

Ageism among College Students: A Comparative Study between U.S. and China

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Abstract It is often assumed that Chinese people tend to have a more positive attitude toward aging and old age than Americans, due to the cultural generalization of collectivism versus individualism. This study aimed to critically examine this assumption by using first-hand empirical data collected in a Chinese and an American university (standardized surveys and in-depth focus group interviews). Respectively, 980 college students in China and 332 college students in the U.S. were recruited for the standardized surveys; whereas two focus-group interviews in each country (4 participants per group) were conducted to collect more in-depth information. Contrary to the common assumption, this study revealed that Chinese students actually hold more negative attitudes toward aging and older people compared to their American peers. It was also found that females tend to hold more positive attitudes than male students across both cultures, though American female students hold more positive attitudes than Chinese female students. Chinese students' interactions with seniors are often limited to their grandparents whereas American students tend to reach out to non-grandparent seniors in larger communities. Chinese students' more negative attitudes toward aging and older people may be a result of a combination of educational, social, and economic factors—a higher level of age segregation (geographically, socially, and intellectually) and a lack of gerontological curriculum in Chinese educational system, the caregiving burden faced by the one-child generation compounded with lack of governmental support for caregiving, as well as the rising youth-oriented consumerist culture.

Keywords Ageism · Culture · Intergenerational interactions · Age segregation · Gerontological curriculum · One-child generation · Consumerism

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Introduction

Ageism refers to a set of discriminatory or prejudicial beliefs against people because they are old (Bytheway 2005). Compared to sexism or racism, ageism, the third great “ism,” has not been studied widely and intensively, although it is prevalent and could potentially confine those in old age. As more and more countries are facing the challenge of population aging, with increasing percentage of older people in their societies, ageism has gradually become an important issue for scholars and public policy makers. Ageist attitudes, internalized by an older person, can have a detrimental effect on the physical and psychological wellbeing of the individual, which includes but is not limited to self-prejudice, low self-esteem, depression, or even suicide (Butler 1980; Levy 1999). On a societal level, ageist attitudes can negatively impact social behaviors and institutional treatment toward the elders, such as differential treatment from physicians and discriminatory hiring procedures against older applicants (Barth et al. 1995; Robb et al. 2002; Sterns and Stearns 1995; Williams 2000).

Ageism has been found to be widespread among Western countries across all age groups—children as young as 4 years old, professionals who work with aging population (such as health care workers), and even elders themselves. According to Palmore (2004), 72 % of American elders and 68 % of Canadian elders reported some level of personal or institutional discrimination. Among all age groups, studies have consistently shown that ageist attitudes are most prevalent and negative among college students, mainly due to various stereotyped images of old age acquired from media and lack of interactions with elders (Gellis et al. 2003; Kimuna et al. 2005).

For this particular study, the authors chose to investigate college students’ attitudes toward the older populations in U.S. and China. China and U.S. are both facing the challenge of caring for the large aging populations. However, the pace of population aging, the level of old age support, and the cultural background are different, which could lead to contrasting attitudes toward the old. Being an individualist nation, the American culture focuses on self-centered satisfaction and interest as well as freedom and individuality (Wang and Mallinckrodt 2006). Despite the increasing older population, American culture is increasingly youth-oriented and seems to be negative toward the elders (McConatha et al. 2003; Barak et al. 2001). In contrast, Eastern cultures like China are collectivism-oriented, which place a strong emphasis on honoring and supporting older people, committing oneself to family obligations, interdependence, and self-sacrifice (Markus and Kitayama 1991; Cuddy et al. 2005). The most evident example of China’s veneration tradition is the Confucian practice of filial piety, which involves strict scripts on children’s obligation to care for their aging parents physically, emotionally, and financially (Fairbank et al. 1978; Johnson 1983; Liu 1959; Elvin 1984; Zhan 1996). Derived from such generalization about the two cultures, it is often assumed that Chinese people tend to have a more positive attitude toward the old, in contrast to the prevalence of ageist attitudes among the U.S. population.

However, such generalization merely based on cultural traditions fails to capture other social and economic forces, which may shape people, especially young college students’ attitudes toward the old. Contrary to the comprehensive elder care welfare system in the U.S., (e.g., the Social Security, Medicare, and Medicaid programs) which facilitates the elderly parents to be at least financially more independent, Chinese government does not provide sufficient support to the majority of its aging population, especially those reside in rural areas.¹ Consequentially, most

¹ Although social welfare programs to address the aging population’s needs are under-developed, Chinese government provides a certain level of pension and health care coverage for most of its urban population, and is now making an effort in extending the coverage to its rural population.

of the elder care responsibilities continue to fall on to the shoulders of the adult children, including the one-child generation. As a matter of fact, by law, children hold legal responsibility to care for their aging parents.² This one-child generation, once getting married and having their own children, are currently facing or will be confronted with the “sandwich” situation, where they have to take on the task of caring for the children as well as their aging parents of both sides. Several questions arise. Do today’s college students in China feel culturally willing to care for the parents, or do they feel aversion toward such pressure and obligations? Will this important socioeconomic reality play a role in shaping young college students’ view of older people?

Thus, the goals of this study are two-fold. First, the authors attempt to use first-hand empirical data to test the assumption derived from the generalized perception of Chinese and American cultures: whether Chinese students have more positive attitudes toward aging and older people than American students. Second, the study aims to reveal the social and economic factors that account for the differences or similarities besides cultural factors.

During the past decade, scholars have become increasingly interested in conducting cross-cultural studies to understand ageism from a comparative perspective. Studies have observed mixed findings. While the majority of previous research suggests that western cultures hold much more negative attitudes and beliefs about elders than eastern cultures (Levy and Langer 1994; Yoon et al. 2000), more recent findings suggest that the two may not be so different (McConatha et al. 2004). Cuddy et al. (2005) conducted a cross-cultural analysis of individualistic and collectivist cultures and found that collectivist cultures, such as Israel, Thailand, Japan, and Turkey, consistently saw older people as “warm but incompetent” just as much if not more than individualistic cultures. In fact, some researchers now suggest that eastern cultures may be *more* critical and negative toward elders than western cultures, especially with the changing environment of rapid economic growth, urbanization, and thriving consumerism, which is anti-aging in nature. Yun and Lachman (2006) found that young people in South Korea had more anxiety about aging and greater fear of older people than Americans. According to Harwood et al. (1996), when comparing subjects from Asian cultures (Hong Kong, South Korea, Philippines) with those from Western cultures (Australia, New Zealand, and the U.S.), findings suggested that people from Asian cultures did not necessarily hold more positive attitudes toward old age than their Western counterparts. In fact, participants from Hong Kong showed the most negative attitudes toward aging overall. Some may suggest that Hong Kong is more westernized than mainland China due to its long history of colonization by the British. The results in mainland China may be more aligned with the Confucian tradition, which suggests a more positive attitude toward the old.

In addition to examining cultural differences, this study will also assess the role of age, gender, and interactions with elders in shaping college students’ attitudes toward the old in both U.S. and China. Review of past research in the U.S. has demonstrated that young people have more negative beliefs about older people than elders themselves (Anderson 1999; O’Hanlon and Brookover 2002; Stuart-Hamilton and Mahoney 2003). As indicated earlier, college students in their late teens and early 20s, held the most negative ageist attitudes (Gellis et al. 2003; Kimuna et al. 2005). Male college students were found to show more ageist attitude toward the old than female students (Fraboni et al. 1990; Kalavar 2001;

² The constitution of 1954 stated that “parents have the duty to rear and educate their minor children, and the adult children have the duty to support and assist their parents.” In 1980, the penal code of 1980 decreed that children can be imprisoned to a maximum of 5 years for neglecting their parents. In 1996, CCP passed *Law For the Protection of Elders’ Right* (China Law Education Website, 2011), which officially and legally spelled out adult children’s obligations to respect and take care of their aging parents physically, financially, and emotionally. The law formally regulated adult children’s provision for aging parents in terms of housing, medical care, property protection and so on.

Rupp et al. 2005). Last but not least, studies have clearly pointed out that the rampant stereotypes about the old are largely due to lack of interactions with the elderly population (Gellis et al. 2003; Kimuna et al. 2005; Kalavar 2001; Knapp and Stubblefield 2000; Rupp et al. 2005). Ageism is often originated from an individual's lack of understanding about aging and old age. Thus, more interactions may suggest a more positive attitude toward the old. It is also commonly acknowledged that the only seniors whom college students interact with are most likely to be their grandparents (Gellis et al. 2003; Kimuna et al. 2005; Kalavar 2001; Knapp and Stubblefield 2000; Rupp et al. 2005). However, considering that interactions with one's own grandparents may not be sufficient to shape a positive attitude toward the old, for this study, we will also assess the interactions with non-grandparent elders.

Method

Both quantitative and qualitative methods were used to gain a comprehensive understanding of the research questions. For the quantitative part, two versions of a standardized survey were given to the respondents in the U.S. and China. The goal was to conduct an objective comparison between Chinese and American college students' attitudes toward the old. For the qualitative part, the authors organized four focus groups to conduct the data collection. The goal was to enhance findings from the quantitative section by providing a contextual understanding and explanations. The data collection in the U.S. was conducted in English whereas the data collection in China was conducted in Chinese and then back translated into English for the purpose of manuscript writing. It is necessary to point out that three of the authors of this project are bilingual—fluent in both Chinese and English. Consensus upon language usages were reached between at least two of these three bilingual researchers to ensure appropriate translation of the quantitative survey data and interpretation of the qualitative interview data.

Quantitative surveys

In the U.S., we used a convenience sample of 332 college students at a regional public university at the Pacific Northwest, a campus with approximately 15,000 students predominantly Caucasian students (79 %). The campus, situated in a city of 80,000 people, has a close relationship with local communities of various age groups. In China, we used a convenience sample of 980 college students from a large public university in southwestern province of Sichuan. This campus, with approximately 24,000 students, is situated at the heart of the metropolitan city of Chengdu which has a population of 14 million. Both datasets were collected in 2011. For the U.S. sample, 74.1 % were female and 25.9 % were male. The average age of the respondents was 21.7 years old. 42 % of the U.S. students were in their senior year of college. For the China sample, 64.2 % were female and 35.8 % were male. The average age of respondents was 22 years old. Similarly, 42 % of the Chinese students were in or above their senior year of college. It is important to note that because both samples were recruited from social science majors—traditionally female-dominated disciplines, a higher percentage of female than male students were found in both samples. However, due to its similarities in gender, age, and educational compositions, the authors believe that these two samples were appropriate for comparison.

Dependent variable Attitudes toward older people were measured using the Fraboni Scale of Ageism (FSA), which allows a multidimensional assessment of ageism (Fraboni et al.

1990). There are 29 items in FSA representing three levels of prejudice: “antilocution (mere antipathetic talk), avoidance (avoiding members of the disliked group), and discrimination (excluding members from certain political rights, privileges, employment, educational or recreational opportunities, types of employment, residential housing, etc.)” (Fraboni et al. 1990, p.57). Ten items are used to define antilocution; nine are used to define discrimination; and ten are used to define avoidance. Past research (Fraboni et al. 1990) and the US dataset for the present study have both shown that FSA has adequate reliability (Cronbach α coefficient =0.86). For the survey used in China, most of the 29 items in FSA were applicable except one item—“most old people should not be allowed to renew their driver’s licenses.” It was revised as “most old people should not be allowed to obtain a driver’s license” since driving is a relatively new social phenomenon in China and it is rare to see seniors to obtain driver’s licenses. Some meanings may be lost due to untranslatable cultural connotations embedded in the languages. It is important to note that this is the first time to use FSA in China. However, the dataset collected in Sichuan showed that FSA has adequate reliability in China as well (Cronbach α coefficient =0.78).

For both datasets, the 29 items were scored from 1 (strongly disagree) to 5 (strongly agree). Some items were written in negative tunes while some were written in positive tunes. For the ones that were written in negative tunes, the direction of the measurements was reversed to create one single dependent variable—Attitudes Toward Older People. The minimum score is 29 (the most negative) and the maximum score is 145 (the most positive). Once a common dependent variable was created in each dataset, the two datasets were merged into one single dataset by creating a new independent variable of nationality to differentiate cases in order to conduct cross-cultural comparisons.

Independent variables Basic demographic background information, including nationality, age, gender, and which year in college, was collected in both countries. For nationality, “China” was coded as 1 and “the U.S.” was coded as 0. Age was used as a continuous variable. For gender, female was coded as 1 and male was coded as 0. For year in college, senior and above (graduate programs) was coded as 1 and junior and below was coded as 0. The students were also asked to mentally picture an old person and identify the age of the person. Old Age was treated as a continuous variable. To measure students’ interactions with older people, three questions were asked—whether they lived with grandparents, frequency of interaction with grandparents (1 to 10), and frequency of interaction with non-grandparent elders (1 to 10). For “lived with grandparent,” yes was coded as 1 and no was coded as 0. For frequency of interactions with grandparents, a dichotomous variable (High Interaction with Grandparents v.s. Low Interaction with Grandparents) was created with that people who reported a score of 6 or above were coded as 1 and those scored 5 or below were coded as 0. Similarly, for frequency of interactions with non-grandparent elders, a dichotomous variable (High Interaction with Non-Grandparent Seniors v.s. Low Interaction with Non-Grandparent Seniors) was created with that people who reported a score of 4 or above were coded as 1 and those scored 3 or below were coded as 0.³

³ As noted above, two variables—interaction with grandparents and interaction with non-grandparent seniors were converted from scale variables to binary variables. The rationale of such adjustments is the low variations within the variables across scales when initially descriptive data analysis was conducted using the 10-scale measurement. Theoretically, it became more meaningful to recode the variables to dichotomous variables to better capture the variations within the variables and thus better predict the dependent variable. It might be that the respondents had a difficult time to quantify these rather abstract concepts and gauge the distance between different scales (e.g. between 6, 7, and 8).

Qualitative focus groups

In each country, two focus groups were interviewed in 2011. Sample from the U.S. was a subsample from the quantitative survey. Students who participated in the survey were asked to join a more in-depth focus-group interview once they finished the survey. The participants were asked to leave an email address in the end of the survey if they were willing to be contacted for a follow-up focus-group interview. Out of the 332 respondents, 21 of them left their email addresses, only 12 of the respondents responded to the email, and only 8 of them were able to attend the focus group interviews at scheduled time framework. Each focus group consisted of 4 members—2 females and 2 males. The average age for the US focus group sample was 22. Five of them were in their junior year; two were seniors; and one was a sophomore. The two focus groups gave students the opportunity to explain more thoroughly the hows and whys behind their answers in the survey. These interviews were conducted in English.

Sample from China, however, was not a subsample from the quantitative survey. In other words, students who participated in the focus group interviews did not participate in the survey. Each Chinese focus group also consisted of 4 members—one group with 1 male and 3 females and another group with 2 males and 2 females. Same as the U.S. sample, eight students were interviewed in China. The first author of this article was invited to give a 3-week course on global aging at the Chinese university in Chengdu during the time of the study. The respondents were recruited through this seminar course. The average age was 23. One of them (female, aged 26) was in graduate program; the rest were in their undergraduate programs (2 seniors; 2 sophomores; 3 juniors). To protect the privacy of the participants, pseudonyms were chosen for each of them throughout the entire process of data analysis and manuscript writing. These interviews were conducted in Chinese by the first author. Each focus group interview lasted for 1.5 to 2 h. The interviews were semi-structured with a series of open-ended questions that explored the participants' definition of old age, interactions with older people, and attitudes toward older people. Each interview was audiotaped and transcribed. Line-by-line thematic content analysis was then conducted on the detailed transcriptions. Among the three authors who participated in the data analysis process, each reviewed the transcribed data line by line and then created a list of the codes on her own. The three authors then met and formulated a list of codes that all three of us would agree upon through extensive discussions. Once we agreed upon the list of codes, we immediately started looking for the linkages between the codes to look for major themes. Finally, referencing findings from the quantitative analysis, we further explored the linkages between the themes to develop a coherent framework to answer our research questions. We would like to specifically point out that to minimize potential missing meanings due to translation, the data collected in China were transcribed and initially coded in Chinese. It was not until the major themes were discovered that the according quotations were finally translated back to English.

Survey Results

Table 1 presents the descriptive results. American students considered a higher chronological age as “being old.” American students used age 74 as the marker for old age; whereas Chinese students used age 71. Interestingly, the age defined as “being old” by students from both countries were much higher than the official retirement age in both countries (US: 65; China: 55/60 for male and 50/55 for female⁴). It is surprising to find that about 88 % of American

⁴ A Chinese person may retire at different ages depending on two factors—whether he/she works for the government and the types of work (office-based job or labor-based job).

Table 1 Descriptive results of dependent and independent variables

Variable	US		China		Total	
	M	SD	M	SD	M	SD
Age	21.7	2.64	22.0	1.99	21.9	2.17
Gender (Female)	.74	.44	.64	.48	.67	.47
College year (Senior)	.42	.50	.42	.49	.42	.49
Lived with grandparents	.88	.33	.18	.39	.36	.48
Interaction with grandparents	.36	.48	.47	.50	.44	.50
Interaction with non-grandparent seniors	.52	.50	.40	.49	.43	.50
Old age	74.0	7.67	70.9	7.89	71.69	7.94
Attitudes toward older people	119.65	11.40	106.02	11.5	108.75	12.77
Antilocution	37.19	4.59	32.43	4.99	33.62	5.30
Discrimination	37.66	4.11	33.13	4.98	34.04	5.15
Avoidance	37.56	4.61	33.78	4.67	34.65	4.92

students reported they have lived with their grandparents; compared to only 18 % of Chinese students. However, it was found that Chinese students (47 %) were more likely to interact with their grandparents than American students (36 %). American students (52 %), on the other hand, were more likely to interact with non-grandparent seniors than Chinese students (40 %). Most importantly, results showed that American students on average scored 112.79 on their attitudes toward older people, which was much higher than their Chinese counterparts who only scored 99.35. Specifically, Chinese students scored lower than American students on all three dimensions (antilocution: 32.43 vs. 37.19; discrimination: 33.13 vs. 37.66; avoidance: 33.78 vs. 37.56). In other words, contrary to the assumption derived from the comparison between China's collectivist culture and America's individualist culture, Chinese students actually hold more negative attitudes toward older people than their American peers.

To further explain how age, gender, and interactions with seniors impact students' attitudes toward older people, ordinal linear regressions were used in sequence. Table 2 presented results from four regression models. In model 1, only nationality was added as independent variable. In model 2, we then added control for three demographic background variables—age, gender, and college year. In model 3, we added control for variables related to definition of old age and interactions with grandparents and non-grandparent seniors. In model 4, six interactions were added to the model to obtain more thorough explanations about the variances in the dependent variable. According to Table 2, Model 4 explained the most variance in the dependent variable ($R^2=.25$) compared to the other three models.

Echoing results from the descriptive analysis, Chinese students scored significantly lower than their American peers on their attitudes toward older people, based upon results across all four regression models. Not surprisingly, female students scored higher than male students; more interestingly, interaction results showed that Chinese female students score lower than American female students ($b=-.556^{**}$). Interactions with grandparents have a positive impact on attitudes toward aging. Similarly, interactions with non-grandparents have positive impact on attitudes toward aging. However, such impact is much less on Chinese students than on American students, according to the interaction effect ($b=-4.88^{**}$).

Table 2 OLS Regressions on attitudes toward aging and older people

	Model 1		Model 2		Model 3		Model 4	
	<i>B</i> (<i>SE</i>)	β	<i>B</i> (<i>SE</i>)	β	<i>B</i> (<i>SE</i>)	β	<i>B</i> (<i>SE</i>)	β
Constant	119.61*** (.81)		117.46*** (4.91)		103.48*** (5.75)		106.66*** (9.54)	
Nationality (China)	-13.69*** (.90)	-.42	-13.53*** (.90)	-.42	-13.48*** (.90)	-.42	-19.29* (9.09)	-.60
Age			.07 (.23)	.01	.10 (.22)	.02	.14 (.22)	.02
Gender (Female)			2.46** (.76)	.09	2.42** (.75)	.09	6.92*** (1.76)	.26
College year (Senior)			-2.03* (.87)	-.08	-2.08** (.85)	-.08	2.95+ (.1.63)	.12
# of living grandparents					.15 (.21)	.02	.15 (.20)	.02
Lived with grandparents					-1.22 (.96)	.04	-1.24 (2.40)	-.04
Interaction with grandparents					3.19*** (.74)	.13	3.61** (1.72)	.14
Old age					.14** (.04)	.09	.001 (.11)	.001
Interaction with Non-grandparent seniors					1.16+ (.74)	.05	4.99** (1.64)	.20
China*Female							-5.56** (1.93)	-.22
China*College year							-6.26*** (1.77)	-.23
China*Lived with grandparents							3.03 (2.62)	.111
China*Interaction with grandparents							-.66 (1.91)	-.03
China*Old age							.18 (.12)	.40
China*Interaction with Non-grandparent seniors							-4.88** (1.83)	1.18
R-Square	.18		.19		.22		.25	

*** $p < .001$; ** $p < .01$; * $p < .05$; + $p < .1$

B unstandardized coefficient, *SE* standard error, β standardized coefficient

Focus Group Results

The major findings from the quantitative analysis posed an interesting question: why did Chinese college students from a collectivist culture which emphasizes veneration toward the old hold more negative attitudes, in comparison to their American peers who were raised and immersed in an individualistic society? Results from the four focus group interviews may provide some valuable insights to explain such seemingly surprising findings.

Chinese students' remarks on the status of seniors echoed the quantitative results. All of the eight Chinese students described the declining senior's status in China nowadays. For instance, Tao⁵ (23, male, senior) said:

Older people nowadays are tossed to the edge of the society. Although they might have been productive and contributed to the society in the past, they were very much disregarded [by our society] now. Indeed, this is a new era. It is about technology and new ideas. It is about the young people.

In contrast, when asked about their opinion of older people in the U.S., the American students overwhelmingly mentioned the high level of respect they held for the seniors.

I feel like they always have something interesting to say and I always try to extract a little bit of wisdom from older people I suppose. (John, 22, junior)
I just have a lot of respect for them (Kat, 22, junior).

So, what can we find about the explanations? Since a simple cultural comparison (collectivism vs. individualism) could not support our findings, we may need to expand our vision to look for explanations from other realms of society, in particular, social and economic contexts. Results from the focus group interviews allowed us to understand how students' attitudes toward the old are constructed within a more complex socioeconomic context. Several themes, with implications of such complex contexts, emerged from the qualitative data.

First, Chinese college campuses are much more age segregated than American college campuses. As a result, Chinese students tend to have a lack of interaction with non-grandparent seniors than their American peers. In Chinese universities, due to its standardized system of education and strict age roles, it is very rare to see the presence of students above 30 years old, not to mention seniors who are in their 60s and older. However, in American universities, it is not uncommon to see non-traditional students in all age groups interacting with traditional young college students.

Furthermore, the focus group data also showed that American students were encouraged to be engaged in off-campus communities; whereas Chinese students were mostly isolated from communities outside school. As a matter of fact, most of the Chinese students are required by the universities to live on campus dorms, which greatly limit their opportunity to interact with people of different ages in the society. One Chinese student, Ting (21, female, junior) commented that her parents and teachers would consider her activities off campus as a waste of time that would pull her away from academic pursuit. On the other hand, American students commented on how meaningful and inspiring to be able to engage in off-campus communities. Julie (22, female, junior) said "you learned so much more off campus than sitting in a classroom taking notes and tests." None of the Chinese students

⁵ All names of the quoted in this section were pseudonyms to ensure confidentiality of the participants.

were involved in any senior facilities whereas 3 out of the 8 American respondents volunteered or worked at senior facilities. Kat showed great passion when talking about her experience of working with seniors:

I think they're fascinating, I really do. I absolutely love talking to them and it's—it's a whole different level when I... it's like a break to me to like stop my studying, stop talking to all my friends, I leave my phone in the car and I go into the building for an hour and a half to 2 h and I just do what I need to do with them and I walk out and I feel so much better (Kat, 22, female, Junior).

Similar to the results from the quantitative analysis, Chinese students considered most of their interactions with seniors to be limited to their grandparents or other family members. One male Chinese student, Ding, 23, graduate student, made a thoughtful comment on the collectivistic orientation among Chinese people:

I have heard that many Americans volunteer at their leisure time. I just don't see that Chinese people would be willing to donate their time and work for free for someone outside their families. Chinese people are actually pretty selfish. They are giving and loving, but only to their own family members...not to people outside the family. You know, I think, China's collectivism is very narrow and limited.

It is possible that the limitation of China's family-oriented collectivism hindered Chinese youths' interactions with non-family seniors. As a result, such a lack of interaction may contribute to Chinese students' more negative attitudes toward the old. Other comments from the Chinese students suggest that the demographic and economic transformation occurring in China also contributes to their negative attitudes toward the old. It is important to note that the Chinese participants for this study were all born after 1979, the year China enacted the One-Child Policy. As mentioned in the beginning of the article, Chinese government has not developed a comprehensive elder care welfare system to care for its aging population. Many young people are facing or will be facing the pressure of taking care of their elderly parents without support from siblings or extended families. Such a pressure is on top of many other stressors such as the increasing competition in the arena of education or employment, rising housing price, and inflation. All eight Chinese students made some remarks on how stressed they were about their family responsibilities.

I feel so burdened from all aspects of my life right now. We are house slaves. So much of our income goes to the house. We are planning to have a child. But everything is so expensive. The inflation rate is crazy...100 yuan bill can barely buy anything...a couple jin of grapes, one bottle of cooking oil, then it's gone. We try to help our parents. My parents have some pensions, but my husband's parents are from the countryside. They want to eventually move to the city and live with us. I don't know what we are gonna do. I don't want to live with in-laws at all. But what can I do? We cannot afford another house. In general, I think older people are more and more considered as burden than anything else. Respecting elders is a slogan. Most young people I know think they are burdens. (Qing, 26, female, graduate student)

Such an overwhelming level of perceived stress of caregiving may be one crucial factor leading to Chinese students' more negative attitudes toward the old. In Liang et al. (2012)'s recent comparative study on happiness among three East Asian countries, all of which share

the cultural inheritance of Confucianism, caregiving responsibility was found to be negatively associated with perceived quality of life only in China, not in Japan or Korea. Perceived caregiving responsibility, influenced by the dramatic demographic change (e.g., family size, living arrangement) in China, as well as both traditional beliefs and modern practices of filial piety, seems to play a major role in shaping college students' attitude toward older people. This kind of stress was not evident among American students' focus group interviews, although two of the female students did mention about their willingness to care for their parents when the time came.

Results from the focus group interviews may also provide implication for another important finding from the quantitative analysis—Chinese female students held more negative attitude toward old age than American female students. Echoing research findings from South Korea by Yun and Lachman (2006), we found higher levels of overall anxiety about aging among Chinese women compared to American women. A Chinese female student commented on the importance of having a youthful appearance for them to compete on the markets of marriage and career. Ting said:

You know, the slang, men of 40 years old are like flowers whereas women of 40 are like tofu residue. I think all the women, around my age, are trying to keep their youth as long as possible. There is just so much pressure in terms of having a good and young appearance for women, either for your marriage or career. We are very afraid of getting old.

In contrast, an American student Fiona, 26, female, took a more positive and naturalistic approach to aging:

I just think about when I get to a certain (age) 30, 40, 50, what have I accomplished and am I happy with where I'm at, so at like 30 you know after I have my BA which I will, um where will I be, what will I be doing, types of things, I think about that, I just don't think of it as like when I'm 80 this is what I'm gonna be like.

Although the emphasis on youth-oriented beauty seems to be more influential in the Western modern culture compared to the traditional Eastern culture, under the overwhelmed global impact of consumerist media focusing on the pursuit of a forever youthful body, young people today might have an illusion of aging and old age without access to sufficient knowledge. The consumer culture in modern society, along with the flourishing anti-aging industry, has shrouded the humanist meaning of old age and created an illusion of agelessness, which is, in fact, ageist in nature (Liang and Luo 2012). The contrasting responses described above might suggest a role of gerontological education in fighting against ageism—how education can dissolve misunderstandings and change stereotypes—in a society where population aging has become a challenge socially and culturally.

Discussions

In summary, contrary to the conventional assumption, this study revealed that Chinese students hold more negative attitudes toward aging and older people compared to their American peers. Similar to findings from previous studies, this study confirmed that females tend to hold more positive attitudes than male students across both cultures (Fraboni et al. 1990; Kalavar 2001; Rupp et al. 2005). Interestingly, American female students hold more positive attitudes than

Chinese female students. As expected, high level of interaction with seniors can result in more positive attitudes toward the older population, although Chinese students' interactions with seniors are often limited to their grandparents whereas American students tend to reach out to non-grandparent seniors in larger communities. Interactions with non-senior grandparents may play an important role in reshaping young students' ageist attitudes.

The focus group interviews provided a meaningful contextual understanding of the findings from the quantitative surveys. Chinese students' more negative attitudes toward aging and older people may result from a combination of cultural, educational, demographic, social, and economic factors. First, Chinese higher education system imposes a higher level of age segregation than American system. Not only are Chinese students geographically separated from seniors in the society, they are also intellectually and socially isolated from the larger communities off campus. The extreme emphasis on on-campus academic pursuit may hinder age integration and thus may foster the prevalence of ageist attitudes among the young students. Second, similar to many other developing countries, aging is relatively a new phenomenon in China compared to the United States. A lack of or underdeveloped gerontological curriculum might prohibit the students' understanding of aging and older people. Most of the students in the U.S. have the option to sit in a class on aging, yet no such curriculum is available except for gerontology majors in very few Chinese universities.

Third, with China currently undergoing the rapid demographic and economic transformations, combined with the long-term effect of One-Child Policy and lack of government support, the young one-child sandwich generation is facing a tremendous amount of pressure of caregiving, which could foster a negative view of the seniors, seeing them as burdens. Last but not least, Chinese women's more negative attitudes toward old age and aging may be explained by the impact of globalization and the rising youth-oriented consumerist culture that overemphasizes the hegemonic feminine beauty.

These results bring to mind past studies suggesting that the Confucian culture of filial piety may not necessarily buffer against ageism in Chinese society. Numerous scholars asserted that while the specific ways of practicing filial piety may have changed over time due to socioeconomic transformations (e.g. family structure and living arrangements), younger generations in China and other Asian societies still show strong obligations and willingness to care for the elders (Yun and Lachman 2006; Zhan 2004). However, beliefs and practices of filial piety may not necessarily translate into a more positive attitude toward aging and older people. Echoing findings from previous studies, although the young generation may continue to fulfill their filial *obligation*, their views of aging and older people may nevertheless remain negative—showing fear and anxiety over growing old and perceiving older population as burdens (Barak et al. 2001; Harwood et al. 1996; Yun and Lachman 2006). Culturally imposed obligations, combined with lack of social support, impact of globalization and consumer culture, misunderstanding of aging due to the lack of gerontological education, and insufficient interaction with older people, may trigger resentment, rather than respect toward the old, among the young.

Regardless of the differences in culture, political and economic structures, as well as historical and social contexts, both China and the U.S are facing the demographic change and the challenge of taking care of their aging populations. Ageism, which could be held on both individual and institutional levels, is detrimental to the wellbeing of the older population. According to Butler (1980), ageism can encourage unfair treatment toward the elderly individuals and prevent the formation of social policies that address the need of the seniors on an institutional level. Thus, it is important to address the prevalence of ageism and take actions to counter prejudicial attitudes toward the old among the young college students, who will soon become the main workforce to support the aging populations in both countries.

Scholars have suggested several solutions on an institutional level, which include reducing stereotypes against old age and aging on media, promoting activism that unites all generations (such as the Gray Panthers, www.graypanthers.org), and most importantly, increasing students' knowledge of aging through formal education. Since this project focuses on college students, we would like to make several suggestions as to what the educational system in both countries can do to help reduce ageism. Both Chinese and American universities need to promote age integration by not only enrolling students of different ages but also promoting off-campus community activities with seniors. One approach, which has been proven to be consistently effective, is to use innovative teaching strategies such as service-learning. Service learning is an educational method in which students engage in organized service designed to meet the needs of the community. The academic curriculum is infused with opportunities for students to provide meaningful service to a community agency and then to reflect on the service experience via personal journals and classroom discussion (Westacott and Hegeman 1996). Through ongoing and planned interactions between younger and older adults, service learning has been proven to be an effective way to increase knowledge of the aging process and debunk myths and stereotypes regarding aging and older adults (Knapp and Stubblefield 2000; Cottle and Glover 2007). The first author of this article has conducted a service-learning course on Aging in America by sending students to local senior activity center to provide services that promote elders' wellbeing. Based upon assessment before and after taking this course, it was evident that students' attitudes toward the older people have improved significantly. Compared to American universities, Chinese universities may have an even longer way to go in terms of promoting gerontological education.

Limitations and future directions

This study used two convenience samples and most respondents from both samples were female students. Therefore, results may not be generalizable to a larger population with a more balanced gender ratio. Another limitation is that academic major, was not controlled in the quantitative survey, since much of the variation in gender might be explained by major choices of the respondents. It is also worth mentioning that the proportions on the female samples were different in both countries (74 % in the U.S. vs. 64 % in China), which might have skewed the results slightly. In addition, the authors realize that the limitation of using a scale (FSA) developed in western societies to examine social phenomenon in a different cultural context—the items in the scale may not be inclusive enough to cover all dimensions of ageism in Chinese culture. However, we believe such an adoption is applicable (as reflected in the high α coefficient) and valuable, especially considering the lack of research on ageism in China. The inclusion of a follow-up qualitative in-depth interview may be able to add some of the cultural contexts that the FSA scale failed to capture. This study also suggests some interesting topics for future research agenda in China, such as socio-structural factors and ageism, body image and aging, impact of popular media on the societal attitude toward old age and older people, the role of gerontological education, and intergenerational relationship.

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