Chapter 2
Demographic and Family Trends in Asia

Sheung-Tak Cheng

The phenomenon of global aging has been called both a "triumph" and a "challenge." As much as it is a triumph of medical advances and public health over diseases, injuries, and malnutrition in many parts of the world, it also present enormous economic, social, and health-care challenges to societies to sustain support to older persons. Accelerated aging of the population is often seen during periods of high rates of socioeconomic development which gives rise to improvements in health care, hygiene, nutrition, living and working environment, and so on. As Asia has enjoyed rapid progress in socioeconomic development in recent decades, it is no surprise that Asia is a rapidly aging continent. As we will see, many countries in Asia have only a small window of opportunity to formulate their plans and policies on aging that are suitable to the situations of their societies.

In the following, I will provide an overview of the demographic situation in Asia as well as family changes that coincide with these demographic transitions. In the context of aging, socioeconomic development may be considered a "double jeopardy" in this region. Socioeconomic development accelerates population aging as well as erosion to traditional family structure and values, while the family has long been the first line of support for older people in these societies. Thus, it is important to have a grasp of these two simultaneous forces that impact on the social landscape of older persons in these societies. But because there is already a section devoted to families and social relationships as well as some introductory remarks in Chap. 1, the coverage here is meant to illustrate key trends and highlight relevant policy issues in ensuring family care to older persons.

S.-T. Cheng (✉)
Department of Health and Physical Education, The Hong Kong Institute of Education, Tai Po, Hong Kong SAR

Department of Clinical Psychology, Norwich Medical School, University of East Anglia, Norwich NR4 7TJ, UK
e-mail: takcheng@ied.edu.hk; s.cheng@uea.ac.uk

S.-T. Cheng et al. (eds.), *Successful Aging*, DOI 10.1007/978-94-017-9331-5_2

Demographic Trends

In 2010, 53.2 % of the world's population aged 65 or over was in Asia. An index of the pace of population aging is the time required to double the percentage of older people from 7 to 14. While this has taken many developed European and North American countries 60 to over 100 years (National Institute on Aging, 2007), the whole continent of Asia will accomplish this in less than 30 years from now (see Table 2.1) and we are witnessing the beginning of this transition! This pace of aging is similar to Latin America and the Caribbean (which includes South America), which is also experiencing fast population aging as a result of socioeconomic development. However, the size of the population makes Asia the main driver of global aging in the decades to come (Cheng, Chan, & Phillips, 2008; Cheng & Heller, 2009). Between 2010 and 2040, 66.5 % of the world's older population *increase* would be accounted for by Asia, and within Asia, 42.0 % of the increase would be accounted for by China alone.

Asia as a whole is not an "old" continent, relatively speaking. The overall life expectancy at birth remains a few years below those of Europe and North America. Even by 2040, life expectancy for men would be 4–6 years lower than those for Europe and North America, and that for women was 6–7 years lower (Table 2.1). However, Asia is a vast continent and the pace of population aging varies a lot across countries due to differences in socioeconomic development. I follow United Nations mapping and present demographic figures for the four Asian regions in Table 2.2. Eastern Asia, which includes Japan, is noticeably "older" than the other regions. This region, including also China, the most populous country in the world that is undergoing rapid population aging (Population Reference Bureau, 2010), has more older persons than the rest of Asia combined. By 2040, Eastern Asia will have 385 million older persons, equaling the total of Europe, North America, and Latin America and the Caribbean combined. In terms of proportion, Eastern Asia will have 24.2 % of its population aged 65 or over by 2040 and be one of the oldest regions in the world (the other one being Europe where population aging has started much earlier).

Compared to Eastern Asia, South-Eastern Asia is a much smaller region. Yet, it shares with Eastern Asia as having more accelerated aging than other areas. In 2040, the proportion of population aged 65 or over will be roughly 2.5 times the figure in 2010 for these two regions, compared with more modest increases in South-Central (India included) and Western Asia. Within Eastern and South-Eastern Asia, China is expected to double the proportion of people aged 65 years or over, from 7 to 14 %, within a 26-year time span (2000–2026); Thailand, 22 years (2003–2025); Singapore, 19 years (2000–2019); and South Korea, 18 years (2000–2018; see National Institute on Aging, 2007; U.S. Bureau Census, n.d.). Japan, being one of the oldest countries, had accomplished this aging phenomenon between 1970 and 1996. Taiwan, for which data are not available in the United Nations database (hence not listed in Table 2.3), is also experiencing rapid aging; people aged 65 or over accounted for 10.9 % of the population in 2011, increasing to 20.1 % in

Table 2.1 Aging in a global context: Demographic characteristics by continents

	Africa			Asia			Europe			Latin America and Caribbean			North America			Oceania		
	2010	2025	2040	2010	2025	2040	2010	2025	2040	2010	2025	2040	2010	2025	2040	2010	2025	2040
Median age	19.7	21.8	24.5	29.2	33.9	38.6	40.1	43.8	46.4	27.6	32.8	37.9	37.2	38.9	40.1	32.8	34.8	37.0
Total fertility rate[a]	4.37	3.59	3.03	2.18	1.99	1.90	1.59	1.76	1.89	2.16	1.89	1.79	2.04	2.06	2.07	2.45	2.36	2.24
Life expectancy at birth[a]																		
Male	56.1	60.8	64.8	68.5	71.6	73.9	72.8	75.9	78.1	71.6	74.3	76.4	76.4	78.4	80.2	75.5	78.0	79.8
Female	58.7	64.1	69.0	72.4	75.8	78.2	80.2	82.3	84.1	77.8	80.3	82.2	81.5	83.5	85.2	79.9	82.3	84.1
Number ages 65+ (‘000,000 s)	36.0	59.9	98.2	279.1	478.5	772.9	119.4	153.3	182.8	40.7	70.5	114.1	45.3	71.7	90.5	3.9	6.3	8.9
M:F ratio	1:1.2	1:1.2	1:1.2	1:1.2	1:1.2	1:1.2	1:1.5	1:1.4	1:1.4	1:1.3	1:1.3	1:1.3	1:1.3	1:1.2	1:1.2	1:1.2	1:1.2	1:1.2
% of total population	3.5	4.2	5.3	6.7	10.1	15.3	16.2	20.6	25.0	6.9	10.4	15.5	13.2	18.4	21.3	10.7	14.1	17.2
Number ages 80+ (‘000,000 s)	4.4	7.9	15.3	47.2	80.9	158.9	30.9	39.1	57.1	8.5	14.9	28.8	13.2	16.9	34.8	1.0	1.5	2.7
M:F ratio	1:1.4	1:1.5	1:1.5	1:1.5	1:1.5	1:1.5	1:2.1	1:1.8	1:1.7	1:1.6	1:1.5	1:1.5	1:1.8	1:1.6	1:1.5	1:1.6	1:1.4	1:1.4
% of total population	0.4	0.6	0.8	1.1	1.7	3.1	4.2	5.3	7.8	1.4	2.2	3.9	3.8	4.4	8.0	2.8	3.4	5.3
Old age dependency ratios	6	7	9	10	15	23	24	32	42	11	15	24	20	30	35	16	22	28

Note. All figures were extracted from United Nations Population Division (n.d.)

[a]Data reported here were displayed on the United Nations database as corresponding to the intervals 2010–2015, 2025–2030, and 2040–2045 respectively. Data for individual years were not available

Table 2.2 Demographic characteristics by regions in Asia

	Eastern Asia			South-Eastern Asia			South-Central Asia			Western Asia		
	2010	2025	2040	2010	2025	2040	2010	2025	2040	2010	2025	2040
Median age	35.5	41.0	46.9	27.5	32.9	37.9	24.7	29.4	34.2	24.9	29.1	32.9
Total fertility rate[a]	1.6	1.6	1.7	2.1	1.9	1.8	2.6	2.2	1.9	2.9	2.5	2.3
Life expectancy at birth[a]												
Male	73.0	75.3	77.2	68.8	72.4	74.8	64.7	68.2	71.0	71.0	73.7	76.1
Female	77.3	79.9	81.7	73.3	77.2	79.7	67.8	71.8	74.9	75.3	78.1	80.3
Number ages 65+ (‘000,000 s)	149.8	250.7	384.5	33.2	61.3	107.4	85.1	146.4	244.2	11.0	20.1	36.7
M:F ratio	1:1.2	1:1.2	1:1.2	1:1.3	1:1.2	1:1.2	1:1.1	1:1.1	1:1.2	1:1.3	1:1.2	1:1.1
% of total population	9.5	15.4	24.2	5.6	9.0	14.5	4.8	6.9	10.3	4.7	6.7	10.2
Number ages 80+ (‘000,000 s)	28.3	47.5	88.4	5.1	9.5	21.4	12.0	21.1	42.4	1.8	2.9	6.6
M:F ratio	1:1.6	1:1.7	1:1.5	1:1.5	1:1.6	1:1.5	1:1.2	1:1.3	1:1.4	1:2.1	1:1.7	1:1.6
% of total population	1.8	2.9	5.6	0.9	1.4	2.9	0.7	1.0	1.8	0.8	1.0	1.8
Old age dependency ratios	13	22	39	8	13	22	8	10	15	7	10	15

Note. All figures were extracted from United Nations Population Division (n.d.)

[a]Data reported here were displayed on the United Nations database as corresponding to the intervals 2010–2015, 2025–2030, and 2040–2045 respectively. Data for individual years were not available

2025 (Department of Household Registration, Ministry of Interior, n.d.). Such a compressed time scale means that some of these developing countries, including China, will have to confront the challenges of population aging before they become socioeconomically and technologically advanced and have trained personnel ready to deliver various needed services (Cheng et al., 2008).

Population aging is driven by increased longevity and fertility decline. Whereas the former is determined to some extent by improvements in health care, fertility is largely a matter of life choice. In many Asian countries, the decline in marriage rate, the delay in marriage age, as well as increases in divorce, are evident, while many couples choose to remain childless or favor one child voluntarily. Women who want children often delay it for the sake of occupational advancement, effectively compressing fertility to a much shorter time span. In China, the one-child policy has been in place for more than 30 years. The accelerated populating aging in some Asian countries has been driven by sustained low fertility rates and rising longevity (Table 2.3). All countries except Mongolia in Eastern Asia, as well as Singapore and Thailand in South-Eastern Asia, have total fertility rates well below the natural replacement rate of 2.1. Other than these low-fertility countries, other countries are expected to experience a gradual drop in fertility rates over time. Hong Kong had had fertility rates below 1 for almost 8 years in a row (1999–2006, except 2000) before rising above 1 again in 2007 (Census and Statistics Department, 2010). Macau had a similar situation though of a duration shorter than Hong Kong (United Nations Population Division, n.d.). Taiwan reported a total fertility rate below 1 for the first time in 2010, at 0.90, while it was between 1.05 and 1.07 in 2011 (Chan, 2012). These figures stood in sharp contrast to the world's overall figure of 2.45 (United Nations Population Division). The effect of low fertility on the population structure can be discerned by comparing Eastern with Western Asia. Western Asia is expected to have a faster longevity increase than Eastern Asia, but its proportion of the population that is 65 years or over is projected to be 10.2 % only in 2040, whereas it would be 24.2 % in Eastern Asia, owing in part to differences in fertility rates between the two regions. Islamic teachings on procreation and the adherence to religious teachings in countries in Western Asia may play a significant role in the higher fertility rates in this region.

Some scholars questioned whether total fertility rates below 1.5 would trigger a downward spiral in European countries (i.e., the low fertility trap), owing to declines in perceived ideal family size, job insecurity and declining income of younger couples, and a negative demographic momentum (Lutz & Skirbekk, 2005; McDonald 2006). The first two of these factors, if not the third, have been evident for some years in low-fertility Asian countries. To combat possible population decline in the future, several governments like Singapore, South Korea, and Taiwan have instituted measures to encourage births, though whether the measures are effective remain to be seen. China is considering to relax the one-child policy on a gradual basis and predictions about its increasing fertility (Table 2.3) may have reflected that assumption. The policy concerns of these countries are quite unlike other "youthful" countries in the region such as Cambodia, Laos, or the Philippines, for which family planning is currently the main focus (WHO Regional Office for South-East Asia, 2009).

Table 2.3 Demographic characteristics of countries in Eastern and South-Eastern Asia

	% ages 65+			% ages 80+			Life expectancy at birth[a]						Total fertility rate[a]		
							Male			Female					
Country	2010	2025	2040	2010	2025	2040	2010	2025	2040	2010	2025	2040	2010	2025	2040
Eastern Asia															
China	8.2	14.0	23.3	1.4	2.2	4.8	72.1	74.6	76.6	75.6	78.4	80.6	1.6	1.6	1.7
Hong Kong	12.7	21.8	29.4	3.6	4.7	10.1	80.2	81.9	83.4	86.4	88.0	89.5	1.1	1.5	1.7
Macau	7.0	15.4	25.1	1.9	2.0	6.6	79.1	80.8	82.4	83.3	85.5	87.1	1.2	1.5	1.7
Japan	22.7	29.3	33.8	6.3	10.6	13.5	80.1	81.9	83.4	87.1	88.9	90.4	1.4	1.7	1.8
Mongolia	4.1	5.9	11.1	0.7	0.9	1.7	65.0	68.8	72.1	72.8	76.5	79.1	2.5	2.3	2.2
South Korea	11.1	19.6	29.6	2.0	4.4	8.8	77.3	79.1	80.8	84.0	85.7	87.3	1.4	1.6	1.8
South-Eastern Asia															
Cambodia	3.8	6.0	9.2	0.4	0.7	1.3	62.2	67.5	71.1	65.1	71.4	75.5	2.4	1.9	1.6
Indonesia	5.6	8.6	14.9	0.7	1.4	2.8	68.3	72.2	74.7	71.8	76.3	79.0	2.1	1.8	1.7
Laos	3.9	5.4	8.9	0.5	0.7	1.3	66.4	70.5	73.4	69.4	74.3	77.5	2.5	1.9	1.6
Malaysia	4.8	8.6	12.7	0.6	1.0	2.4	72.5	75.0	76.9	76.9	79.4	81.3	2.6	2.2	2.0
Myanmar	5.1	8.4	13.9	0.8	0.9	2.1	64.1	68.9	72.2	67.9	73.3	76.8	1.9	1.7	1.6
Philippines	3.6	5.8	8.5	0.4	0.7	1.5	66.0	69.5	72.7	72.6	75.6	78.4	3.1	2.6	2.2
Singapore	9.0	19.5	29.2	1.8	3.6	9.2	78.9	80.6	82.3	83.7	85.5	87.1	1.4	1.6	1.8
Thailand	8.9	15.0	22.2	1.7	2.7	5.5	71.1	73.8	75.9	77.8	80.0	81.9	1.5	1.5	1.7
Vietnam	6.0	10.2	17.9	1.2	1.7	4.0	73.4	75.9	77.7	77.4	80.1	82.0	1.8	1.6	1.7

Note. All figures were extracted from United Nations Population Division (n.d.)

[a]Data reported here were displayed on the United Nations database as corresponding to the intervals 2010–2015, 2025–2030, and 2040–2045 respectively. Data for individual years were not available

Modern medical advances have turned a number of formerly terminal illnesses, including certain cancers, into chronic diseases. Together with the success with public health in eradicating many communicable diseases, we are seeing an unprecedented reduction of death rates at advanced ages, and hence an extension of the average life expectancy. This region has the "oldest" country in the world—Japan. However, as much as population data need revision after new data are available, Hong Kong's life expectancy at birth for men and women as shown in the 2011 population census have risen to 80.5 and 86.7 respectively, and was predicted to further rise to 82.9 and 89.2 respectively in 2026 (Census and Statistics Department, 2012; Cheng, Lum, Lam, & Fung, 2013). The pace with which life expectancy has increased in Hong Kong was startling and has led to revisions in many projections about future populations. If the same holds true for other parts of the world, then the trend of global aging would have been under-estimated in the past. Of course, projections are nonetheless reliable only if the underlying assumptions turn out to be reasonably accurate, and the further away the projection is, the less accurate are the predictions. Nevertheless, without further revisions to the data, Hong Kong may have surpassed Japan as the place with the longest life expectancy at birth for men and women (Census and Statistics Department). Together with one of the lowest fertility rates in the world, Hong Kong is expected to "catch up" with Japan around 2040 in terms of its population structure.

With life expectancy extended, the number of people living into very old ages (aged 80+ or 85+) increases. While many developing countries will take more time for this segment to catch up with the "older" countries in Europe and North America, Japan (13.5 %) and Hong Kong (10.1 %), along with Italy (9.9 %) are expected to lead the world in 2040 in terms of the proportion of population aged 80 or above. The significance of these figures can be discerned by comparing to the world overall (3.3), Asia overall (3.1), Europe (7.8), and North America (7.3). The very old is the group most susceptible to major diseases, disabilities, cognitive impairments, and long-term care placement. Not surprisingly, research has shown that successful aging indicators in the domains of physical health and cognitive functioning are less likely to be achieved with age (Chodosh, Kado, Seeman, & Karlamagla, 2007; McLaughlin, Connell, Heeringa, Li, & Roberts, 2010; Pruchno, Wilson-Genderson, & Cartwright, 2010; Yaffe et al., 2010). On the contrary, social participation and psychological well-being do not necessarily decline with age, at least up to a certain point. Research on ways to maximize participation and well-being in the very olds is currently lacking and will be an increasingly important topic in future research.

Another notable feature of population aging is the rising old age dependency ratio, defined as the number of older people to be supported by those aged 15–64 years. As can be seen from Table 2.2, old age dependency ratios will triple or almost triple between 2010 and 2040 in Eastern and South-Eastern Asia. By 2040, the old age dependency ratio will reach 39 in Eastern Asia, almost in par with Europe. Within this region, Japan was 35 in 2010 but rising to 63 in 2040! The projected old age dependency ratios in 2040 in other societies are: South Korea—52, Hong Kong and Singapore—51, Macau—40, and China—37. As a comparison,

the corresponding figures for the some of the older European countries are: Italy—57, France—43, Sweden—41, and U.K.—39 (United Nations Population Division, n.d.). In fact, the simple formula of the old age dependency ratio may mask the actual challenges societies will face, as the need to take care of an older family member with dependencies at home might take many more people out of the workforce, adding further to productivity decline.

The fears that the costs of supporting the increasingly larger numbers of older persons with a smaller work force has been called a "moral panic." In this region, there is basically no comprehensive social security benefits for older people as a group. When there is, the benefits are often too meager to provide adequate support, although there are generally government measures to provide minimal support for the poor and the disabled. Moreover, not everyone is covered by pension or social security programs. In most countries, pensions are limited to government employees only, and retirement benefits are limited to formal workers, sometimes only those working in large corporations. Older people in rural areas are largely unprotected (see Cheng et al., 2008; Phillips, Chan, & Cheng, 2010; United Nations Economic and Social Commission for Asia and the Pacific, 2011 for reviews).

Concomitant Changes in the Family and Policy Considerations

Unlike characteristics such as longevity and fertility rate, family transitions amidst population aging are seldom discussed in conjunction with demographic changes. However, as Lowenstein (2005) has remarked, "Parallel to population ageing, marked changes occurred in families" (p. 403). Changes to the family are particularly significant for this region due to the traditional reliance on the family to provide care for older persons.

The same forces driving population aging—industrialization, urbanization, and socioeconomic development—are also the same ones that led to the decline of the traditional extended family system as well as values of familism and filial piety in the region. Cheng and Heller (2009) summarized several socioeconomic factors that have weakened these values in modern societies. First, without undermining the value of extended kinship ties to many older adults (Cheng, Lee, Chan, Leung, & Lee, 2009; Cheng, Li, Leung, & Chan, 2011), it remains a fact that the extended family is increasingly replaced by the nuclear family, and the decline in household size and intergenerational co-residence is evident across societies (United Nations Population Division, 2005). Second, the loss of financial status by older parents in industrial and post-industrial societies has weakened their ability to provide incentives, especially to sons and their wives as in a patrilineal society, for filial behaviors. Third, the changing role of women has enhanced their social status and financial independence, allowing them, particularly daughters-in-law, to negotiate domestic and caregiving roles. In some societies, subcontracting caregiving to paid helpers is common. Fourth, adult children tend to invest resources into their own nuclear family rather than provide support to their parents. Fifth, the increasing

trend of individualism reduces the value and solidarity of the family. Lastly, parents and adult children are often geographically separated, as in the migration of young people from rural to urban areas for employment in many Asian societies. It is also noteworthy that children living in the same area as their parents may feel less obligated to assist if it conflicts with their job demands.

As noted in Chap. 1, in most, if not all, Asian countries, children are still the preferred source of support. However, filial piety has becomes less of a contract in modern times than a virtuous devotion to parents and reciprocity for what parents had done for oneself when one was younger. As filial obligations are no longer adhered to in absolute terms, but are rather negotiated between generations, there are potential mismatches between what children are willing to provide (or think they should provide) and what older parents want.

The lack of political support for investments in welfare and health and social services has often been attributed to strong family values and the emphasis on family self-reliance in the region, although there may be additional factors in specific societies (Cheng et al., 2013; Oh & Warnes, 2001). It is often said that too much government intervention would undermine fundamental family values and functions. To ensure that adult children are supporting their older parents, China, Taiwan, Singapore, South Korea, and Japan have laws that mandate children to honor their financial obligations to parents. On top of the legal mandate, in some parts in rural China, parents and children enter into written contracts, termed "family support agreement," to further regulate children's support, mostly material, to parents (Chou, 2011). Hong Kong does not resort to legislative measures but requires children to declare they cannot or would not support their parents before the parents are eligible for public assistance, stigmatizing those children as undutiful (Cheng et al.). However, using legislative or administrative measures to ensure children's financial support to parents may do more harm than good. On the one hand, it tends to legitimize that once children have provided financial security, their duties are fulfilled. On the other hand, parents and children may disagree on the amount of monthly payments, or children may offer payments but do so in a reluctant and even disrespectful manner, leading to more intergenerational tension.

A study in Hong Kong suggests that older adults value mostly the open display of respect and sick care from children, and emphasize material and practical assistance least. Unfortunately, personal care during times of illness was least available from children (Cheng & Chan, 2006). Another study suggests that lack of respect from children can be quite common, which discourages older people from enacting meaningful roles in the family and beyond (Cheng, 2009; Cheng, Chan, & Chan, 2008). It appears that older people nowadays treasure intangible more than tangible support. This may be increasingly the case as the next cohort of older people enjoy better financial security than the current one.

Unfortunately, adult children may misinterpret the needs of elders, believing financial contributions (including hiring paid helpers) to be their key roles, a concept that may be inadvertently reinforced by legal mandates and political discourses in certain societies. This often leads to the adult children being unavailable when their parent seeks a companion to share their concerns or simply someone to talk to, and

so on. There is a danger that certain government policies may unintentionally alter the most valued aspects of intergenerational relationship in Asian societies in the long run, though ensuring (material) support to older persons.

Concluding Remarks

While there is much to celebrate in terms of healthcare, technological, and socioeconomic advances in Asia, the pace of population aging means that most Asian countries will have only a small window of opportunity to find effective policies and practices to address the many challenges for economic activities, healthcare, housing, and social organization including family structure. Many developing countries will thus have to tackle the many challenges of population aging before they become socioeconomically, technologically, and educationally advanced across the board. This is especially true for the countries in Eastern (especially China) and South-Eastern Asia. The increase of people in the very old age bracket implies more frailties and dependencies. Under such circumstances, there is a risk for moral panic, and to focus on older people's vulnerabilities, rather than opportunities for successful aging.

As has been pointed out in the introductory chapter of this book, successful aging is a multidimensional concept. Challenges in one dimension should not obscure opportunities in another. It is possible that Asian countries may, because of their unique cultural and social backgrounds, fare better in certain domains, such as social engagement, than others. There is no reason to underestimate their abilities to promote successful aging despite realistic limitations. However, to promote successful aging, governments need to invest resources in a decisive manner and to use the concept to guide policy development. More importantly, they need to foster a positive mindset in service providers and, most of all, in the people themselves. In this connection, it is important to note that a driving force of change may be older people themselves. The next cohort of older people will be more educated, more financially secured, more health literate, and more inclined to participate in social and community affairs. They will likely have different aspirations and expectations, compared with the current cohort, and will likely demand more from the government and service providers, rather than from their own families, to provide support for fulfilling various aspirations.

Nevertheless, politics and policies typically change only incrementally. The pace with which policies change lag far behind demographic and concomitant social and family changes. Outdated policies, such as mandatory retirement age in many Asian societies (see next section), pose significant risks to successful aging. Other policies reflect long-standing cultural values such as familism or family self-reliance but they, too, may be outdated in the sense that a mismatch may exist between the aims of these policies and the changing preferences of older people. To tackle the challenges of demographic aging happening at such a pace requires ideological shift in many Asian societies, and ideas of successful aging may very well provide the conceptual input into such developments.

References

Census and Statistics Department. (2010). *The fertility trend in Hong Kong, 1981–2009*. Hong Kong, Hong Kong: Census and Statistics Department.

Census and Statistics Department. (2012). *Hong Kong population projections, 2012–2041*. Hong Kong, Hong Kong: Census and Statistics Department.

Chan, R. (2012, March 19). Taiwan's fertility rate edges up. *Taiwan Today*. Retrieved November 2, 2012, from http://www.taiwantoday.tw/ct.asp?xItem=188075&ctNode=413

Cheng, S.-T. (2009). Generativity in later life: Perceived respect from younger generations as a determinant of goal disengagement and psychological well-being. *Journal of Gerontology: Psychological Sciences, 64B*(1), 45–54. doi:10.1093/geronb/gbn027.

Cheng, S.-T., & Chan, A. C. M. (2006). Filial piety and psychological well-being in well older Chinese. *Journal of Gerontology: Psychological Sciences, 61B*(5), P262–P269.

Cheng, S.-T., Chan, W., & Chan, A. C. M. (2008). Older people's realisation of generativity in a changing society: The case of Hong Kong. *Ageing and Society, 28*(5), 609–627.

Cheng, S.-T., Chan, A. C. M., & Phillips, D. R. (2008). The ageing situation in Asia and the Pacific: Trends and priorities. In United Nations Department of Economic and Social Affairs (Ed.), *Regional dimensions of the ageing situation* (pp. 35–69). New York: United Nations.

Cheng, S.-T., & Heller, K. (2009). Global aging: Challenges for community psychology. *American Journal of Community Psychology, 44*(1–2), 161–173. doi:10.1007/s10464-009-9244-x.

Cheng, S.-T., Lee, C. K. L., Chan, A. C. M., Leung, E. M. F., & Lee, J.-J. (2009). Social network types and subjective well-being in Chinese older adults. *Journal of Gerontology: Psychological Sciences, 64B*(6), 713–722. doi:10.1093/geronb/gbp075.

Cheng, S.-T., Li, K.-K., Leung, E. M. F., & Chan, A. C. M. (2011). Social exchanges and subjective well-being: Do sources of positive and negative exchanges matter? *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences, 66B*(6), 708–718. doi:10.1093/geronb/gbr061.

Cheng, S.-T., Lum, T., Lam, L. C. W., & Fung, H. H. (2013). Hong Kong: Embracing a fast aging society with limited welfare. *The Gerontologist, 53*(4), 527–533.

Chodosh, J., Kado, D. M., Seeman, T. E., & Karlamagla, A. S. (2007). Depressive symptoms as a predictor of cognitive decline: MacArthur Studies of Successful Aging. *The American Journal of Geriatric Psychiatry, 15*(5), 406–415. doi:10.1097/01.JGP.0b013e31802c0c63.

Chou, R. J. (2011). Filial piety by contract? The emergence, implementation, and implications of the 'Family Support Agreement' in China. *The Gerontologist, 51*(1), 3–16. doi:10.1093/geront/gnq059.

Department of Household Registration, Ministry of Interior. (n.d.). *Elderly population and welfare in Taiwan*. Retrieved November 2, 2012, from http://sowf.moi.gov.tw/04/01.htm

Lowenstein, A. (2005). Global ageing and challenges to families. In M. L. Johnson, V. L. Bengtson, P. G. Coleman, & T. B. L. Kirkwood (Eds.), *Cambridge handbook of age and ageing* (pp. 403–412). Cambridge, UK: Cambridge University Press.

Lutz, W., & Skirbekk, V. (2005). Policies addressing the tempo effect in low-fertility countries. *Population and Development Review, 31*(4), 699–720.

McDonald, P. (2006). Low fertility and the state: The efficacy of policy. *Population and Development Review, 32*(3), 485–510.

McLaughlin, S. J., Connell, C. M., Heeringa, S. G., Li, L. W., & Roberts, J. S. (2010). Successful aging in the United States: Prevalence estimates from a national sample of older adults. *Journal of Gerontology: Social Sciences, 65B*(2), 216–226. doi:101093/geronb/gbp101.

National Institute on Aging. (2007). *Why population aging matters: A global perspective*. Washington, DC: National Institute on Aging.

Oh, K. M., & Warnes, A. M. (2001). Care services for frail older people in South Korea. *Ageing and Society, 21*(6), 701–720. doi:10.1017/S0144686X01008479.

Phillips, D. R., Chan, A. C. M., & Cheng, S.-T. (2010). Aging in a global context: The Asia-Pacific region. In C. Phillipson & D. Dannefer (Eds.), *Handbook of social gerontology* (pp. 430–436). London: Sage.

Population Reference Bureau. (2010, July). China's rapidly aging population. *Today's Research on Aging*, *20*, 1–5.

Pruchno, R. A., Wilson-Genderson, M., & Cartwright, F. (2010). A two-factor model of successful aging. *Journal of Gerontology: Psychological Sciences, 65B*(6), 671–679. doi:10.1093/geronb/gbq051.

United Nations Economic and Social Commission for Asia and the Pacific. (2011). *The promise of protection: Social protection and development in Asia and the Pacific*. Bangkok, Thailand: United Nations.

United Nations Population Division. (2005). *Living arrangements of older persons around the world*. New York: United Nations.

United Nations Population Division. (n.d.). *Data online*. Retrieved October 29, 2012, from http://esa.un.org/unpd/wpp/unpp/panel_indicators.htm

U.S. Bureau Census. (n.d.). *International Data Base*. Retrieved October 29, 2012, from http://www.census.gov/population/international/data/idb/informationGateway.php

WHO Regional Office for South-East Asia. (2009). *Strengthening family planning programme in South-East Asia*. New Delhi, India: World Health Organization.

Yaffe, K., Lindquist, K., Vittinghoff, E., Barnes, D., Simonsick, E. M., Newman, A., et al. (2010). The effect of maintaining cognition on risk of disability and death. *Journal of the American Geriatrics Society, 58*(5), 889–894.