

CONSIDERING REGIONAL POLICIES TOWARDS AGEING THROUGH A GENDERED LENS: THE CASE OF CHINA

CONSIDERANDO AS POLÍTICAS REGIONAIS PARA O ENVELHECIMENTO
ATRAVÉS DE LENTES DE GÊNERO: O CASO DA CHINA

CONSIDERANDO POLÍTICAS REGIONALES HACIA EL ENVEJECIMIENTO A
TRAVÉS DE UN LENTE GÉNERO: EL CASO DE CHINA

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Resumo: É bem conhecido que as populações em todo o mundo - e na Ásia do Pacífico em particular - estão envelhecendo e envelhecendo rapidamente. A China não é exceção para isso. Embora tenha sido amplamente aceito que o gênero é uma lente importante para definir e desenvolver políticas apropriadas tanto para a adaptação quanto para a mitigação dos desafios do envelhecimento, o gênero raramente é explicitamente considerado como um vetor de consideração. Neste artigo, demonstramos, para o caso da China, como, ao visualizar essa interseção por meio de uma lente regional, a extensão em que a velhice é "feminizada" difere acentuadamente em todo o país. Em conjunto, isso mostra a importância de se considerar o gênero tanto na velhice quanto nas desigualdades ao longo da vida, na formulação e no desenvolvimento de políticas relativas ao envelhecimento, tanto no nível nacional quanto no regional. Isso é especialmente importante em um país como a China, onde as províncias e outros governos locais geram importantes poderes de formulação de políticas em certas áreas-chave relevantes para o envelhecimento.

Palavras-chave : envelhecimento, gênero, China, demografia, saúde.

Abstract: It is well known that populations around the world - and in Pacific Asia in particular - are ageing, and ageing rapidly. China is no exception to this. While it has been widely agreed that gender is an important lens through which to define and develop appropriate policies for both adaptation and mitigation of the challenges of ageing, gender is rarely explicitly taken into consideration as a vector of consideration. In this

paper, we demonstrate for the case of China how when viewing this intersection through a regional lens, the extent to which old age is 'feminised' differs sharply across the country. Taken together, this shows the importance of considering gender both in old-age, as well as inequalities across the life course, in the formulation and development of policies relating to ageing at both the national and the regional level. This is especially important in a country such as China, where provinces and other local governments yield important policymaking powers in certain key areas relevant to ageing.

Keywords: ageing, gender, China, demography, health.

Resumen: Es bien sabido que las poblaciones de todo el mundo, y en Asia Pacífico en particular, están envejeciendo y envejeciendo rápidamente. China no es una excepción a esto. Si bien se ha aceptado ampliamente que el género es un lente importante para definir y desarrollar políticas apropiadas tanto para la adaptación como para la mitigación de los desafíos del envejecimiento, el género rara vez se considera explícitamente como un vector de consideración. En este artículo, mostramos, para el caso de China, cómo, al ver esta intersección a través de una lente regional, la medida en que la vejez es "feminizada" difiere notablemente en todo el país. En conjunto, esto muestra la importancia de considerar el género tanto en las desigualdades de vejez como de toda la vida, en la formulación y desarrollo de políticas relacionadas con el envejecimiento a nivel nacional y regional. Esto es especialmente importante en un país como China, donde las provincias y otros gobiernos locales generan importantes poderes de formulación de políticas en ciertas áreas clave relevantes para el envejecimiento.

Palabras clave: envejecimiento, género, China, demografía, salud.

Introduction

Rapidly ageing societies in Pacific Asia

The transition towards an older population structure is one of the few global demographic certainties. All countries of the world are part of this transition - even if some countries are experiencing it at a faster pace than others. For some countries, the transition from an 'ageing society' to an 'aged society' - where the population over the age of 65 rises from 7% to 14% - has taken many decades. In France, the United States and the UK, for example, this transition took 115, 69 and 45 years respectively (World Bank n.d.). On the other hand, for certain territories - particularly those in Pacific Asia - these transitions have occurred in a much shorter period of time. Furthermore, the transition to a 'super-aged society' - where more than 20% of the population is aged over 65 - is also strongly differentiated. In Taiwan, South Korea and Singapore this transition

has taken - or is forecast to take - around eight years. However, in France, this transition took 29 years, and 51 years in the UK (Liao 2018). It is estimated that 13 countries will be 'super aged' by 2020, and 34 by 2030 (O'Connor 2014; UNPD 2017). Again, many will be concentrated in East Asia.

Much discussion has been made about the implications of such ageing transition to the economic, social and political circumstances of Pacific Asian territories - and elsewhere (Eggleston and Tuljapurkar 2010; Suzuki 2013). These discussions have been in various different fields relating to all aspects of policy including the sustainability of healthcare (Ikegami 2010; M.-H. Lin et al. 2010) and social security systems (Meiko 2010; Chan 2003), pensions (ADB 2017; Oksanen 2010), political participation (Torres-Gil and Spencer-Suarez 2014) and intergenerational transfers (Lee and Mason 2012), to name but a few. In response to these issues, various policies have been initiated, ranging from parametric and paradigmatic pension reforms through to more proactive policies relating to active ageing, for example (Walker and Aspalter 2014; Shinkawa 2005).

Though the main focus of the ageing narrative in Pacific Asia has tended to be on Japan, Singapore, South Korea and Hong Kong, many of the same challenges are affecting China. With a low fertility rate, rapidly improved mortality rates and negligible immigration, China has rapidly transitioned to an aged society (Peng and Guo 2000; Basten and Jiang 2014; F. Wang et al. 2018). Many of the same policy dimensions are being considered as important - for example pensions (Oksanen 2010; Cai and Cheng 2014), healthcare (X. Li, Fan, and Leng 2018; Fang et al. 2015) and other threats to the economy (Hu 2015). Unlike other areas such as Japan, there is a concern that China has 'got old before it got rich', leaving it more vulnerable to the challenges presented by such rapid ageing (Branigan 2012).

Gender and ageing

In recent years, a more acute focus has been placed upon the importance of exploring ageing through a gendered lens (Krekula 2007; Arber and Ginn 1991). As Krekula (2007, p. 156) notes, for example, it is vital to consider "age and gender as

intertwining systems” and, by doing so, develop “a more complex understanding of the intersection of age [with gender].” In healthcare, for example, a series of studies have identified the different needs and requirements of older men versus older women (Legato and Bilezikian 2004). This can be seen in particular diseases such as cancers (Jacobson and Hartmann 2004) or osteoarthritis (Melton et al. 1993); or with regard to psychological well-being (Smith and Baltes 1998; Bergdahl et al. 2007) - often differentiated by the increased chances of widowhood among women (Shehan 2016; Helsing, Szklo, and Comstock 1981).

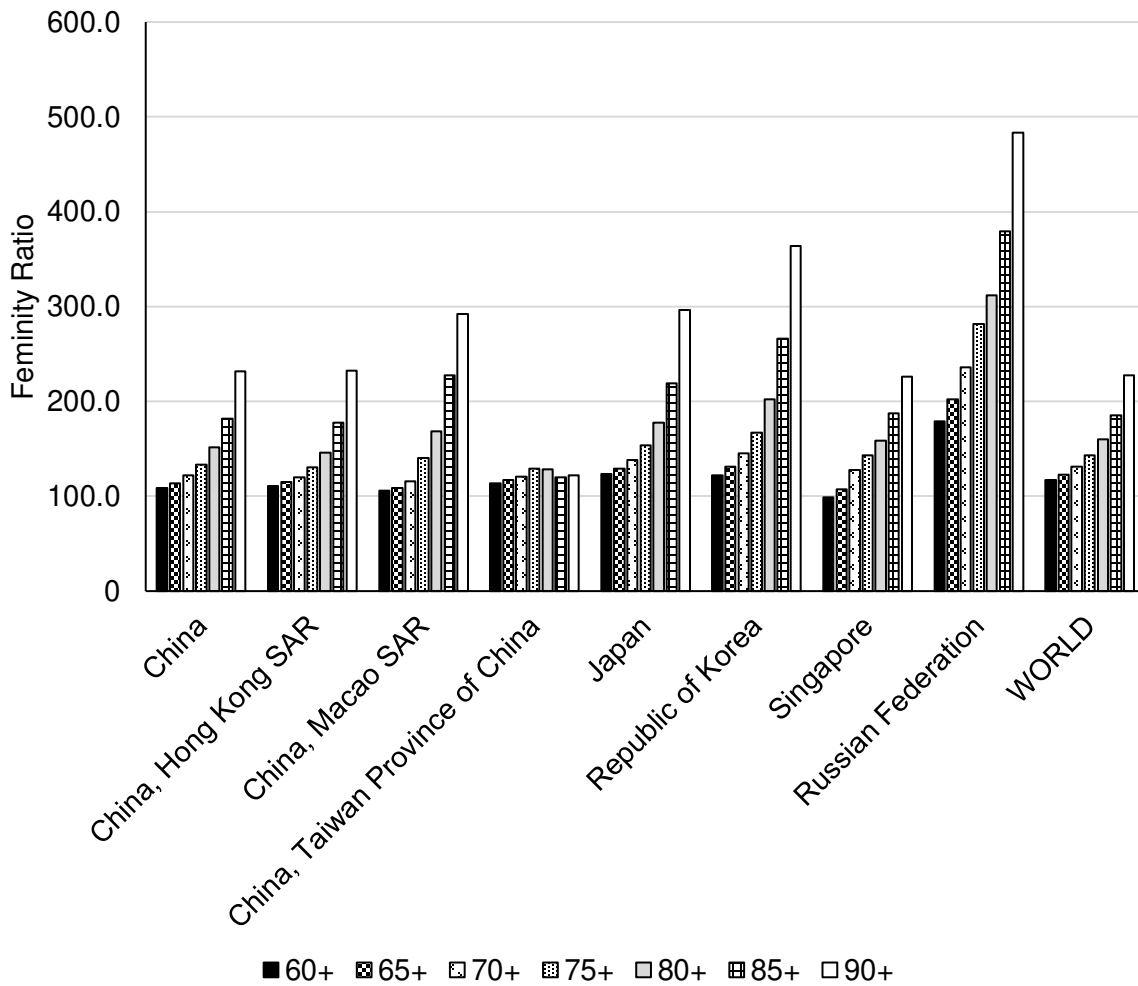
On the other hand, understanding gender roles are also essential to the development of new policies relating to the management of ageing - such as gendered differential effects of changes to the pension system (Gorlin, Lyashok, and Maleva 2018; Naegele and Walker 2007) - or proactive policies such as active ageing. As far as the latter is concerned, while the gender component is critical to the design of successful active ageing policies, it has largely been ignored in policy formulation to date (Foster and Walker 2013). As Foster and Walker (2013) note, ‘women face-specific challenges in relation to active ageing, these are largely not reflected in policies to implement this approach’ (p. 8).

The feminization of old age

The ageing of the population is not gender neutral. In most countries of the world, there is a greater number of older females than older males. This is because of differential mortality among middle- and older-aged males and females (UNPD 2017). In some cases, such as Russia where male mortality is exceptionally high, this so-called ‘feminist ratio’ can be extremely high indeed (Gietel-Basten et al. 2019). The impact of other factors which disproportionately lead to higher male mortality - such as violent conflict and certain diseases - can also exacerbate the femininity ratio. Figure One shows the femininity ratio for selected territories in for 2015-20 at different ages using data from the latest revision of the United Nations’ *World Population Prospects (UNPD 2019)*. As is immediately apparent, this ratio increases sharply with age. However, because of structural

disadvantages over the life course, while women are more likely to survive into old age, they are also more likely to suffer from long-term health challenges.

Figure 1: Femininity ratio (number of females per 100 males) at certain ages, 2015-20, selected territories



Source: UNPD 2019. Note: the terms here are those used by the United Nations in their *World Population Prospects*.

As Figure 1 demonstrates, in common with other territories China has rather pronounced femininity ratios at older ages. However, there are a number of reasons why it may be necessary to look beyond this aggregate, national figure.

Comparing provinces according to the Human Development Index, the heterogeneity of Chinese society is tremendous. Beijing, for example, has a similar HDI to some European countries, while the lowest - Tibet - is akin to Angola (Smits and Permanyer 2019). This clearly has an impact upon both demographic outcomes, but also on the capacity of different regions to manage population ageing from a gendered perspective. Crucially, as social security systems are largely decentralized in China, the need to understand regional differences is also important in terms of defining the demand for particular services (J. Lin 2017).

Our objective in this short paper, then, is to present the femininity ratio of the Provinces of China according to the most recent national data. This will help us to understand the extent to which there is heterogeneity in the gendered circumstances of ageing across this vast country.

Data and methods

In China, a national census is run every ten years, in years ending with a zero. As such, the last full national census occurred in 2010. In addition to this, a 1% sample survey is performed in years ending in a 5. We can, therefore, use the most recent data which is derived from the 2015 'China 1% National Population Sample Survey', sometimes referred to as the mini-census.

Of course, the reliability of Chinese censuses - as well as other sources of statistical data - has been long debated (Yi 2008; Ma 1986; Cai 2013; Holz and Lin 2001). This should be taken into account when considering the results. Using the data available, we simply calculate the femininity ratio for each province, determined as per the UN specification of the number of females per 100 males at certain ages.

Results

Table 1 shows the femininity ratio for the provinces of China for quinquennial age groups in 2015. As the table shows there is significant heterogeneity both across the

provinces, but also among different age groups. In many provinces, and at many ages, there is, for example, an excess of males. However, by the age of 75-79, all provinces have an excess of females (with the exception of Xinjiang Province). At age 60-64, the highest femininity ratio (109) is to be found in Xizang (Tibet), while the lowest is in Jiangxi (97). At age 70-74, six provinces have a femininity ratio of below 100 (i.e. a majority of males), while the highest can be found, again, in Xizang, but also in such diverse places as Beijing, Guangxi, Yunnan and Jilin. At age 80-84, however, Jilin transitions to having one of the lowest femininity ratios (107), while Shanghai and Guangdong join Xizang, Guangxi and Yunnan with some of the highest. At age 90-94 there are fully two women per man in 10 provinces and three-to-one in Xizang. Finally, at the oldest age group, there are more than three females to males in Hainan, Yunnan, Guangdong and Fujian, and more than four-to-one in Hubei. At this age, however, we must be very wary of the small number problem.

Table 1: Femininity ratio (number of females per 100 males) at certain ages, 2015, provinces of China

	60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-99
China	100	100	104	110	127	149	185	245
Anhui	99	98	97	104	120	155	202	292
Beijing	106	111	121	115	122	112	135	116
Chongqing	98	95	95	103	124	133	169	159
Fujian	101	94	95	110	127	172	234	362
Gansu	99	103	105	114	122	111	142	247
Guangdong	98	96	101	110	140	173	222	281
Guangxi	101	100	115	125	142	176	217	272
Guizhou	103	101	108	116	134	139	168	262
Hainan	99	95	107	125	135	175	222	328
Hebei	102	104	108	106	133	158	219	294
Heilongjiang	103	104	108	107	101	110	112	197
Henan	102	100	104	112	136	174	238	277
Hubei	99	99	104	114	126	143	208	450
Hunan	97	96	99	106	126	146	191	230

Jiangsu	99	99	103	112	134	174	204	274
Jiangxi	97	98	102	113	127	158	188	292
Jilin	102	107	112	105	107	115	112	100
Liaoning	101	104	107	118	124	122	118	134
Neimenggu [Inner Mongolia]	100	99	110	102	107	106	106	200
Ningxia	100	105	107	106	108	112	113	120
Qinghai	99	107	111	111	128	129	163	200
Shaanxi	102	102	111	117	120	130	167	267
Shandong	101	104	103	114	135	172	225	337
Shanghai	101	96	102	114	140	161	184	263
Shanxi	98	98	103	105	118	129	160	282
Sichuan	101	97	98	108	120	134	174	215
Tianjin	99	105	108	114	117	125	145	183
Xinjiang	99	104	104	85	90	87	74	125
Xizang [Tibet]	109	111	133	138	167	208	300	200
Yunnan	104	107	112	119	136	159	166	333
Zhejiang	97	99	96	100	114	137	163	138

Source: China 1% National Population Sample Survey, 2015

Finally, using the data reported in Table 1, we performed a two-way analysis of variance (ANOVA). The results, shown in Table 2, show that femininity ratio varies significantly across both provinces and cohorts, and that these variations are also mutually reinforcing.

Table 2. Two-way ANOVA (by province and cohort) of femininity ratio

Number of obs =		248	R-squared =	0.9890	
Root MSE =		17.0138	Adj R-squared =	0.9126	
Source	Partial SS	df	MS	F	Prob>F
Model	809158.59	216	3746.1046	12.94	0.0000
Province	89754.844	30	2991.8281	10.34	0.0000
Cohort	504300.08	6	84050.013	290.36	0.0000
Province#Cohort	211882.05	180	1177.1225	4.07	0.0000
Residual	8973.5	31	289.46774		
Total	818132.09	247	3312.2757		

Source: China 1% National Population Sample Survey, 2015

Discussion

Having identified these differences, it is first worth exploring how they have come about, before considering their implications. A possible explanation is that this is the consequence of birth control restrictions. It is well known that the Chinese population have been subject to some of the strictest population control measures in the contemporary world (Gietel-Basten 2017; Basten and Jiang 2014). As has been observed elsewhere, these restrictions have been linked to the skewed sex ratios at birth in China which are currently among the very highest in the world (UNPD 2017; Festini and de Martino 2004; Chi et al. 2013). The birth control restrictions were not nationally homogeneous and changed over time (Gu et al. 2007). These, in turn, can be linked to regional differences in the sex ratio at birth (Chi et al. 2013; Ding and Hesketh 2006). However, these skewed sex ratios only began in earnest in the late-1990s, which means that the reverberations of this are only currently to be felt in (relatively) early adulthood. (However, we will return to this point shortly).

There is little relationship between the GDP or HDI of the province and the femininity ratio. At age 70-74, for example, with the exception of the rather special circumstances of Xinjiang province, both the lowest and highest femininity ratios can be found in a mixture of richer and poorer, less and more developed provinces - compare Zhejiang and Anhui with low ratios, and Beijing and Yunnan with low ratios (Smits and Permanyer 2019).

However, as a composite measure, HDI can be critiqued as an inadequate measure of the outcome we are exploring here (Ghislandi, Sanderson, and Scherbov 2019). For a more precise (if still relatively arbitrary and incomplete) indicator of health, for example, we can compare life expectancy with femininity ratios at older ages, using data collected as part of the Subnational Human Development Index (Smits and Permanyer 2019). However, the correlation between these two measures, at least as measured by R^2 , is consistently weak (within a range of -0.314 at age 70-74 and -0.09 at ages 90-94).

Despite this, it is still the most reasonable explanation from a theoretical perspective that differentials over the life course in health and mortality (perhaps coupled with historical attitudes concerning son preference played out through treatment of girls if not through sex selection at birth) is the most likely factor in shaping these ratios in later life. However, in order to explore this properly, it is necessary to examine provincial level life tables and, ideally, cause of death data across the life course. While some sub-national level data do exist - such as certain mortality figures at the county and province level produced by the *Global Burden of Disease* study (Institute for Health Metrics and Evaluation (IHME) 2018), access to the necessary information is not, currently, feasible.

While there is, therefore, some uncertainty about the contribution of various drivers to the observed femininity ratios, we can be more clear about the consequences. As we observed earlier, policies relating to ageing are not gender-blind. In areas such as healthcare, for example, it is very clear that there is a strong differentiation between the needs of older women and older men. Understanding the differences in terms of demand at the regional level is of critical importance for planning purposes. This is especially the case at the oldest ages, where long-term chronic care will be in most high demand. More specifically, we can assert that the demand for particular healthcare services which are more associated with older females will be more keenly felt in some provinces rather than others (X. Li, Fan, and Leng 2018). For example, the greater likelihood of widowhood for women can be associated with loneliness and greater risks of depression and other psychological illnesses (Xu et al. 2019; Jiang, Li, and Sánchez-Barricarte 2015; G. Wang et al. 2011). Beyond widowhood, though, we should be conscious also of the particular stresses upon women as caregivers, especially those in vulnerable circumstances (Zhan

and Montgomery 2003). Other particular diseases which have strong gender biases in prevalence, such as osteoarthritis (H. Du et al. 2005; Zhang et al. 2013), will need specific attention. Approaches to the treatment and management of dementia, which is partly to be associated with the longer span of females, will also need to be more gender sensitive, with higher prevalence among females (K. Li et al. 2018).

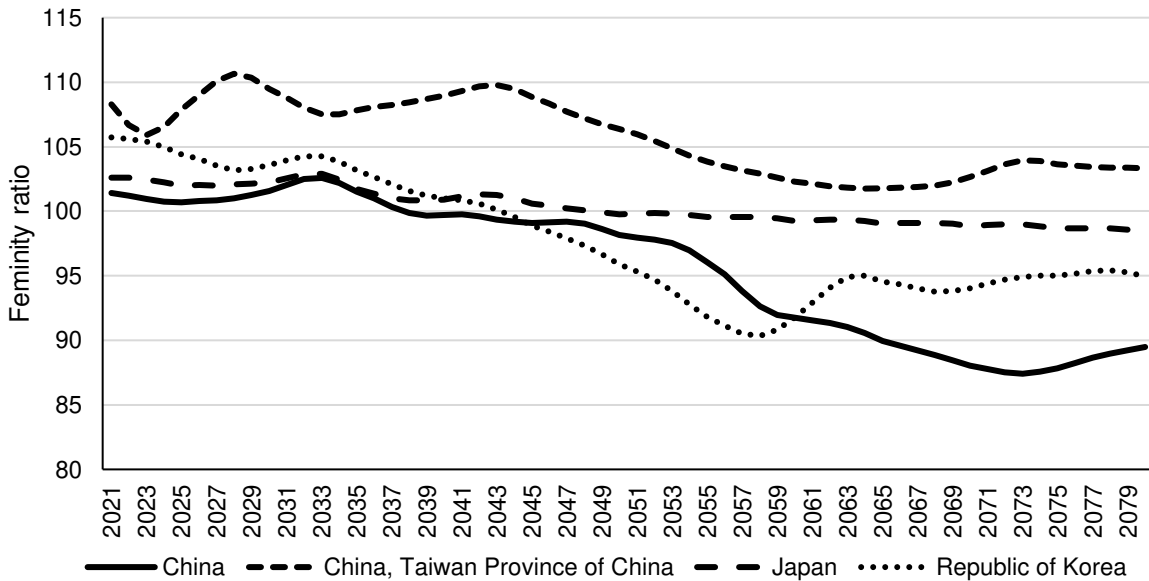
As has been observed before, policies to mitigate the challenges of ageing in the medium-term should also be gender sensitive. In the arenas of active ageing, for example, gender has often been overlooked as an important component in other parts of the world (Corsi and Samek 2011; Foster and Walker 2013). This appears to also be the case in China (D. Wang et al. 2009; P. Du and Yang 2010). In a similar vein, policies to develop and support age-friendly cities and communities under the WHO agenda have also tended to be gender-blind (World Health Organization 2007; Fitzgerald and Caro 2014; Steels 2015), despite the fact it is theoretically supposed to be considered as an important factor (World Health Organization 2007). The age-friendly city agenda has garnered some interest in China (Y. Wang, Gonzales, and Morrow-Howell 2017), albeit at a lower level than in Europe, North America, Australia, Japan and South Korea. Future development of age-friendly communities in China should, therefore, consider the importance of planning for the role of gender (Y. Wang, Gonzales, and Morrow-Howell 2017; Aksi 2018).

A final point concerning mitigation returns us to the point made earlier about the fact that while more women may survive into older age, their experiences are often characterised by ill-health. In order to understand - and mitigate against this - it is, of course, crucial to take a life-course perspective. More precisely, we need to consider whether these gendered differential in later-life health are a result of 'different levels of contact with risk factors, or are they a result of different reactions to the same risk factors' - in other words, are they a result of different levels of *exposure*, or of different levels of *vulnerability* (Population Reference Bureau 2009). As Kaneda et al. (2009) argue from their study of older men and women in Beijing, there is greater support for the *vulnerability* hypothesis.

They conclude that ‘The data on older Beijing residents over a five-year period indicate that men are more likely to die earlier and women are more likely to be dependent later in life largely because of the different ways in which men and women are affected by the same risk factors’ (Population Reference Bureau 2009). This is because ‘Women tend to be disadvantaged when it comes to things like education and other socioeconomic factors. They are also disadvantaged with respect to some psychological factors like feelings of control over their life, or what is often called locus of control. Men are disadvantaged in behaviours, like smoking, and also social support’ (Population Reference Bureau 2009). This conclusion is echoed in various other studies which emphasise the socioeconomic, structural penalties faced by women in China (and beyond) across the life-course. Tackling these inequalities across the life-course, especially as they relate to health, are a key policy priority with regard to the mitigation of gender-specific inequalities later in life (Song and Bian 2014; Yu and Sarri 1997).

Finally, to return to a point made earlier about the history of Chinese family planning restrictions. A curious by-product of the recent history of skewed sex ratios in the country (which have been linked by many to the birth control restrictions (Ding and Hesketh 2006)) is that in the longer term this will almost certainly affect the femininity ratio at older ages. Figure Two represents the latest forecasts from the United Nations *World Population Prospects* (UNPD 2019), which shows that China’s femininity ratio at age 65 will drop to below 95 around mid-century, and to below 90 some years after. In other words, Chinese old age will switch from having a feminine bias to a masculine bias. Without provincial projections (or the underlying data to perform this analysis), it is, however, difficult to predict on a regional level the difference. The results from our exercise, however, suggests that the differences may well be substantial.

Figure 2: Femininity ratio (number of females per 100 males) at certain ages, 2021-2080, selected territories



Source: UNPD 2019. Note: the terms here are those used by the United Nations in their *World Population Prospects*.

This means that, again, when viewing older age through a gendered lens it would be important to consider the specific needs of males as well as females under these changing demographic circumstances. We might also assume that given the concerns about the so-called ‘bare branches’ or ‘excess males’ who may struggle to find a partner in the contemporary marriage market, their *vulnerability* over the life course may well lead to the kinds of adverse outcomes females current face in later life, even if their mortality continues to decrease ensuring a greater chance of survival (Jin et al. 2013; Jiang and Sánchez-Barricarte 2011).

Finally, we conclude with the limitations of our short paper. As observed before, the usual caveat over data reliability must be repeated; whether it be for the specific quality of Chinese demographic data (which, it is broadly agreed, has generally improved over recent times). More precisely, the 1% Sample Survey will inevitably meet with the small number problem, especially at very old ages. However, the very large size of the total Chinese population mitigates against this somewhat. Finally, our analysis has,

necessarily, been at the associational rather than causal level. This is mainly due to the lack of available data upon which a full and comprehensive analysis can be performed.

Conclusions

It is well known that populations around the world - and in Pacific Asia in particular - are ageing, and ageing rapidly. China is no exception to this. While it has been widely agreed that gender is an important lens through which to define and develop appropriate policies for both adaptation and mitigation of the challenges of ageing (Krekula 2007; Arber and Ginn 1991), gender is rarely explicitly taken into consideration as a vector of consideration. In this paper, we have demonstrated for the case of China how when viewing this intersection through a regional lens, the extent to which old age is 'feminised' differs sharply across the country. Taken together, this shows the importance of considering gender both in old-age, as well as inequalities across the life course, in the formulation and development of policies relating to ageing at both the national and the regional level. This is especially important in a country such as China, where provinces and other local governments yield important policymaking powers in certain key areas relevant to ageing.

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