Journal of
Ageing and Longevity

MDPI

Article

Power Distance and Indulgence Are Positively and Negatively Correlated with Ageism, Respectively: Evidence from 31 Countries

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Abstract: As the aging of the world accelerates, clarifying the relationship between cultural differences and ageism is an urgent issue. Therefore, in this study, we conducted a correlation analysis between the six cultural scales of Hofstede et al. and the two ageism scales calculated from data on 35,232 people from 31 countries included in the World Values Survey Wave 6 (WVSW6) by Inglehart et al. The results of a partial correlation analysis controlling for economic and demographic factors showed that power distance (PDI) and indulgence versus restraint (IVR) are positively and negatively correlated with ageism, respectively. This is the first study to show that these two cultural scales, which previous studies have not paid much attention to, are related to ageism.

Keywords: ageism; correlation; culture; indulgence; power distance; restraint

Citation: Kokubun, K. Power Distance and Indulgence Are Positively and Negatively Correlated with Ageism, Respectively: Evidence from 31 Countries. *J. Ageing Longev.* **2024**, *4*, 303–315. https://doi.org/10.3390/jal4040022

Received: 20 August 2024
Revised: 26 September 2024
Accepted: 27 September 2024
Published: 29 September 2024

1. Introduction

Ageism is the process of systematic stereotyping and discrimination against people because of their age [1]. Previous studies have found that ageism is related to the ratio [2] and growth rate [3] of older people. However, compared with these demographic discussions, there has been less discussion of cultural factors, and a recent systematic review of ageism across 199 papers showed that only eight studies considered institutional or cultural determinants [4]. Given that the world is made up of diverse cultures, research is valuable to gain insight into how cultural differences affect ageism.

As the author discusses later, recent studies have shown that certain cultures correlate with ageism using certain scales. However, to the author's knowledge, there seems to be no research that has comprehensively clarified this. At present, there is no consensus on what scale to use to measure ageism, and it has been pointed out that this may be one of the reasons why studies do not provide consistent results on the issue of whether ageism is stronger in the East or the West [5]. Therefore, in this study, using two ageism variables computed from seven items of ageism-related attitude data from the World Values Survey Wave 6 (WVSW6) [6] and the values of six cultural scale indicators from Hofstede et al. [7], the author shows that power distance (PDI) and indulgence versus restraint (IVR), which have not been paid much attention in previous studies, are associated with ageism through partial correlation analysis that controls for economic and demographic factors.

2. Review of Previous Research and Presentation of Hypotheses

2.1. Hofstede's Six Cultural Scales

The most widely used scales for measuring national culture are the six cultural scales by Hofstede et al. [7]. First, power distance (PDI) indicates the extent to which the less powerful members of an organization or institution accept that power is distributed unequally. A higher index indicates that hierarchies are clearly separated in society and are not questioned by its members. A lower index, on the other hand, means that people question authority and seek to distribute power equally [7]. Meanwhile, individualism

(IDV) indicates the extent to which people in a society are integrated into groups. Individualistic societies often have loose ties that relate individuals only to their immediate family. They emphasize "I" and "we". At the other end of the spectrum, collectivist societies have tightly integrated relationships that bind extended family and others to in-groups. These in-groups are filled with unquestioning loyalty and support each other when conflicts arise with other in-groups [7].

Uncertainty avoidance (UAI) is a society's tolerance for ambiguity. In societies with high UAI, people avoid the unexpected, unknown, or unconventional. To do so, they adhere to strict codes of conduct, guidelines, and laws, and rely on absolute or unique truths. On the other hand, the lower the UAI, the more readily different thoughts and ideas are accepted. Such societies tend to be less regulated, more comfortable with ambiguity, and more liberal in their environments [7]. Masculinity (MAS) is the degree to which a society values achievement, its heroism and assertiveness, and its preference for material rewards for success. Societies with low UAI tend to value cooperation and humility, have compassion for the weak, and prefer quality of life [7].

Long-term orientation (LTO) links past connections to current and future actions and challenges. A high level of this indicator indicates that traditions are respected, maintained, and immutable [7]. Indulgence versus restraint (IVR) refers to the degree of freedom that social norms give to citizens. A society with high indulgence is one that considers the enjoyment of life to be a natural human desire and seeks to satisfy it freely. On the other hand, a society with high restraint is one that tries to control the satisfaction of desires and regulate them through strict social norms [7].

2.2. Hypothesis Presentation Regarding the Relationship between Cultural Measures and Ageism

This study examines whether six cultural variables, namely, PDI, IDV, UAI, MAS, LTO, and IVR, are associated with ageism.

PDI: To the author's knowledge, no studies have clarified the relationship between PDI and ageism. This may be because the two are conceptually close and therefore difficult to raise as subjects of analysis. According to Hofstede et al. [7], in societies with a high PDI, respect for parents and older relatives is a fundamental virtue that continues throughout life. Societies with a high PDI overlap geographically with Confucian societies such as China, South Korea, and Japan [8]. However, North and Fiske [3] found in a meta-analysis review of 37 papers that Eastern cultures have more negative attitudes toward older adults than Western cultures. The reason for this is that Western societies with strong post-materialist values place as much importance on the welfare and dignity of older adults as they do on individuals, and the positive effects of this outweigh the negative effects of the loss of the tradition of placing importance on the older adults [3,9]. These arguments are consistent with an earlier, paradoxical finding that the world's three highest older adult suicide rates belong to South Korea, Taiwan, and China [10]. Thus, the following hypothesis is derived:

H1. *The PDI is positively correlated with ageism.*

IDV: A common belief is that Eastern cultures, with their strong collectivist traditions of filial piety, value older people more highly than Western cultures. However, the results of a meta-analysis reveal that ageism is stronger in collectivist cultures than in individualist cultures [3]. This is interpreted as being because collectivism, which emphasizes the differences between in-groups and out-groups, is more likely to produce negative stereotypes about different age groups, which may in turn fuel resentment toward older people who seek support and enjoy benefits without contributing to society [3]. Thus, the following hypothesis is derived:

H2. *IDV is negatively correlated with ageism.*

UAI: Societies with high uncertainty avoidance scores tend to be uncomfortable with unpredictability [7]. The experience of aging is largely unpredictable and uncontrollable,

which may be a source of discomfort for people living in cultures that favor predictability [11,12]. Consistent with these arguments, previous studies have consistently found that people from cultures with high uncertainty avoidance have more negative perceptions of aging [2,11,13]. For example, in a study by Ackerman and Chopik [11], people living in cultures with high uncertainty avoidance tended to have less warmth toward older people. Thus, the following hypothesis is derived:

H3. *UAI is positively related to ageism.*

MAS: Ng and Lim-Soh [14] conducted a study of 20 English-speaking countries and found that ageism in each country, assessed using a database of 8 billion words, correlates with MAS. MAS is related to ageism because a society that values competition and being strong and successful easily sees older people, who are the opposite of competition, as weak [14]. Previous research has described, for example, how older men are alienated by younger men in their prime in social clubs in heavy industrial areas of England, where the economy is supported by male manual labor [15]. Relatedly, an analysis using large-scale data from the same WVSW6 [6] as this study showed that people who have a strong "market mentality", which emphasizes becoming rich and being successful in society, are more likely to perceive older adults as a burden on society. This is because people who are obsessed with money and success are more sensitive to the decline in their share due to the increase in the social burden of supporting older adults [16]. Therefore, the following hypothesis is derived.

H4. *MAS is positively correlated with ageism.*

LTO: A study by Ackerman and Chopik [11] found that people living in countries with a higher long-term orientation (more emphasis on the future) tended to have higher prejudice against older adults and less warmth toward older adults. Similarly, the study by Ng and Lim-Soh [14] mentioned above showed that in addition to masculinity, ageism is more likely to be strengthened in societies with a long-term orientation. The common interpretation given by the authors of these studies is that, from a long-term perspective, investing in young people is expected to produce greater returns than investing in older people [11,14]. Thus, the following hypothesis is derived:

H5. *LTO is positively related to ageism.*

IVR: To the author's knowledge, no research has clarified the relationship between IVR and ageism. According to Hofstede et al. [7], the world can be divided into ample and restrained societies. Ample societies are those that seek to satisfy human desires related to savoring and enjoying life freely. On the other hand, restrained societies believe that strict social norms should suppress and limit the fulfillment of desires. Previous research has shown that most societies tend to have lower mortality rates [7] and longer life expectancies [16]. The reason for this is thought to be that ample societies usually have a higher subjective sense of well-being and a positive view of happiness, which suppresses deaths from stress-related diseases such as cardiovascular disease (however, ample societies have a negative side in that people tend to consume more fast food and soft drinks, which makes them more likely to become obese). In other words, a fulfilling society where people enjoy life is a society where it is easy for older adults to live. If older adults are lively in society, it is thought that discrimination and prejudice based on age are less likely to occur. Therefore, the following hypotheses are derived:

H6. *IVR is negatively correlated with ageism.*

Table 1 indicates the number of participants by country and survey year.

Table 1. Number of participants by country and survey year.

Country and Survey Year	N
Argentina 2012/13	815
Australia 2012	1089
Brazil 2014	1214
Chile 2012	801
China 2012/13	1945
Colombia 2012	1294
Estonia 2011	1108
Germany 2013	1406
Hong Kong 2014	788
Japan 2010	1571
South Korea 2010	977
Malaysia 2012	1177
Mexico 2012	1793
Morocco 2011	1076
Netherlands 2012	1119
New Zealand 2011/12	547
Pakistan 2012	1148
Peru 2012	1031
Philippines 2012	1001
Poland 2012	689
Romania 2012	1105
Russia 2011	1972
Singapore 2012	1484
Slovenia 2011	758
Spain 2011	854
Sweden 2011	852
Thailand 2013	1050
Trinidad and Tobago 2010/11	728
Turkey 2011	1406
United States 2011	1683
Uruguay 2011	751

2.3. Measures

Ageism was evaluated using the 10 items in WVSW6 [6] shown in Table 2. As can be seen from the sentences, the items included those that ask about the general position and evaluation of older people from the perspective of others ("Social position: People in their 70s", "People over 70: are seen as friendly", "People over 70: are seen as competent", "People over 70: viewed with respect", "Older people are not respected much these days") and those that require subjective evaluation ("Is a 70-year old boss acceptable", "Older people get more than their fair share from the government", "Older people are a burden on society", "Companies that employ young people perform better than those that employ people of different ages", "Older people have too much political influence"). Previous studies have measured ageism using a combination of some of these items (e.g., [17]).

The item names were taken from the variable names included in the database by Inglehart et al. [6] and were different from the questions in the questionnaire. In some countries with a small older adult population, the definition of older adults in the questionnaire is "60 years old or older". Therefore, the question text corresponding to the above item names was also changed to "60" instead of "70". In the original data, all items were scored so that higher numbers indicated less ageism, but in this study, the scores were reversed so that higher numbers indicated more ageism.

Table 2. Ageism item names and scoring methods.

Item	Scoring Method
"Social position: People in their 70s" (n = 33,402).	A ten-point Likert scale ranging from "extremely high" to "extremely low" was used for the analysis, with scores from 1 to 10 given.
"People over 70: are seen as friendly" (n = 33,619), "People over 70: are seen as competent" (n = 33,421), "People over 70: viewed with respect" (n = 33,831).	A six-point Likert scale ranging from " very likely to be viewed that way" to "not at all likely to be viewed that way " was used for the analysis, with scores from 0 to 5 given.
"Is a 70-year old boss acceptable" (n = 33,878).	A ten-point Likert scale ranging from "completely acceptable" to "completely unacceptable" was used for the analysis, with scores from 1 to 10 given.
"Older people are not respected much these days" (n = 34,203), "Older people get more than their fair share from the government" (n = 33,159), "Older people are a burden on society" (n = 33,885), "Companies that employ young people perform better than those that employ people of different ages" (n = 32,456), "Old people have too much political influence" (n = 31,904).	A four-point Likert scale ranging from "Strongly disagree" to "Strongly agree" was used for the analysis, with scores from 1 to 4 given.

2.4. Control Variables

There is evidence that the values of individuals are related to the economic level of a country [18,19]. Therefore, evaluations of older adults have also changed in step with the global industrialization and lifestyle changes that have occurred over the past 200 years [14]. Therefore, in previous studies, economic indicators such as the level of modernization [16] and GDP per capita [20] are often used in analyzing the determinants of ageism. On the other hand, previous studies have shown that the aging speed, which is expressed by the growth rate of the population aged 65 and over [3,16], and the burden of supporting older adults, such as the public pension rate [20], are a threat to resources and are related to the rise in ageism. In addition, the aging rate, which is expressed by the population ratio aged 65 and over, has also been shown to be related to ageism [2,16,20]. Education, if performed properly, can reduce ageism, too [21,22]. Therefore, in this study, GDP per capita, aging speed, aging rate, and education were used as covariates. Of these, GDP per capita is the natural logarithm of gross domestic product per capita converted to U.S. dollars at constant prices. Meanwhile, the aging rate is the ratio of those aged 65 or over to the total population, and the aging speed indicates the change in the aging rate over the past 10 years. Three demographic and economic variables except for education were obtained from the World Bank database [23], and unavailable data were supplemented with the United Nations database [24]. For education, the answers to the question "What is the highest educational level that you have attained?" from WVSW6 [6], ranging from 1 ("No formal education") to 9 ("University-level education, with degree"), were used as a continuous variable with a minimum of 1 and a maximum of 9 to calculate the average by country.

2.5. Analysis Method

Correlation coefficients and partial correlation coefficients were calculated for the six cultural variables and the two ageism variables. The significance level was set at 5%. All statistical analyses were performed using IBM SPSS Statistics Version 26 (IBM Corp., Armonk, NY, USA).

3. Analysis and Findings

We conducted an exploratory factor analysis of all 10 items with varimax rotation, as presented in Table 3, confirming the following two-factor solution: ageism regarding personality (ageism-P) and ageism regarding ability (ageism-A). We decided not to use three items, including "Social position: People in their 70s", "Is a 70-year old boss acceptable", and "Older people are not respected much these days" because of low or multiple-factor loadings. The values for ageism-P (Cronbach alpha = 0.797) and ageism-A (Cronbach alpha = 0.724) were the averages of three- and four-item scores, respectively. Data from 59 countries were used for factor analysis and Cronbach alpha calculations, including data from 28 countries for which Hofstede Culture Scale scores were not available and, therefore, were not used in subsequent analyses.

Table 3. Results of exploratory factor analysis.

Items	Ageism-P	Ageism-A
People over 70: are seen as competent	***0.828***	−0.092
People over 70: viewed with respect	***0.807***	−0.198
People over 70: are seen as friendly	***0.716***	0.282
Companies that employ young people perform better than those that employ people of different ages	−0.188	***0.741***
Old people have too much political influence	−0.202	***0.738***
Older people get more than their fair share from the government	0.088	***0.595***
Older people are a burden on society	0.279	***0.528***

Note(s): The bold-italic values are the scores higher than 0.4. Ageism-A: ageism regarding ability. Ageism-P: ageism regarding personality.

Table 4 shows the mean, standard deviation (SD), and correlation coefficient of each variable. The correlation coefficients below the diagonal are normal correlation coefficients, and those above the diagonal are partial correlation coefficients. We will mainly discuss the partial correlation coefficient results in order. First, PDI showed a significant positive correlation with ageism-A (r = 0.628 ***, $p = 0.000$). IVR (r = −0.437 *, $p = 0.023$) showed a significant negative correlation with ageism-A. These results support H1 and H6. The other four cultural indicators were not correlated with ageism-A. Therefore, H2, H3, H4, and H5 are rejected. Ageism-P was not correlated with any of the cultural indicators. For reference, let us briefly look at the results of the usual correlation analysis. PDI (r = 0.687 ***, $p = 0.000$) reproduced the result above but IVR (r = −0.278, $p = 0.130$) did not. Instead, a significant correlation between IDV and ageism-A was shown (r = −0.631 ***, $p = 0.000$). Interestingly, there was a negative correlation between ageism-P and ageism-A (r = −0.356 *, $p = 0.049$). Figures 1 and 2 are scatter plots with the residuals of ageism-A (Δ ageism-A) on the vertical axis and PDI and IVR on the horizontal axis. Δ ageism-A is the residual of a regression analysis that includes only control variables. Figure 3 is a scatter plot with ageism-A on the vertical axis and ageism-P on the horizontal axis.

Table 4. Descriptive statistics and correlation coefficients.

		Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1	PDI	61.710	19.683		−0.548 **	0.044	0.121	0.318	−0.330	−0.059	0.628 ***			
2	IDV	40.870	23.332	−0.639 ***		0.188	−0.201	−0.299	0.301	−0.025	−0.346			
3	UAI	48.520	18.266	0.109	−0.027		−0.031	−0.124	0.038	0.114	0.043			
4	MAS	66.710	24.089	0.112	−0.152	0.004		−0.232	0.174	0.188	−0.333			
5	LTO	46.632	25.141	0.005	0.000	−0.089	−0.111		−0.679 ***	−0.051	0.289			
6	IVR	48.449	23.302	−0.291	0.245	0.005	−0.078	−0.533 **		−0.094	−0.437 *			
7	Ageism-P	1.330	0.278	−0.266	0.202	0.065	0.158	0.200	−0.066		−0.221			
8	Ageism-A	2.116	0.199	0.687 ***	−0.631 ***	0.188	−0.246	0.008	−0.278	−0.356 *				
9	Aging rate	11.679	5.157	−0.474 **	0.552 **	−0.116	0.126	0.477 **	−0.080	0.433 *	−0.562 **			
10	Aging speed	1.729	1.146	−0.221	−0.026	0.15	0.108	0.474 **	−0.074	0.312	0.024	0.509 **		
11	Economic level	10.098	0.683	−0.441 *	0.494 **	−0.140	−0.266	0.321	0.281	0.359 *	−0.421 *	0.652 **	0.297	
12	Education level	5.831	1.027	−0.295	0.405 *	−0.035	−0.109	0.334	0.184	0.272	−0.255	0.517 **	0.346	0.604 ***

$n = 31$. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$. Below the diagonal are normal correlation coefficients and above are partial correlation coefficients. PDI: power distance. IDV: individualism. UAI: uncertainty avoidance. MAS: masculinity. LTO: long-term orientation. IVR: indulgence versus restraint. Ageism-A: ageism regarding ability. Ageism-P: ageism regarding personality. Aging rate: population ages 65 and above (% of total population). Aging speed: change in percentage aged 65 and above over the past 10 years. Economic level: natural logarithm of gross domestic product per capita converted to U.S. dollars at constant prices. Education level: A continuous variable ranging from a minimum of 1 ("No formal education") to a maximum of 9 ("University-level education, with degree").

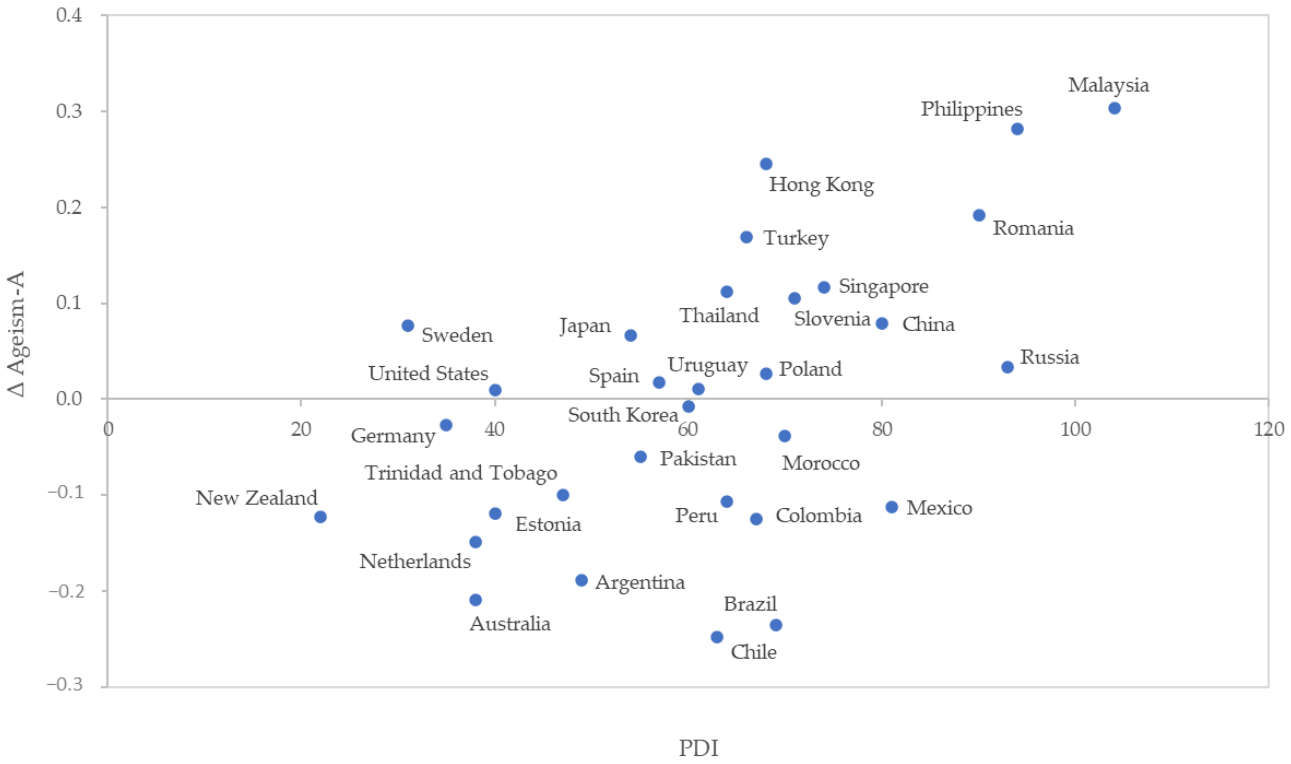

Figure 1. Scatter plot showing the relationship between PDI and Δ ageism-A, which is measured by the residuals of a regression analysis in which only the control variables are used as independent variables. PDI: power distance.

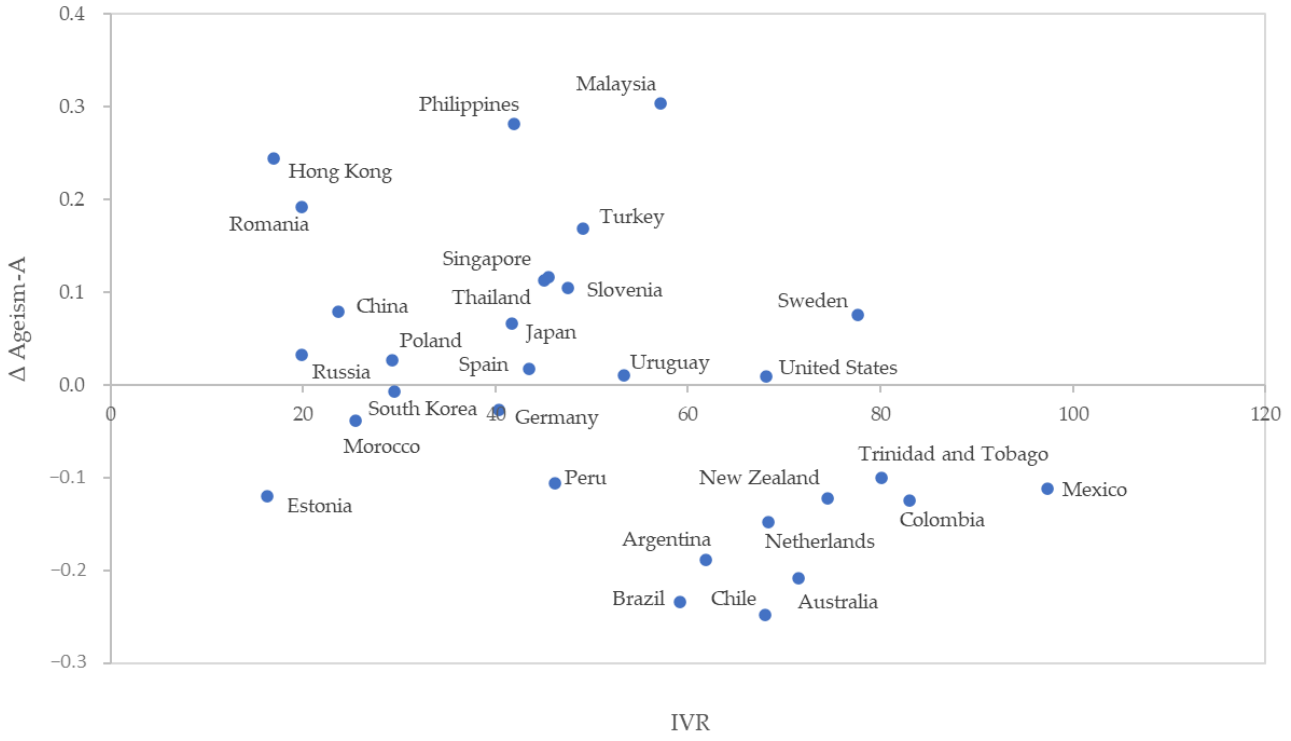

Figure 2. Scatter plot showing the relationship between IVR and Δ ageism-A, which is measured by the residuals of a regression analysis in which only the control variables are used as independent variables. IVR: indulgence versus restraint.

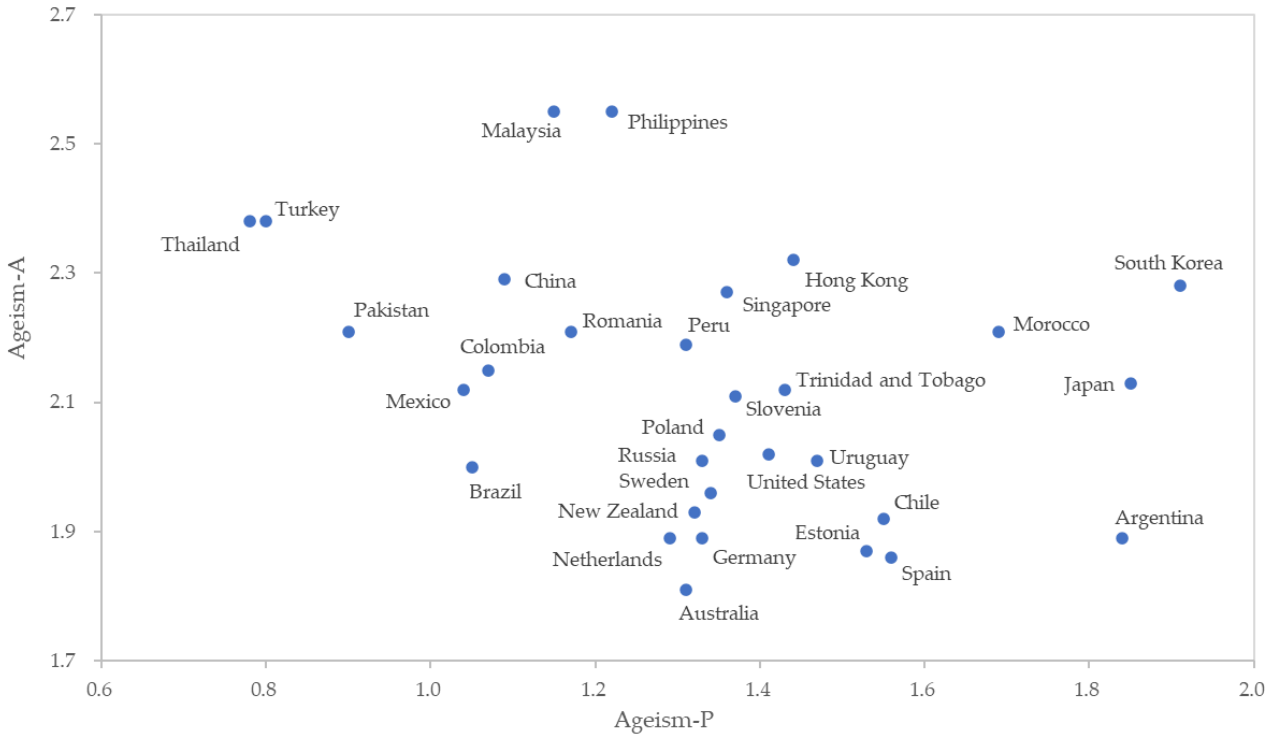

Figure 3. Scatter plot showing the relationship between ageism-P and ageism-A. Ageism-A: ageism regarding ability. Ageism-P: ageism regarding personality.

4. Discussion

This is the first study to show that Hofstede's various cultural axes are related to various types of ageism. Previous studies have shown that IDV [3] is negatively and UAI [2,11,13], MAS [14], and TIOWVS [11,14] are positively correlated with ageism, but to the author's knowledge, there has been no research clarifying the relationship between PDI and IVR and ageism.

Of these, previous research has pointed out that PDI overlaps with Confucian societies [8], and it has also been found that Eastern cultures have more negative attitudes toward older adults than Western cultures [3]. Therefore, a positive relationship between PDI and ageism was predicted, albeit paradoxically. In this study, consistent with these predictions, the higher the PDI, the higher the level of ageism-A. This is consistent with another paradoxical finding that the suicide rate of older adults is high in Confucian societies where older adults are supposed to be protected [10]. Furthermore, considering the geographical overlap between PDI and collectivism [7], this is consistent with previous research that found a positive relationship between collectivism and ageism and argued that collectivist aggression may be directed at older people who do not contribute to society [3]. The current study also confirmed that societies with stronger IDV tend to have lower levels of ageism-A, although this relationship was not reproduced by partial correlation coefficients using population and economic indicators as covariates.

On the other hand, the relationship between IVR and ageism is a topic that has hardly been taken into consideration in previous studies. However, research on aging has shown that, from the perspective of human development, more fulfilling societies tend to have lower mortality rates [7] and longer life expectancies [17]. This is thought to be because, in fulfilling societies, subjective happiness is higher and is perceived positively, which reduces deaths from stress-related diseases such as cardiovascular disease and makes it more likely that older people are healthy. In a society where older people are lively, it is thought that discrimination and prejudice based on age are less likely to occur. Considering these arguments, it is a convincing result that, as shown in this study, the more fulfilling

a society is, the healthier its older adults are and, therefore, the less likely they are to be discriminated against.

This study found no significant correlation between LTO and ageism, which is inconsistent with previous research [11,14] that argued that investing in young people can be expected to produce greater returns than investing in older people by taking a long-term perspective. Likewise, the correlation between MAS and ageism shown in previous research in English-speaking countries [14] was not shown in this study. The story argued by Ng and Lim-Soh [14] that a society that values competition and highly values the strong and successful is likely to label older adults as weak, who are the opposite, seems reasonable at first glance, but the results of this study show that this is not necessarily a globally observable international trend. The results of some previous studies showing that LTO and MAS are linked to ageism can be interpreted but are not very reasonable. In an LTO society, there would be an incentive to create an older adult-friendly society in anticipation of aging, and in a MAS society, it is not surprising that people would respect the older adults who led modernization. Therefore, the result of this study indicating that these variables do not correlate with ageism is not difficult to understand, although it contradicts the hypothesis of this study.

The relationship between UAI and ageism that was not reproduced in this study requires careful interpretation. Previous studies have found that countries with higher UAI tend to have stronger ageism [2,11,13] and have argued that aging is an unpredictable experience to justify this [11,12]. However, the author finds this argument a little difficult to understand. If aging is highly unpredictable, it is not surprising that there is a reverse incentive to prepare an environment that is friendly to older adults in advance in anticipation of one's own aging future. Therefore, the results of this study that show no correlation between UAI and ageism, although contrary to the hypothesis, should not be surprising.

PDI and IVR were significantly correlated with ageism-A but not with ageism-P. This means that the results vary depending on the scale, which may partially explain why previous studies have not been able to show consistent results. Relatedly, ageism-A and ageism-P were negatively correlated with each other. However, the relationship between the two disappeared in partial correlation analyses that controlled for population and economic data. For example, in Japan, the country with the world's fastest aging population, ageism-P is the second highest after South Korea, but ageism-A is average. This indicates that while Japanese people discriminate against older people in terms of their personality, they do not discriminate as much in terms of their abilities. Alternatively, this difference may be due to differences in the format of the questions. Ageism-P asks respondents how they think people feel about older people, while ageism-A asks about the respondent's own image of older people. In any case, the results of this study show that the scale of ageism obtained by asking respondents about the abilities of older people correlates with the cultural scale.

The results of this study showed that two measures of national culture calculated by country correlated with ageism, controlling for demographic and economic data. National differences in the degree of ageism reflect the phenomenon that stereotypes about aging generated early in childhood are reinforced in adulthood and then passed on to self-stereotypes in old age [25]. In addition, recent studies, in the context of Attribution Theory and Social Identity Theory, have argued that people's negative beliefs about aging not only affect attitudes toward older people but often become self-fulfilling prophecies, encouraging individuals to unconsciously behave like older people as they age [26] and to decline in health, including cognitive function [27]. In other words, the results of this study suggest that such vicious cycles are more likely to occur in societies with strong PDI and weak IVR. In societies with strong PDI, older people are symbols of authority and role models for people. It is believed that older people's words and actions cannot be wrong, and, therefore, it is taboo to express opinions to them [1]. Similarly, in a society with a weak IVR, discipline and norms are valued over desire and happiness, so it is easy for older people who create and protect systems to occupy high positions. In such a society, if

older people become physically and mentally weak, violate the norms even once, and are no longer able to set an example for others, their status is likely to fall. Relatedly, in societies such as Confucian societies where there is a norm of respect for older people, experiences of discrimination can paradoxically be traumatic for older people, leading to serious consequences such as increased depression [28]. Therefore, for example, in such societies where there is a norm that family members, especially women, should care for older people [29], it is not surprising that the disregard of this norm can lead to the severe mental and physical deterioration of older people, making them more and more like older people, and spurring ageism. Therefore, the seemingly paradoxical results of this study are highly suggestive when considering the state of politics and society of tomorrow. For example, if many people have the awareness that older people are merely superiors in an organization and are the same human beings who sometimes make mistakes, and if older people listen to and rely on the opinions of younger employees daily, it may be possible to suppress discriminatory attitudes toward older people whose work abilities have declined because of aging. If we insist on respecting superiors and following the rules, ironically, it will become even more difficult for older people to live in society.

5. Limitations and Future Perspectives

In this study, we used data on people under 60 years old. This is because WVSW6 [6] defines older people as 70 or 60 years old or older. However, such age classifications are arbitrary, and which age group is perceived as older people and discriminated against may differ depending on the system and culture of the country [30]. Therefore, we calculated the correlation coefficient between ageism-A for people under 60 years old and ageism-A for 10,013 people over 60 years old (Cronbach alpha = 0.724) by country and found an extremely high correlation (r = 0.944 ***, p = 0.000), which was also found for ageism-P (Cronbach alpha = 0.713) (r = 0.969 ***, p = 0.000). This result indicates that in countries where ageism is strong among young and middle-aged people, older people also tend to be strongly ageistic. At the same time, this suggests that there is a high possibility that the results of this study will not significantly change no matter how the age classification is changed. However, ageism operates in various aspects of daily life and work [31,32], and one study showed that the younger the person, the stronger the ageism towards other age groups [33]. Therefore, the fact that this study used diverse respondents of different occupations and ages without categorizing them may have made it difficult to see the relationship between diversity other than nationality and ageism. Therefore, future research should verify the results of this study using data from participants in various situations and with various attributes.

There are some other limitations to mention. This study analyzed the factors of ageism through cross-sectional analysis. Therefore, it should be noted that the results of this study are correlational and do not indicate a causal relationship. In relation to this, the small sample size also raises concerns about the reproducibility of the results. In addition, because the data were obtained from an existing database, it is possible that the unique cultural differences of each country may have been underestimated. For example, the extent to which education and intergenerational contact, proven to be effective in reducing ageism [21,22], are implemented may vary by country. In relation to this, the large-scale questionnaire survey used as the data source may have been subject to unanticipated biases due to its high comprehensiveness. For example, people who are not very interested in older people may have found it difficult to answer the questions and may have given careless responses. Finally, this study used data from two different sources, and differences in the survey year and participants may have influenced the results. Future research should verify and develop the results of this study through a longitudinal or an experimental study to analyze how attitudes towards older people may be modified following a specific intervention using a large and carefully selected sample and more diverse variables.

6. Conclusions

Today, as the aging of the global population accelerates, it is meaningful to clarify the relationship between a country's culture and ageism-A. In this study, by analyzing data from 40,869 people from 31 countries collected in WVSW6 and Hofstede's cultural scale, the author showed that the two cultural scales, PDI and IVR, are related to ageism after controlling for economic and demographic factors. However, there were no significant correlations between these cultural indicators and ageism-P. Furthermore, there were no significant correlations between IDV, UAI, MAS, LTO, and ageism. This is the first study to show that PDI and IVR, which previous studies have not paid much attention to, are related to ageism.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable. We used anonymous information that is open to the public.

Informed Consent Statement: Not applicable. We used anonymous information that is open to the public.

Data Availability Statement: Publicly available datasets were analyzed in this study (available upon request).

Acknowledgments: An earlier version of this article was published on the following preprint server: https://arxiv.org/abs/2408.04781# (accessed on 10 August 2024).

Conflicts of Interest: The author declares no conflicts of interest.

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