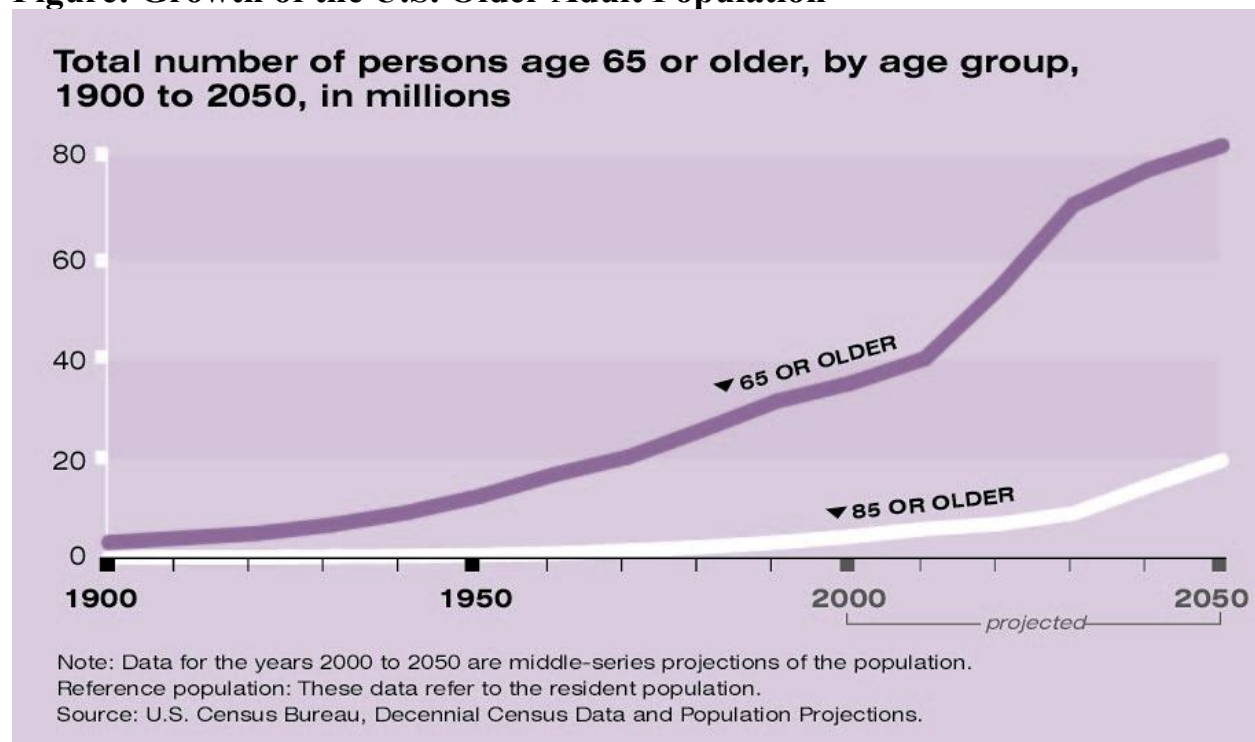
Here is a more detailed look at the aging population in specific countries:

United States

According to population data, the number of adults over the age of 65 in the United States is expected to grow 147% from 35 million in the year 2000 to 87 million in the year 2030 and

continue to rise steadily thereafter as seen in the figure below. The population of adults over the age of 85 will increase by almost 400% during that time. The Baby Boomers (born from 1946-1964) are the largest age cohort in U.S. history and are driving the growth of the mature population. Boomers began turning 65 in 2011 and then began turning 70 in 2016 at the rate of 1 every 7-8 seconds. In the year 2025 the Boomer population will range in age from 61-79. Right on their heels is the population commonly referred to as Generation X (born 1965-1984) who will add significantly to the 50+ population numbers.

Figure: Growth of the U.S. Older Adult Population

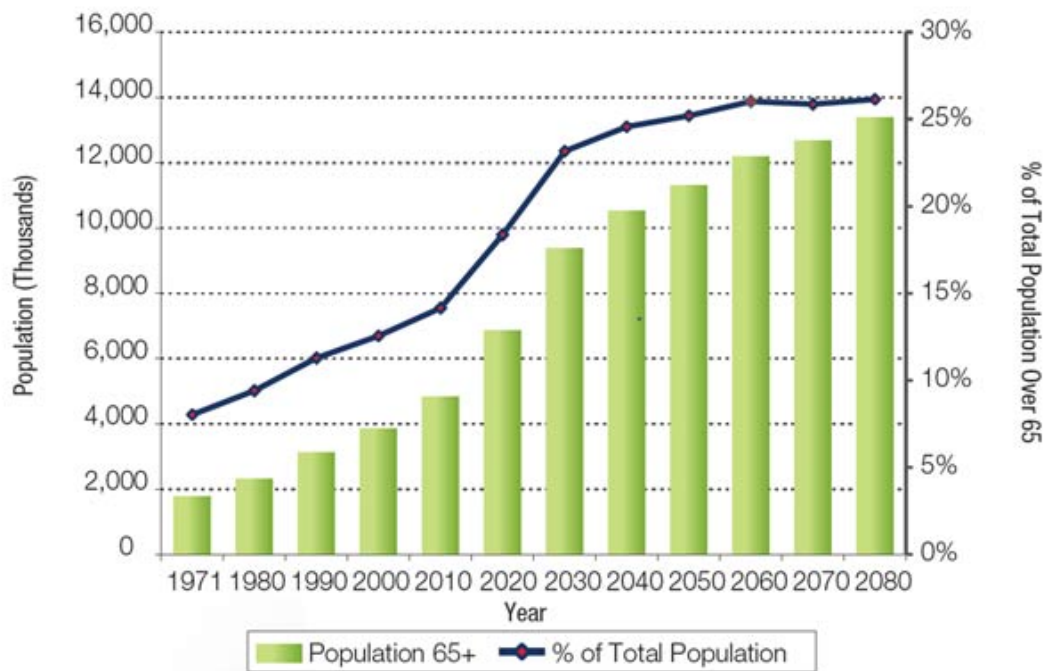


Canada

Seniors in Canada are a rapidly growing segment of the population with life expectancy continuing to rise. According to statistics from the Canadian government, in 2014, over 6 million Canadians were aged 65 or older, representing 15.6 percent of Canada's population. By 2030—in less than two decades—seniors will number over 9.5 million and make up 23 percent of Canadians.

Additionally, by 2036, the average life expectancy at birth for women will rise to 86.2 years from the current 84.2 and to 82.9 years from the current 80 for men.

Table: Total and share of population 65 and over by decade, 1971–2080

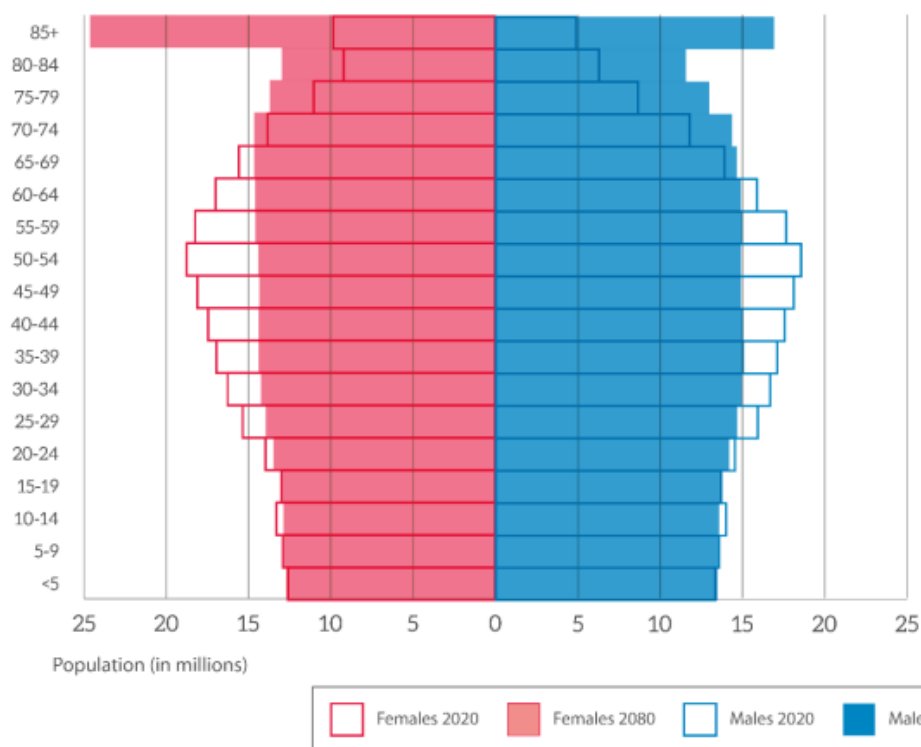


Source: Statistics Canada (1971-2010) and Office of the Superintendent of Financial Institutions (2020-2080)

European Union

The majority of the most aged countries in the world are in Europe (Italy is #2) and yet they are still expected to continue to age rapidly. By 2070 the share of people aged 65 and over is expected to increase from 19% to 29% of the population with the 80+ population experiencing more dramatic growth (from 5% to 13%) during the same time period. While individual countries will be affected slightly differently they are all expected to experience a significant increase in the number and percentage of older adults. Spain, Portugal, Greece and Poland are all expected to be in the top 10 countries with the largest share (about 40%) of person aged 60 years and over by 2050.

Figure 3 – Population pyramids for the EU-28 (number of women and men by age tra 2020 and 2080



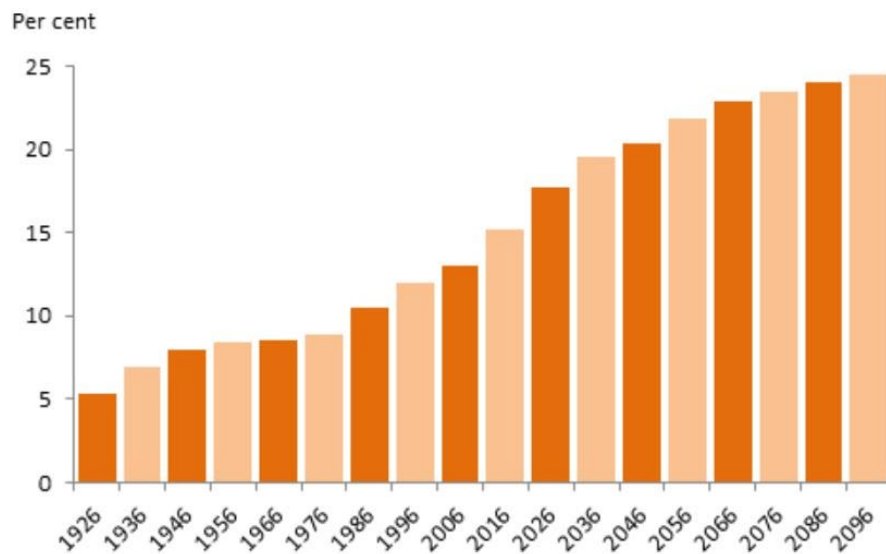
Source: Demographic outlook for the European Union 2019

[https://www.europarl.europa.eu/RegData/etudes/IDAN/2019/637955/EPRS_IDA\(2019\)637955_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/IDAN/2019/637955/EPRS_IDA(2019)637955_EN.pdf)

Australia

Australia's population is projected to rise to around 38 million by 2060, or around 15 million more than the population in 2012. Sydney and Melbourne can be expected to grow by around 3 million each over this period. The population aged 75 or more years is expected to rise by 4 million from 2012 to 2060, increasing from about 6.4 to 14.4 per cent of the population.

Figure 1: Australian population aged 65 and over, at 30 June, over time (per cent)



Sources: ABS [1, 2].

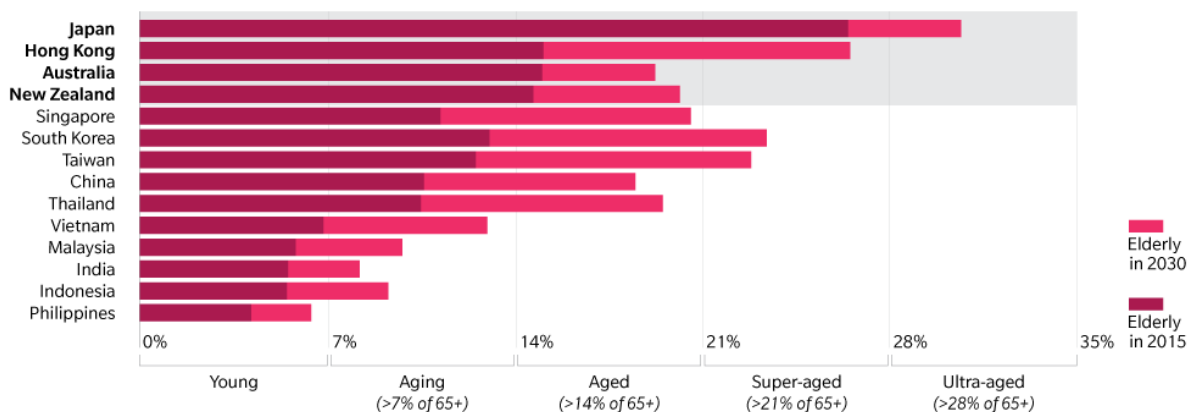
Asia-Pacific

The number of older people in the Asia-Pacific region is rising at an unprecedented rate and it is at the forefront of the global phenomenon of population ageing. By 2040, 16% of the region's population will be older than 65, more than double the 7.8% share in 2015. By 2050, one in four people in Asia and the Pacific will be over 60 years old. The population of older persons (aged over 60) in the region will triple between 2010 and 2050, reaching close to 1.3 billion people. Japan already boasts the highest percentage of older adults and South Korea is considered to be the most rapidly aging country in the world. Japan, China and South Korea are all expected to top 30% of their population being 65+ year-olds. Hong Kong, Singapore and Thailand appear to be following similar trajectories.

ASIA'S RAPIDLY AGING PROFILE

FOUR ASIAN COUNTRIES HAVE "AGED" AND "SUPER-AGED" POPULATIONS. BY 2030, JAPAN IS PROJECTED TO BE THE WORLD'S FIRST "ULTRA-AGED" POPULATION

PERCENT OF ELDERLY (≥65 YEARS) IN THE TOTAL POPULATION



Source: Marsh & McLennan Companies Asia Pacific Risk Center analysis of data from Oxford Economics, World Bank, United Nations Population Division

There has never been more of a need or an opportunity for health and fitness professionals to work with older adults than ever before. However, mature adults typically have a different set of needs, interests and desires than their younger counterparts and are very often misunderstood. Numerous myths, misconceptions and negative stereotypes about aging and what it means to grow old

pervade society, medicine and the fitness industry (see Table 1). These incorrect perspectives are barriers to working effectively with the mature population. Maybe more important than the sheer numbers are the different ideologies, perspectives, education, financial capabilities and collective experiences that they bring with them compared to the generations before them. It is vital that fitness professionals working with mature clients possess an understanding of the diverse physiological, psychological, emotional and social needs of this ever-changing and fast-growing mature population.

Table 1: Common Negative Myths About Aging

Myth #1: To be old is to be sick. This myth centers around the belief that aging and disease go hand in hand and individuals are destined to wind up in the nursing home or suffering from a catastrophic illness once they get older. While the prevalence of chronic diseases increases with advancing age a large number of mature adults are healthy, robust and without any significant functional limitations. Even in advanced old age there are individuals that attain incredible heights of athleticism and fitness.

Myth #2: You can't teach an old dog new tricks. Similar to myth #1 this is the belief that senility and dementia are not only a natural part of the aging process but are inevitable. Recent evidence regarding brain plasticity proves that the human mind retains its ability to learn throughout the lifespan and declines in cognition are largely avoidable. There are many lifestyle behaviors such as physical activity levels, dietary choices, alcohol consumption, tobacco usage and level of mental stimulation that have been shown to be important factors in how much cognitive decline occurs with advancing age.

Myth #3: The horse is out of the barn. It is often believed that once an individual is older it is "too late" to reduce disease risk, increase health status or become fit. There is an overwhelming amount of evidence to show that this is not true. The physiologic capacity for positive adaptation is not lost even in advanced age. For example, resistance exercise studies conducted on individuals in their 90's found that skeletal muscle can still grow and become stronger. We now know that it is never too late to positively benefit from an exercise program.

Myth #4: The secret to successful aging is to choose your parents wisely. Genetics definitely influence disease risk and longevity but their effects are grossly overestimated. There are some specific diseases that have strong hereditary components, such as some forms of cancer or familial hypercholesterolemia and studies on centenarians show that there is a genetic influence on their longevity. However, the overall evidence is clear that the influence of lifestyle and environment are far more important factors in the determination of health and functional ability than genetics.

Myth #5: The lights may be on but the voltage is low. The implication of this myth is that mature adults become weak and uninterested in sex. Research shows that although the frequency of sexual relations declines both men and women remain interested and active (if there is compatible partner) well into their 70's and often beyond. In society, older men are often demonized as "dirty old men" if they show a health interest in sexual activity as if it were inappropriate. The desire for relational intimacy, in many forms, can remain strong and can, in fact, be a positive factor for continued health and longevity.

Myth #6: The elderly don't pull their own weight. There seems to be a widespread belief that older adults are a burden to society and do not contribute to its continued success. The assumption is that if a person is not working they are not pulling their own weight. This could not be further from the truth. Mature adults fill many important roles in society and often in unpaid situations. They represent one of the largest volunteer forces and many organizations depend heavily on their contributions of time and effort. In addition, they fulfill family responsibilities, such as caring for grandchildren so that their parents' can work. More recently, the trend of working past typical retirement age is increasing.

Source: Rowe and Kahn (1998), *Successful Aging*. Dell Publishing Company, New York, New York; pages 11-35.

Ageism

The many pervasive myths and misconceptions about growing older have led to an even more serious problem: ageism. Ageism is the stereotyping, prejudice and discrimination against people on the basis of their age. Negative ageist attitudes are widespread and not confined to any particular country, social group or ethnicity. Research suggests that it may now be more pervasive than sexism or racism. Yet, it is often considered “normal” and, therefore, is not widely addressed like racism or sexism. Interestingly, ageism could be considered a prejudice against our future self since all of us aspire to live a long life – thus becoming “old” ourselves.

Ageism affects the health of older adults directly and indirectly. It has been shown to cause cardiovascular stress, lowered levels of self-efficacy and decreased productivity. Research has also shown that a person’s beliefs and attitudes about the aging process can affect their longevity with those holding positive beliefs living up to 7.5 years longer than those who hold negative ones. Interestingly, a person’s attitude about aging is widely considered to be the most important variable that determines a person’s longevity – even stronger than physical activity or smoking.

The World Health Organization is working hard to address ageism around the world and has great resources on the topic. Go to the following website for more information.

<https://www.who.int/ageing/ageism/en/>

Ageism by healthcare providers, which appears to be rather prevalent, leads to numerous potential issues such as under dosing or undertreating; over dosing or over treating; not treating a treatable

pathology or condition assuming that it is just a “natural” part of growing old; making assumptions about an older patient’s behavior; having a lowered expectation that an older person won’t get better from a treatment; and poor communication. The same could be said for fitness professionals as most fitness programs for older adults tend to be of lower intensity and are often performed seated. One of the reasons this course is called the “Functional Aging Specialist” instead of “Senior Fitness Specialist” is to avoid the term “senior” which carries with it many negative connotations for a lot of people. Negative labels for older adults may vary from country to country including pensioner, oldie, elderly, or more.

Older adults should be “prescribed” exercise based on their physical abilities, health conditions and goals...not their chronological age. It is critical that health and fitness professionals have a more realistic perspective of the aging process and the aging experience. There are conditions and diseases associated with the aging process but most of these are due more to poor lifestyle choices than the aging process itself. There are also many positive aspects to growing older that older adults themselves identify such as: having more experience; having more freedom; the enjoyment of family (especially grandchildren); being able to give back to younger generations; the pleasure of having very long-lasting relationships; and many more.

Fortunately, there is a growing number of older adults who are defying the stereotypes and showing the world that old age can be fun, exhilarating, active, functional, healthy and engaging as long as you live a healthy lifestyle that includes regular exercise. Here are just a few examples of people that you can look up online for inspiration and motivation:

- Johanna Quaas – 90+ year old gymnast (<https://youtu.be/0JWePnHenIM>)

- Ernestine Shepherd – 81-year old body-builder (<https://youtu.be/MyUG9IR0-cg>)
- Orville Rogers – 99-year old runner (<https://youtu.be/JUW3LwePsUA>)
- Jacinto Bonilla – 80-year old CrossFit enthusiast (https://youtu.be/ukzIG0bLU_Q)
- Iris Davis – 75-year old bodybuilder and world record holder for pull ups (https://youtu.be/-WZ0EPe_Nok)
- Greta Pontarelli – 67-year old pole dancing champion (<https://youtu.be/KthcQC-FBF8>)
- Bernie Shelly – 70-year old surfing grandmother (<https://youtu.be/XWRIZIO-Srs>)

The Mature Market: Who are these people?

The older adult market is burgeoning thanks mainly to the huge numbers of Baby Boomers that began turning 55 years of age in 2002 to be followed by Generation X (aka Gen X'ers) who started reaching the 55-year age threshold in 2020 (*Note: These are US statistics. The “baby boom” following World War II affected countries differently and at different times. However, the global growth of the older adult population is largely due to the baby boom phenomenon*). Therefore, the current older adult population primarily consists of traditional seniors (adults older than Boomers) and Baby Boomers with Gen Xers just now starting to join them.

Several other factors have played a large role in the growth of the mature population. Many countries are experiencing longer life spans due to improvements in sanitation, working conditions, medicine, healthcare and other societal factors. The result is that people are living longer now than at any other period in recorded history. This also means huge growth in aging-related chronic disease conditions such as hypertension, osteoarthritis, functional decline and

frailty, which will be discussed in more detail later on. One trend that is important to note is that premature (or accelerated) aging is now affecting adults in their 40's and 50's. Sedentary lifestyles, poor nutrition, tobacco and alcohol use...these are just a few of the factors leading to worsened health in these younger age groups. For these individuals experiencing premature aging the principles, strategies and techniques presented in this course will be just as effective for them as for the 65 and older population.

The continued, rapid growth of the 65+ population and the huge number of people in their 40's and 50's experiencing premature aging provide an amazing opportunity for the health and fitness industries. But do they have what it takes to reach these millions of potential customers? The gyms, fitness clubs and fitness professionals that adapt to meet the needs, interests and abilities of adults over the age of 55 will likely flourish while those that don't will likely become stagnant or decline because, let's face it, the 50+ population is now the largest population on the planet. Gaining an understanding of how older adults differ from their younger counterparts and even from one another is vital in our quest to develop effective and successful facilities, programs and products for 50+ adults. Described below are some of the more important concepts and facts that need to be considered by club owners, managers, directors and trainers that seek to tap this market.

Principle #1: Diversity is the Rule, Not the Exception

A common mistake in the health and fitness industries, and many industries for that matter, is a failure to appreciate the immense diversity that exists within the older adult population. Older individuals are NOT all the same and should not be treated the same. This misconception is likely due to several factors. For one, because so much time and energy has been spent on serving primarily younger, and rather homogeneous, clients for the past 20 years most professionals are

rather inexperienced in working with older adults. Second, while there have been a handful of professionals warning that the age wave is coming, these significant demographic shifts represent an unprecedented time in history. Never before have there ever been so many people living such long lives which has created a new experience for industries of all types.

The 55+ population consists of a remarkably diverse group of individuals that vary tremendously in physical abilities, life experiences, interests, socioeconomic status, health status and numerous other ways. They are, without a doubt, the most heterogeneous population we can identify and much more so than the younger members and clients the industry is used to servicing. Therefore, gaining an adequate understanding of these differences is an important key to developing effective strategies to attract and retain them as members and clients. On the other hand, stereotyping these individuals based on age alone or perpetuating common myths about aging can repel them quickly.

Principle #2: There is More to Aging than Age

Some of the most recognizable changes with aging are physical. Wrinkles, graying hair and age spots are rather innocuous but highly visible. More serious changes are those that affect health and physical functioning. Chronic diseases and conditions associated with advancing age include cardiovascular disease, diabetes, obesity, arthritis, osteoporosis, dementia, Parkinson's and sensory impairments (vision, hearing, touch). Functional impairments that individuals may experience in late life include difficulty climbing stairs, shopping, driving, performing yard work, cleaning their home, enjoying recreational activities, working and, if left unchecked, bathing, dressing and feeding.

However, despite the prevalence of each of these conditions, they affect individuals at different ages, to differing degrees of severity, progress at different rates, are treated medically in a variety of ways, and may not affect some people at all. Chronological age really becomes a second-rate method of predicting physical abilities because of the tremendous degree of heterogeneity that exists among older individuals. Therefore, all prior assumptions can be thrown out the window. That is, we can neither assume that an 80-year-old suffers from arthritis nor that a 55-year-old does not although we recognize that the chance of an 80-year-old having arthritis is greater. There are centenarians who are still very active and living independently in contrast to some 60-year-olds that have to get help performing daily activities. Identifying a market based on age alone just doesn't cut it with today's older populations.

Principle #3: Gender Still Matters

There are a significantly greater proportion of older women than older men due to their additional longevity as women tend to live longer lives than men. The gender disparity increases after the age of 50 and by 85 there are approximately twice as many women than men. Older women differ from their male counterparts in many respects. They are much more likely to be single due to divorce or the death of a spouse; to live alone; to be sedentary or insufficiently active; to become frail; to develop osteoporosis; and to have a lower net worth. On the other hand we find that women are the primary decision-makers to 80-85% of all buying decisions; they feel better about themselves in midlife and beyond; look more for companionship when starting an exercise program; and consider themselves to be in good, or better, health.¹

The Curves™ phenomenon that started in the US and spread to several other countries has proven that the market of middle-aged and older women is substantial and worth pursuing. It has

also taught us that this group has different needs and interests than men and if approached accordingly will respond favorably to our efforts. Newer programs such as Ageless Fitness (a license program for facilities offered by FAI), that focus on attracting the older, affluent female are proving that this approach can be very successful for not only gaining older women as clients but older men as well. Ultimately, the bottom line is “Older Women Rule”.

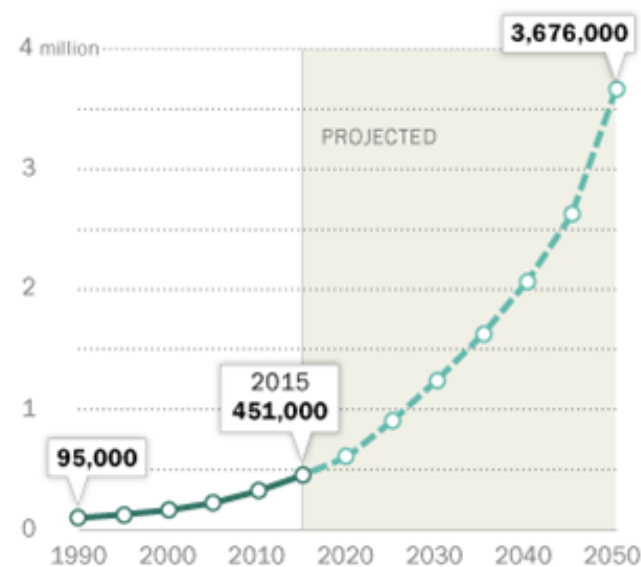
Principle #4: Cohort Differences Provide Valuable Insight

As stated earlier, chronological age is one of the most inaccurate means of assessing an individual's condition due to the significant heterogeneity in the older populations. However, there are some very interesting and significant cohort differences which need to be considered. A cohort is a group of people that is born around the same time period and sharing many of the same societal experiences. Cohort effects are seen in many areas of life because these groups tend to also carry with them similar values, perspectives and concerns. Although just because someone is from a particular cohort does not dictate that they behave a certain way understanding these cohort differences is vital. Images, messages and products may connect well with one cohort but not others. It is why so much attention has been given to how the boomers are going to change the way society views aging. The boomers represent a specific cohort with experiences, values and perceptions distinct from previous generations. In actuality, the current 50+ population currently consists of multiple cohorts. While there are more cohorts than what is listed below this condensed version gives you an idea of how cohort identification can affect involvement in programs (*Note: the following information is most applicable to US and Canada and may vary significantly around the world*).²

- Old-Olds (seniors): Born 1929 or prior. Over 90 years old in 2020. Experiences span two world wars, the roaring twenties and the Great Depression. Report highest levels of satisfaction with family life, social life, leisure activities and physical activities. Also the least active cohort. They were the first generation to grow old in the modern area and so most did not know what to expect or what to do after they retired. Therefore, they tended to listen to society which said “relax”, “take it easy”, and “stay put”. The world’s centenarian population is the most rapidly growing of any other age group and is expected to continue its exponential rate of increase well past the year 2050 (see figure below).

The world’s centenarian population projected to grow rapidly

Number of persons ages 100 and older



Source: United Nations, Department of Economic and Social Affairs, "World Population Prospects: 2015 Revision"

PEW RESEARCH CENTER

Source: www.pewresearch.org

- Young-Olds (seniors): Born 1930-1945. 75-90 years old in 2020. Experiences include the Great Depression and World War II. Huge discretionary spending power and financial assets but also suffering from numerous chronic conditions related to the poor lifestyle habits. Interestingly, many young-olds are turning to fitness programs for the first time and not all are opting for easier and more gentle senior fitness programs.
- Baby Boomers: Born 1946-1964; 56-74 years old in 2020; about 78 million U.S. The largest, best educated and most affluent older adult cohort in history are changing the way many social issues such as work, retirement and healthcare are viewed. Their impact on society as a whole, and on the fitness industry specifically, has been and will continue to be significant. They witnessed their parents and grandparents grow old, sick and “useless” and they have determined that that is not the experience they want. They desire to be healthy and fit in order to stay engaged in all of the things they like to do and want to do.
- Generation X (Baby Busters): Born 1965-1979; 41-55 years old in 2020; about 82 million U.S. Not surprisingly they have the highest levels of physical activity and lowest prevalence of overweight. However, they also report lower levels of satisfaction with work and family life and the highest levels of stress and loneliness than their older counterparts. Interestingly enough this cohort represents the largest percentage of the workforce in the fitness industry.
- Millennials (Generation Y): Born 1980-1994. 26-40 years old in 2020. The Millennials are also driving many of the changes within the fitness industry as they seek out new experiences, technology and more specific “boutique” programs such as cycling, yoga, HIIT, and many others.

When we compare the different generational cohorts, we can conclude that although the Millennial generation is the largest of these, the collective population of older adults (55+) is still larger and will continue to be the largest for a long time to come. Even with older adults dying at a much higher rate than Millennials the 55+ population will continue to grow and will dominate the societal landscape in virtually every developed country in the world for the next 50+ years.

The Perfect Opportunity

When we put all of this information together it is apparent that there is an incredible opportunity for health and fitness professionals that is based on four very important facts: 1) The 55+ population is, and will continue, to be the largest and most dominant with the 85+ population growing the fastest; 2) They are very interested in services and products that will help them continue to be healthy and functional for as long as possible; 3) Most older adults recognize that they need to exercise regularly in order to stay healthy and functional yet most of them don't really know what to do or how to do it; and 4) There aren't many highly qualified fitness professionals or facilities that really know how to meet their needs safely and effectively.

Some facilities and programs are doing well attracting and serving this lucrative market but many others are failing miserably. It seems that very few people really understand what these older adults really want or need. The bottom line is that there is an amazing opportunity for fitness professionals who take the time to understand their distinct needs and desires and can train them safely and effectively. In the next section we will explore the key physiological changes associated with aging (and lifestyle) that are important to understand when working with older adults.