

Knowledge and Attitudes on Working with Older Adults: A Comparison between US and China

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Abstract

Current research suggests that ageism among students and health professionals can lead to negative impacts on aging and quality of care for older adults. The purpose of this study is to examine knowledge and attitudes towards older populations among undergraduate health students in a US university and early career community health workers from China. Other predictors of attitude such as age, gender, and having a close relationship with an older adult were also examined. The survey method was used to understand the knowledge and attitudes of undergraduate health students and public health workers from China on working with older adults. The questionnaire measured factors affecting attitudes toward older people, knowledge of ageing issues, demographics, such as students' personal characteristics, and levels of exposure to older adults. Results show that both groups scored relatively low on the knowledge of aging issues scale and on the attitude toward older adult scale indicating a gap of knowledge and negative attitudes toward working with older adults. While Chinese early career health workers were over three times more likely to indicate having a close relationship with an older person through their work, they scored significantly lower on the knowledge of aging issues scale and had only equivalent attitudinal scores to US Students. The findings highlight an urgent need for professional development and strengthening of the existing curriculum to help students and early career health workers better serve the aging population.

Introduction

Ageism in Healthcare

Ageism has become an important issue for both researchers and policymakers, due to the global challenges posed by increasing aged populations. Negative attitudes towards older persons can have a detrimental effect on the physical, mental, and social well-being of individuals, which, according to some researchers [1-3], can lead to health issues such as low self-esteem, depression and even suicide. At the societal level, ageist attitudes can negatively impact social behaviors and the ways that older people are treated by institutions, such as discriminatory hiring procedures against older applicants [4-7].

The ageism has also manifested in the healthcare system and is on the rise [8], prompting a proliferation of studies in the last decade. For example, research suggests that students entering the health professions have knowledge deficits regarding aging and

lack positive attitudes toward older people [9], with relatively few expressing an interest in working with older clients. Similar biases have been documented among health care workers including nurses, nursing students, medical students and direct care workers [10,11].

The presence of ageism among healthcare workers is troubling given the documented association between ageism and poor patient outcomes. For instance, stereotypical attitudes towards older people often serve as a barrier to forming effective therapeutic relationships with older adults [12]. Negative attitudes towards older populations have led to secondary effects in the provision of care as well as clinical interaction [8]. Unfortunately, ageist stereotypes continue in the healthcare sector, despite evidence that older adults are often as capable as their younger counterparts [13].

Fortunately, research has shown ageist attitudes to be a modifiable factor among healthcare workers stemming from lack of knowledge about and lack of interactions with this population

[14-18]. As a result, structured interactions with older populations have shown promise as an intervention to combat ageism. For instance, experience with older adults has been shown to positively influence attitudes towards older populations [19-21], while educational interventions like gerontology courses have been documented to improve students' knowledge and attitudes [22-24].

International Ageism

The challenge of caring for an increasingly aged population is a problem faced both in the U.S. and in China. However, the pace of population aging, the level of old age support, and the cultural context experienced in the two countries differ greatly, which could lead to contrasting attitudes toward the old. For example, being an individualist nation, the American culture focuses on personal satisfaction, self-interest, freedom, and individuality [25]. As a result, despite the country's increasingly older population, American culture has become progressively more youth-oriented while negative attitudes toward older people have proliferated [26,27]. Despite the rise in negative attitudes toward older people attitudes are far from homogenous, with disparities emerging by both age and gender [14-16,28-31]. For instance, in the U.S. younger people have been found to express more negative attitudes towards older people [28-30], a phenomenon that peaks in the youths' late teens and early 20s [14-15]. Attitudes towards older people also appear to vary by gender, with male college students showing more ageism than female college students [16,31].

In contrast, Eastern cultures like China, which are collectivist-oriented, place a strong emphasis on honoring and supporting older people, committing oneself to family obligations, embracing interdependence, and accepting self-sacrifice [32]. One evident example of China's reverence tradition is the Confucian practice of filial piety, which involves children's obligation to care for their aging parents physically, emotionally, and financially [33-37].

In addition, government policies in China have contributed to, at times, conflicting perspectives about older populations. For example, the Law for the Protection of Elders' Right in China establishes that children are legally responsible for the physical, financial, and emotional care of their aging parents [38]. The law formally regulated adult children's provision for aging parents' housing, medical care, property protection, and so on [18,31]. Despite China's codified responsibility for children to care for their elderly parents, its one-child policy has strained families' ability to provide such care. Implemented between 1979-2016 to slow down population growth, the policy significantly reduced China's population growth rate and fertility rate [39]. However, the decline in population growth also resulted in a dramatic shift to a 4:2:1 family configuration, which refers to a typical household consisting of four grandparents, two married adult children without siblings, and one grandchild [40]. This generation of adults has the dual burdens of providing care for up to four aging grandparents while simulta-

neously taking care of their own young children. As a result, some older adults may receive inadequate support from their family, the traditional and primary source of their care, while some families may feel frustration about the burden of care imposed on them.

Exacerbating the challenges of 4:2:1 households, China faces the problem of a health care system that is not quite prepared to meet the needs of its aging population. Relatively few geriatric departments exist in China's hospital system, with only a handful having been opened in the past 2 decades in response to its demographic shift. To date, no formal geriatric fellowships or national board certifications are currently available in geriatrics. Clinicians who run the few newly established geriatric departments were trained in other areas such as cardiology, pulmonology, and psychiatry [40]. The small number of practicing geriatricians is not enough to serve the vast aging population.

Given the shared challenges of caring for increasingly aged populations in the U.S. and China, value may be derived from exploring the knowledge and attitudes of students and practitioners in these countries through a comparative lens.

Ageism through a Comparative Lens

Several research studies have explored ageism from a comparative perspective. During the past decade, the research on cross-cultural studies that investigated ageism from a comparative perspective revealed mixed findings [31,32,41-44]. For example, the majority of past research suggests that western cultures hold much more negative attitudes and beliefs about elders than eastern cultures [31,41]. However, more recent findings suggest that the two may not be so different [42]. A cross-cultural analysis of individualistic and collectivist cultures 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 [32]. 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. A study concluded that young people in South Korea had more anxiety about aging and greater fear of older people than Americans [43]. On the contrary, another study suggested that people from Asian cultures (Hong Kong, South Korea, Philippines) did not necessarily hold more positive attitudes toward old age than their Western counterparts (Australia, New Zealand, and the U.S.) [44].

In summary, research on cross national differences in views on aging have often focused on comparisons between east and west or between Asian and Western countries. The results are mixed showing either more positive views in eastern cultures, no difference at all, or even more positive views in Western countries. A potential moderator of country differences that might explain some of the heterogeneity is the fact that views on aging

differ in their content and change depending on life realms such as health, family relations, cultural traditions, knowledge levels, socio-economic and political considerations, and even attitudes. Therefore, the aim of this research was to examine knowledge, attitudes and behaviors relative to older populations between senior undergraduate community health student majors in a US university and early career community health workers from China. Other predictors of attitude such as having a close relationship with an older adult (other than grandparents) and knowledge levels of the aging process will also be examined.

Methods

Data were collected using an online and paper and pencil survey to understand the knowledge and attitudes of senior undergraduate health and human services students and public health workers from China on working with older adults. Data was collected using both Qualtrics and paper and pencil surveys. The non-random, convenience sample included 182 senior undergraduate health-related major students from a public university in Southern California, and 139 newly hired public health professionals from China who were attending public health workshops at the university during the 2017-2018 academic year. All participants were recruited via class visits, word-of-mouth, and flyers. Participants from China all spoke fluent English.

The questionnaire comprised of both closed and open-ended questions. Attitudes toward older people was measured by a pre-

viously validated 20-item instrument [45]. Items were scored on 7-point semantic Likert scale, where 1 equals a positive attribute and 7 equals a negative attribute. All 20 items were examined independently. The main predictor variable was knowledge of ageing issues, which was measured by a 12-item knowledge/myths instrument adapted from a previously validated scale [46]. The instrument was an index of true/false questions that address common myths of ageing and practice knowledge, resulting in possible scores of 0-12 points total. Other independent variables included demographics such as students' personal characteristics (e.g. age and gender), prior exposure to gerontology content in their courses, completion of courses in ageing/gerontology, and whether they have had at least one prior (self-defined) close relationship with an older person. This last item was further subdivided into personal relationships (cohabiting or non-cohabiting) or work-based relationships (paid, volunteer, or student placement).

Results

Sample Characteristics

Out of 321 participants who completed the survey, 182 (56.7%) were senior students with a health related-major from the US University and 139 (43.3%) were public health professionals from China (see Figure 1). About 250 (78%) were female and 69 (22%) were male. The mean (SD) of the overall sample was 25.6 (6.9) years old. Majority of the participants (91.9%) had at least one or more close relationship with older adults.

Figure 1. College majors of Chinese Health Professionals.

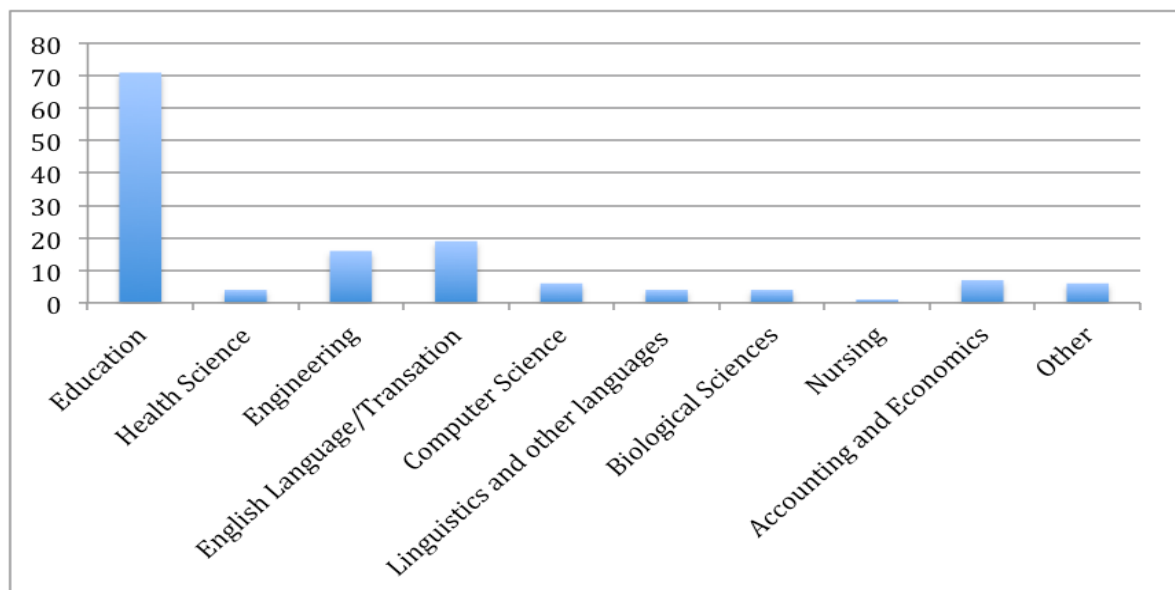


Figure 1: College Majors of Chinese Health Professionals.

In order to compare the demography and key constructs related to older adults between US undergraduate students and Chinese health professionals, a series of independent samples t-tests and chi-square tests of independence were conducted (see Table 1). To adjust for the family-wise error rate resulting from this multiple testing, a conservative Bonferroni correction was applied by dividing the standard alpha level (0.05) by the number of comparisons being made. Thus, results were considered statistically significant only if they had a significance of $p \leq 0.007$ (.05/7 comparisons).

Demographics	Undergraduate Students (US) M (SD)	Health Professionals (Chinese) M (SD)	Test Statistic		Effect Size	
			t	df	Cohen's D	p
Age (years)	22.85 (3.14)	29.04 (8.75)	-7.90	165.36*	0.94	<.001
Knowledge Scale	7.01 (1.80)	6.04 (1.55)	5.03	319	0.58	<.001
Attitudinal Scale	62.73 (20.24)	62.17 (19.66)	0.25	318	0.03	0.81
	Freq (valid %)	Freq (valid %)	χ^2		Cramer's V	
Gender						
Male	36 (19.9)	33 (23.9)	0.75	1	0.05	0.39
Female	145 (80.1)	105 (76.1)				
Major						
Healthcare	176 (96.7)	4 (2.9)	281.67	1	0.94	<.001
Non-healthcare	6 (3.3)	135 (97.1)				
Close Relationship w/ Elderly			3.03	1	0.1	0.08
Yes	171 (94.5)	124 (89.2)				
No	10 (5.5)	15 (10.8)				
Work-based Relationship w/ Elderly			89.32	1	0.53	<.001
Yes	41 (22.53)	105 (75.54)				
No	141 (77.47)	34 (24.46)				

Table 1: Differences between US Undergraduate Students and Chinese Early Career Health Workers (n = 310 - 321).

Differences between the Two Groups: US Undergraduate Students and Chinese Early Career Health workers

As shown in Table 1, the following differences between US undergraduate students and Chinese early career health workers were found. Independent samples T-tests revealed that Chinese early career health workers are statistically significantly older (M=29.04) than the US undergraduate students (M=22.85) ($T_{(165)} = -7.90, p < .001$) and scored statistically significantly lower in knowledge of aging issues ($M_1=7.01, M_2=6.04, T_{(319)} = 5.03, p < .001$). Chi-square tests of independence indicated that Chinese early career health workers are statistically less likely to major in health while they attended college ($X^2_{(3)}=283.09, p < .001$) but are statistically significantly more likely to have work-based relationships with older people ($X^2_{(6)}=32.51, p < .001$).

While a large, significant difference in student and health workers' ages was anticipated, several other unexpected significant results emerged. For instance, while Chinese early career health workers were over three times more likely to indicate having a close relationship with an older person through their work, they scored significantly lower on the knowledge of aging issues scale and had only equivalent attitudinal scores to US health major

students. It should also be noted that both groups score relatively low on the knowledge of aging issues scale and attitude toward older adult scale indicating a gap of knowledge and negative attitudes toward working with older adults.

Also of note was a large, significant effect for major, with the majority (97.12%) of Chinese early career health workers reporting academic preparation outside of the field of health science. The most frequently reported majors are English Language/ Translation and Engineering. Other majors include Biological Sciences, Nursing, Accounting and Economics, Computer Science, Linguistics and other.

Table 2 lists the means and standard deviations of the scores rated by US undergraduate students and Chinese health professionals (7-point scale on the 20 selected traits). Compared to Chinese health professionals, US undergraduate students perceived older adults more positively on the items of "Kind-unkind" $t(313) = 3.39, p = .001$; "Friendly-unfriendly" $t(312) = 3.46, p = .001$; "Attractive-unattractive" $t(290) = 2.03, p = .043$; "Tolerant-intolerant" $t(310) = 4.83, p < .001$; "Uncomplaining-complaining" $t(310) = 2.16, p = .031$. On the other hand, Chinese health professionals perceived older adults more positively on the items of "Wise-foolish" $t(314) = -2.49, p = 0.13$ and "Interesting-boring" $t(313) = -3.62, p < .001$.

Characteristic	M (SD)		t	df	p
	Undergraduate Students (US)	Health Professionals (China)			
Wise/ Foolish**	2.19 (1.36)	2.58 (1.39)	-2.49	314	.013
Knowledgeable/ Ignorant	2.39 (1.40)	2.58 (1.44)	-1.14	313	.257
Interesting/ Boring***	2.55 (1.51)	3.15 (1.41)	-3.62	313	< .001
Kind/ Unkind***	2.68 (1.36)	2.17 (1.28)	3.39	313	.001
Good/ Bad	2.60 (1.31)	2.36 (1.31)	1.68	313	.094
Trustworthy/ Untrustworthy	2.45 (1.33)	2.40 (1.34)	0.31	311	.756
Friendly/ Unfriendly***	2.66 (1.25)	2.17 (1.25)	3.46	312	.001
Generous/ Selfish	2.66 (1.38)	2.64 (1.41)	0.13	312	.893
Neat/ Untidy	3.22 (1.50)	3.13 (1.43)	0.55	311	.581
Productive/ Unproductive	3.42 (1.44)	3.67 (1.64)	-1.39	306	.165
Happy/ Sad	3.30 (1.28)	3.02 (1.37)	1.83	311	.069
Independent/ Dependent	3.75 (1.49)	3.61 (1.60)	0.80	282	.421
Optimistic/ Pessimistic	3.43 (1.33)	3.12 (1.36)	1.97	310	.050
Attractive/ Unattractive*	3.86 (1.39)	3.54 (1.43)	2.03	290	.043
Tolerant/ Intolerant***	3.63 (1.39)	2.84 (1.48)	4.83	310	< .001
Healthy/ Sick	3.91 (1.53)	3.93 (1.75)	-0.11	273	.913
Uncomplaining/ Complaining*	4.01 (1.43)	3.64 (1.57)	2.16	310	.031
Active/ Inactive	3.91 (1.49)	3.77 (1.67)	0.80	277	.425
Flexible/ Inflexible	4.23 (1.58)	3.96 (1.68)	1.50	311	.135
Progressive/ Conservative	4.28 (1.68)	4.07 (1.74)	1.11	311	.269

Table 2: Comparison of Perceptions of Older Adults (n = 310 - 321).

Predictors

Multiple linear regression analysis was used to predict knowledge of aging issues based on age, gender, relationship with older people, work-based relationship with older people and major. The results of the regression indicated that the five predictors explained 10.2% of the variance ($R^2 = .102$, $F_{(5,137)} = 3.129$, $P = .01$). Major was the only significant predictor of knowledge of aging issues ($\beta = -.418$, $P = .002$).

A second multiple linear regression analysis was conducted to predict attitudes toward older adults based on knowledge of aging issues, age, gender, relationship with older people, work-based relationship with older people and major. The overall regression model was found to be not statistically significant ($R^2 = .018$, $F_{(6,135)} = .41$, $P = .871$).

Discussion

The findings of this study suggest that compared to US undergraduate health science students, early career community health workers from China tend to be older, are significantly less likely to major in the fields of public health while in college, but have more experience working with older adults in a work setting. However, despite their older age and experience working with older adults, their knowledge of issues relative to older population is lower than the US undergraduate health science students and there is no difference in attitudes toward older adults between the two groups. This gap in knowledge indicates that work experience itself does not replace formal training and coursework in health and Gerontology. The study highlighted the need for health and Gerontology courses tailored for early career community health workers from China who work with older adults.

The fact that the majority of the early career community health workers from China in this study did not receive academic preparation in the health field shows that they may not be equipped to carry out their job responsibilities to the fullest extent. The majors of the Chinese health professionals range from Education to English Language/Translation. This is consistent with current literature that China produces extremely low number of graduates in Public Health Education [47]. Since these early careers community health workers did not receive formal training in public health, it is suboptimal that they are tasked with important responsibilities such as assessing health needs, managing health programs and formulating health policies etc.

Concurrently, the results of this study found that Chinese early career health workers were significantly more likely to have a close relationship with an older person than US students and although US students were likely to be educated on health promotion and disease prevention, they may lack the experience of relating with older adults which is an important influence in their attitudes and beliefs of older adults. Previous studies (Hanlon and Brookover, 1982; Kalavar, 2001) have found that students who have prior experience with older relatives or worked with older people have a more positive attitude toward aging and older people (Hanlon and Brookover, 1982; Kalavar, 2001).

Implications for Practice

Based on the relatively low scores for both groups (58.4% for US undergraduate students and 50.33% for early career community health workers from China) in knowledge of aging issues and attitude toward older adults, there is an urgent need to strengthen the existing curriculum, professional development and training to enhance knowledge and attitudes toward older adults.

For early career community health workers from China, it appears that certificate programs that are designed for working professionals in public health and Gerontology would be beneficial to better serve the rapidly growing aging population in China. Since Gerontology may be a new field in China, it is an opportunity for US universities to develop distance learning certificate programs tailored for health professionals who enter the health field without academic preparation in health-related fields.

For US health science students, curriculum expansions that provide students with exposure to ageing issues may better prepare them to work with the older adult population. An additional approach is to infuse gerontological content into existing public health curriculum. Content could include older adult abilities, lifestyle management, moods, mindset, needs, resources, and memory changes. Perhaps creating an interdisciplinary course to address the gaps in students' knowledge about older adults for healthcare and non-healthcare students. Moreover, the internship requirement of the degree program may be adjusted to increase student work

experiences to include working with older adult populations in various settings. Finally, previous studies pointed out that as people grow older, the less stereotypes they have about older adults [16,18,48]. It would be effective to target younger students who potentially have the most negative attitude toward older adults, explore discomforts associated with working with older adults and address these discomforts while they are still in their initial program years.

Limitations

One of the limitations of this study is that our comparison groups are from two very different settings: undergraduate students who live and study in California and early career community health workers who were visiting from China to attend short-term workshops in the US. Another limitation is that the study employed convenience samples which included only upper division undergraduate health science and health care administration students and Chinese health professionals in the management level who had the privilege to travel to the US for a training. This could limit the generalizability of the findings to students in other schools in the US or other types of non-management public health professionals.

Future Research Directions

There are three recommendations for future research in this area. First, there should be more research that aim to better understand experience and time with older adults especially professional experience in a work setting and its impact on attitudes towards working with older adults. In addition, factors such as culture, race/ethnicity, socio-economic status and their impact on attitudes toward older people should also be examined. More in depth investigation is needed to examine the motivation, interest and attitudes of working with older adults, reasons behind these attitudes and motivation.

Second, the current study provided recommendations for curriculum change to improve students' knowledge and attitude toward working with older adult populations. Additional research should be conducted to evaluate if these curriculum changes such as a gerontological-infused curriculum and increased internship hours with older adult population are effective in improving knowledge and attitudes toward older adults.

Finally, future studies may examine if attitudes toward working with older adults translate to students' actual interest in working with older adults professionally once they graduate from the program, and other factors that may affect interest. We could also investigate how public health workers in China are being prepared for public health work, and how public health education in China is changing over the next few years. Modifications in the curriculum and required health experience could make a difference in future interest in working with older adults.

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