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Michael S. North and Susan T. Fiske

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Modern Attitudes Toward Older Adults in the Aging World: A Cross-Cultural Meta-Analysis

Michael S. North
New York University

Susan T. Fiske
Princeton University

Prevailing beliefs suggest that Eastern cultures hold older adults in higher esteem than Western cultures do, due to stronger collectivist traditions of filial piety. However, in modern, industrialized societies, the strain presented by dramatic rises in population aging potentially threatens traditional cultural expectations. Addressing these competing hypotheses, a literature search located 37 eligible papers, comprising samples from 23 countries and 21,093 total participants, directly comparing Easterners and Westerners (as classified per U.N. conventions) in their attitudes toward aging and the aged. Contradicting conventional wisdom, a random-effects meta-analysis on these articles found such evaluations to be more *negative* in the East overall (standardized mean difference = -0.31). High heterogeneity in study comparisons suggested the presence of moderators; indeed, geographical region emerged as a significant moderating factor, with the strongest levels of senior derogation emerging in East Asia (compared with South and Southeast Asia) and non-Anglophone Europe (compared with North American and Anglophone Western regions). At the country level, multiple-moderator meta-regression analysis confirmed recent rises in population aging to significantly predict negative elder attitudes, controlling for industrialization per se over the same time period. Unexpectedly, these analyses also found that cultural *individualism* significantly predicted relative *positivity*—suggesting that, for generating elder respect within rapidly aging societies, collectivist traditions may backfire. The findings suggest the importance of demographic challenges in shaping modern attitudes toward elders—presenting considerations for future research in ageism, cross-cultural psychology, and even economic development, as societies across the globe accommodate unprecedented numbers of older citizens.

Keywords: attitudes toward older adults, cross-cultural, East-West, population aging, intergenerational tension

Around the world, the older population is growing rapidly. By the year 2050, estimates predict that the global over-65 population will nearly triple (U.S. Census Bureau, 2009). Given these near-universal demographic trends, the issue of how societies across the globe will view, treat, and accommodate their aged is gaining worldwide attention (e.g., Olshansky, Biggs, Achenbaum et al., 2011). The global nature of the issue also speaks to prevailing research themes in psychology. Since the 1970s, cross-cultural comparisons of human thought have proliferated, spawning new journals and prominent psychological subfields (Heine, 2010; Nisbett, 2003). More recently, in a smaller but growing subfield, psychologists have issued a call for greater focus on senior-related topics, including age-based prejudice and potential intergenerational tensions (Carstensen & Hartel, 2006; Kite, Stockdale, Whit-

ley, & Johnson, 2005; Nelson, 2005; North & Fiske, 2012, 2013a; Whitbourne & Hulicka, 1990).

Combining cross-cultural psychology with age-based attitudes has already attracted some research interest (Park, Nisbett, & Hedden, 1999). Most relevant here, many believe that societies differ in their levels of appreciation for the aged—specifically, that Eastern cultures, several of which emphasize Confucian expectations to respect one's elders, hold older adults in particularly high regard (e.g., Ng, 1998, 2002). However, two recent societal trends suggest that the picture might be more complicated. First, *industrialization* may be eroding such expectations; as theorists argue, modernized societies may come to devalue their elders, as traditional roles of storytelling and wisdom sharing decrease in importance, and as the aged lose control over means of production (Nelson, 2005; Schoenberg & Lewis, 2005). Second, *population aging* has put unprecedented pressure on societies to accommodate their elders, presenting potential burdens in health care and labor (Börsch-Supan, 2003; World Health Organization, 2011). Thus, older people may face negative images in industrialized, aging societies, regardless of Eastern or Western geography or presumed cultural expectations. Nevertheless, from an empirical standpoint, whether Eastern and Western cultures differ in their respect for older adults remains surprisingly unclear.

In this article, a meta-analysis addresses this largely unresolved question. We first review the literature on two mostly separate

Michael S. North, Management and Organizations Department, Stern School of Business, New York University; Susan T. Fiske, Department of Psychology, Princeton University.

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Correspondence concerning this article should be addressed to Michael S. North, New York University, 40 West 4th Street, Tisch 713, New York, NY 10012. E-mail: mnorth@stern.nyu.edu

bodies of literature, which are nevertheless directly relevant for a cross-cultural analysis of attitudes toward older adults: (a) attitudes toward the aged and (b) cross-cultural differences in thinking styles that may underlie any difference in such attitudes. With this basis, we then present evidence for three different theories concerning cross-cultural perceptions of the aged: (a) the East is more positive toward older adults than the West (the *traditional cultural values* argument); (b) the East and the West are equivalent in their perceptions of the aged (the comparable levels of *industrialization* argument); and (c) the East is more negative than the West (the *speed of population aging* argument). Exploring which of these three hypotheses holds the most weight, we then conduct a meta-analysis, comparing effect sizes of empirical studies that quantitatively compare Eastern and Western attitudes toward the aged. In so doing, we utilize relevant, potential moderator variables, incorporating society-level variables (collectivism, industrialization, population aging) matched with individual studies. Finally, we discuss the implications of our findings and suggest directions for future research, as researchers worldwide focus increasingly on aging-related issues.

Attitudes Toward Older Adults and Age-Based Prejudices: An Overview

Age-based prejudice—or “ageism”—is a subtle and complex phenomenon, yet one that uniquely puts everyone at risk, given that all living people eventually join each age group if they live long enough (see North & Fiske, 2012, for a review). In fact, age-based prejudices potentially target people of any age, but empirical investigations predominantly focus on attitudes toward older adults, given their salience as the targets of such prejudice.

When conceptualizing age-based attitudes, the literature describes several types, with subtle differences underlying each. One form covers peoples’ attitudes toward older adults per se—the stereotypes, prejudices, discriminatory actions, or good-versus-bad evaluations they hold toward the older population (e.g., Nelson, 2005). A slightly different perspective comprises peoples’ knowledge of or attitudes toward the aging process, often used as a proxy for ageism (e.g., Palmore, 1998). A third broad domain concerns societal and cultural norms about older peoples’ expected societal roles (e.g., Kite & Wagner, 2002). Nevertheless, for the purposes of the current article, synthesizing the broad, quantitative literature on attitudes toward the aged, we treat these constructs as virtually equivalent, falling under the same, age-based attitude umbrella—which is reflective of the broader literature as a whole (North & Fiske, 2012).

Generally, the literature portrays negative attitudes as deriving from age-based stereotypes of illness, irrelevance, and incompetence (North & Fiske, 2012). People are motivated to maintain both physical and psychological distance from living, breathing reminders of mortality (Burnstein, Crandall, & Kitayama, 1994; Greenberg, Schimel, & Mertens, 2002). They are also motivated to maintain psychological difference so as to maintain group-based esteem (Hagestad & Uhlenberg, 2005; Kite & Wagner, 2002); this includes older people themselves, who may dissociate from being old even when outsiders might perceive them that way (Weiss & Freund, 2012; Weiss & Lang, 2012). Although people are generally willing to grant older adults the positive stereotype of warmth (good intentions)—and in some cases, wisdom (Palmore, 1999)—

they are particularly prone to view them as incompetent, even when their behavior contradicts such perceptions (Cuddy, Norton, & Fiske, 2005). The persistence and pervasiveness of this latter stereotype generally relegates older people to a low-status, non-competitive social position (Fiske, Cuddy, Glick, & Xu, 2002). In short, age-based biases have cast the aged as largely irrelevant to the rest of society.

Some work has further subdivided these general perceptions of older adults. A prior meta-analysis (Kite et al., 2005) categorizes age-based attitude measures into five domains: competence (beliefs about ability), evaluation/warmth (beliefs about kindness), attractiveness (appearance), behavior/behavioral intent (beliefs concerning actions with or toward older adults), and a miscellaneous category of general “age stereotypes,” which do not fit directly into the other four categories (e.g., “old fashioned” and “talks about past”). This analysis resembles other work emphasizing the multidimensionality of age-based attitudes—particularly the distinction between competence-related and warmth-related perceptions (Cuddy & Fiske, 2002).

However, researchers’ reported stereotypes of older adult insignificance and incompetence are becoming less relevant, given current realities of population aging. Although traditional age progressions have prescribed age-based turn-taking—with older people stepping aside and making way for younger generations (such as retiring from jobs, or ceding influence; e.g., North & Fiske, 2012)—longer lifespans, delayed retirement, and economic realities indicate that older adults are not going as quietly as in the past (Campbell, 2003; Carrière & Galarneau, 2011; U.S. National Center for Health Statistics, 2012). One recent perspective on ageism speaks to the potential consequences of these trends, emphasizing “should”-based *prescriptive* beliefs concerning seniors’ practical and figurative use of societal resources (North & Fiske, 2013a). From this standpoint, if older people do not step aside and cede such resources, they can be seen as a burden on an ambitious younger generation—but can enjoy social favor if they adhere to step-aside expectations. However, because high quality intergenerational outcomes (e.g., the sharing of generational knowledge) are often undermined by pervasive intergenerational separation (Uhlenberg & De Jong Gierveld, 2004), these tensions seem unlikely to resolve anytime soon.

Further complicating the issue, age-based biases and aging per se can offer positive consequences, in two main ways. First, as implied by the term “positive ageism” (Palmore, 1999), being older presents practical, societal benefits, such as tax breaks, discounts, and housing programs. In the United States, the older population also enjoys a substantial degree of wealth and political power (Binstock, 1985; Minkler, 2006) and a relatively low proportion living in poverty (9.1%; U.S. Census Bureau, 2013). This is in sharp contrast to past circumstances—particularly the 1960s, where the senior citizen poverty rate reached as high as 35%, and more than twice the rate of other age groups (Engelhardt & Gruber, 2004). Second, as people age, a host of individual positive characteristics emerge. Growing empirical support indicates the benefits of getting older in various domains, including wisdom, reasoning, language complexity, and emotional health (Carstensen et al., 2011; Grossmann et al., 2012; Grossmann et al., 2010; Pennebaker & Stone, 2003; Staudinger & Kunzmann, 2005; Tentori, Osherson, Hasher, & May, 2001). Still, default stereotypes of the

aged tend to adopt a negative valence—or at best, the noted mixed perception of warmth-but-incompetence.

But how universal are these perceptions of the aged? Are negative stereotypes and negative attitudes in fact more common within Western cultures than in Eastern cultures, which traditionally value respect for one's elders? The next section discusses these questions.

Cross-Cultural Differences in Respect for Elders? Eastern Versus Western Thought

Although psychological theory initially assumed relative universality in thought, the past few decades have unearthed a variety of ways in which culture apparently shapes disparate patterns of thinking. Arguably the most prevalent such distinction has been that between people from Eastern cultures versus those of Western cultures (e.g., Nisbett, 2003)—a distinction often invoked when assuming cultural differences in elder appreciation, as described in the next section of this article.

What exactly do the terms “Eastern” and “Western” signify? Indeed, some criticize these distinctions as having stronger basis in tradition than geography—and even then, as overlooking intraregional cultural diversity (Berger, 1997). Nevertheless, predominant views do classify Eastern versus Western groups geographically by country (e.g., Giles, Noels, Ota et al., 2000; Giles, Noels, Williams et al., 2003; Löckenhoff et al., 2009). Typically, these perspectives characterize the “East” as comprising Asian countries, both East Asian (e.g., China, Japan, Korea), as well as South/Southeast Asian (e.g., India, Malaysia, and the Philippines). Meanwhile, the “West” encompasses English-speaking and Western European countries, which are more geographically spread out but culturally similar (the Anglophone West—Australia, Canada, New Zealand, United Kingdom, United States—plus Western Europe). This distinction also reflects the United Nations' geoscheme designation of “Western Europe and Other States” (WEOS; United Nations Department for General Assembly & Conference Management, 2012).

Despite critiques of oversimplifying these two broad regions, historical reasons may underlie divergent patterns of thought, which might extend to distinct perceptions of older adults. Although Eastern cultures have undergone recent industrialization, a tradition of rice farming has rendered them historically more agrarian than the West. According to theorists (McCann & Giles, 2006; Nisbett, 2003), this has placed a unique emphasis on group-based rituals and norms, and on probabilistic, inductive reasoning. By contrast, more urban, Western cultures appear to have more in common with the Ancient Greeks, who not only placed a greater emphasis on proof-oriented deductive reasoning, but also activities that necessitate comparably little cooperation with others (e.g., hunting, fishing, herding, and marketplace competition; Nisbett, 2003). (Indeed, some evidence for these distinctions persists in concurrent analysis of communication patterns: Easterners tend to make points using a gradual, “inductive pattern” of speech, subtly leading the listener to a conclusion after laying out evidence, whereas Westerners tend to argue more directly and rigidly, in line with a deductive tradition [Cheng, 2003]). As we discuss later, the traditional Eastern focus on group welfare suggests that they might view their aged—who are part of the collective whole—more positively than Westerners.

Also supporting these traditional East–West thought distinctions are psychological research paradigms, comparing the two regions on perceptual and cognitive tasks. Among the most consistent differences is the Western tendency toward *individualism*—focusing on individuals over the context that surrounds them—versus the Eastern proclivity toward *interdependence*, tending to view each person more as part of a collective whole. Indeed, when experimental participants view pictures featuring a prominent foreground object and a scenic background, Easterners tend to integrate entire contexts holistically and emphasize relationships among the elements within them; by contrast, Westerners fixate disproportionately on the foregrounded object (Chua, Boland, & Nisbett, 2005; Masuda & Nisbett, 2006; Nisbett, 2003). Various other studies have demonstrated that Easterners more than Westerners integrate contexts with perceptual targets—that is, are relatively field-dependent (or field-sensitive) in their processing, in contrast to Western relative field-independence (or field-insensitivity; Ji, Peng & Nisbett, 2000; Kitayama, Duffy, Kawamura, & Larsen, 2003; Nisbett & Miyamoto, 2005). As we will also discuss, some believe that a more holistic outlook suggests particular Eastern respect for elders, perhaps seeing them as helping form important relationships between societal members.

But are these cross-cultural differences in thought enough to suggest differences in attitudes toward the aged? With these bodies of literature as a basis, we highlight theoretical rationales supporting three different arguments: (a) the East is more elder-reverent than the West, due to greater collectivist traditions; (b) the East and the West are equivalent in their attitudes toward the aged, due to comparable recent industrialization; and (c) the East is more *negative* toward older adults than the West, due to more rapid population aging. Although the cited cross-cultural work provides the greatest support for the first argument, the other two arguments may hold water—as discussed in the following sections.

Argument #1: The Collectivist East is More Elder-Reverent Than the Individualistic West

As many believe, fundamental differences in Eastern and Western thought might yield cross-cultural differences in older adult perceptions. The Eastern focus on interdependence implies that social groups are often held responsible for the behaviors and outcomes of individuals (Morling & Fiske, 1999). For instance, when analyzing cases of “rogue trader” business scandals or an individual worker's negligence, Eastern participants (and newspapers) were more likely to fault the organization, whereas Western counterparts tended to blame the implicated individual (Menon, Morris, Chiu, & Hong, 1999). An interdependence orientation also implies that Easterners should attempt to maximize relational success more often than Westerners do (Nisbett, 2003). Given greater cultural focus on relational harmony, Easterners theoretically might place greater importance on maintaining effective relationships with and taking care of all societal members—including the oldest.

A history of Confucian principles further suggests that Easterners might particularly value the aged. For East Asian cultures, the tradition of *xiao*, or filial piety, impels younger people to respect, obey, care for, and maintain contact with their elders—a concept that has been applied to research on attitudes toward the aged in China (Ng, 2002), Hong Kong (Ng, 1998), Korea (Sung, 1995),

and Japan (Koyano, 1996). For South Asian cultures, the Hindu conception of the joint family system (Singh, 2005) and Muslim emphasis on service to elders (Sung & Kim, 2009) both emphasize elder respect. Given the contrast between this type of communal ideology and the Western emphasis on individualism ("Honor thy father and thy mother" notwithstanding), researchers often theorize that age-based prejudices are likely not as prevalent in Eastern cultures (e.g., Nelson, 2009).

Indirect empirical evidence further supports beliefs of Eastern elder reverence. For example, the rate of older parents and their adult children living together is higher in Japan than the U.S. (Levy, Ashman, & Slade, 2009). Moreover, attitudes toward aging and memory performance tend to be positively correlated, and Chinese seniors outperform American seniors on a memory task—which this study's authors propose is due to greater positive, cultural attitudes toward aging in the East (Levy & Langer, 1994). Indeed, studies do find that filial piety expectations have remained common among the aged in China (Cheng & Chan, 2006) and Japan (Usita & Du Bois, 2005), among others.

Thus, much indirect evidence suggests that—theoretically—Easterners should demonstrate the greatest reverence for older people. But whether cultural traditions and expectations translate to more quantifiably positive attitudes in the modern world is less clear—especially considering other evidence for cross-cultural equivalence in such attitudes, as discussed next.

Argument #2: The East and West are Similar in Attitudes Toward the Aged, Due to Being Comparably Industrialized

A less common argument might cast the East and the West as relatively equal in their attitudes toward older adults, due to similar current levels of modernization. Concerning age-based prejudices specifically, modernization is often cited as a leading driver (Branco & Williamson, 1982; Butler, 2009; Cuddy & Fiske, 2002; Nelson, 2005; North & Fiske, 2012). Various rationales support this: Increased literacy among the young limits older adults' role as prime knowledge sources; improved record-keeping (e.g., the advent of the printing press) has reduced seniors' roles as crucial storytellers; improved medical care has created an oversized older population not easily accommodated by society; and industrialized labor generally emphasizes youthful speed and vitality over elder experience (Nelson, 2005).

If modernization is indeed a key factor in devaluing society's aged, then one might expect the East and the West to be essentially equivalent in these attitudes. Indeed, along with many Western countries, Japan, China, South Korea, and India all rank in the top 15 worldwide in Gross Domestic Product (GDP; International Monetary Fund, 2012). Globalization trends have spurred many to suggest that the East and the West are growing culturally similar in a variety of respects (e.g., diet and medicine; Chen, Tsai, Yang, Ni, & Chang, 2013; Pingali, 2007)—in other words, "Westernizing."

In addition to potentially undermining traditional elder roles, modernization also threatens to erode traditions of filial piety (Cheung & Kwan, 2009; Lee & Hong-Kin, 2005). However, to our knowledge, an empirical link between modernization and filial piety has not been documented. One complicating factor is that an emphasis on rational values, tolerance, and respect for individuals often emerges after modernization has occurred (Inglehart &

Baker, 2000; Inglehart & Norris, 2003). In other words, a post-modernized society might develop a tradition of respecting elders and enjoy renewed elder tolerance and valuing of elder participation, even if a newly industrialized society finds itself shedding these values. From this standpoint, a period of rapid industrialization might correspond with an equally rapid devaluation of older adults, but once this period of industrializing plateaus, renewed elder respect might emerge.

Nevertheless, corroborating the ageism–modernization link, anthropological perspectives (e.g., Schoenberg & Lewis, 2005) have suggested that rural, preindustrialized societies do not foster the same sorts of age-related social distance that industrialized ones do—regardless of their Eastern or Western location. With constant contact and greater interdependence between young and old in all phases of everyday life, preindustrialized cultures presumably present a more positive aging experience and less frequent age-based biases (Jensen & Oakley, 1982–1983). However, with the East comprising many societies that are largely modernized, perhaps these elements are no more common there than they are in the similarly modernized West.

A final, more alarming reason to doubt East–West differences in reverence of the aged is the two regions' comparable reporting of elder mistreatment. Multiple Asian countries—including Japan (Fackler, 2010), India (Ray, 2008), and Singapore (Nagalingam, 2005)—report rising levels from past years of elder abuse and abandonment. In Malaysia, nearly one third of citizens age 60 and above have been abandoned by their children (Borneo Post, 2011). Similar estimations concern the rate of elder abuse in China (Dong, Simon, Odwazny, & Gorbien, 2008). Meanwhile, the West has also indicated recent rises in elder abuse (Bell, 2013; Shugarman et al., 2003).

Argument #3: The East is More Negative Than the West, Due to More Dramatic, Recent Rises in Population Aging

A third argument might propose that the East is actually more negative toward older adults than the West. This perspective is less common than the first two; broadly speaking, the two regions are similarly modernized, so why would the East harbor any more negativity toward the aged, especially given its well-known tradition of filial piety? The answer might lie in the pragmatic demographic reality of population aging. Although a worldwide issue, recent rates of aging are far more rapid for certain parts of the East than anywhere else in the industrialized world (Eberstadt, 2009)—presenting the practical strain of a "senior tsunami" that might trump cultural values to respect elders.

To some, it might seem that the East is not aging as rapidly as the West. As of 2012, 19 of the top 20 countries in over-65 population proportions are located in Europe (albeit with Japan owning the highest such percentage; World Bank World Development Indicators, 2013a). If a link exists between increased presence of the aged and negative attitudes toward older adults, as some speculate (Butler, 2009; North & Fiske, 2012; Walker, 1990), this might implicate the West as generally less elder-reverent—at least at first glance.

However, a recent cross-cultural investigation of attitudes toward older adults, comprising 26 countries and incorporating East–West comparisons, is inconclusive as to whether the East or the

West is more positive toward older adults, and how demographic trends might impact this (Löckenhoff et al., 2009). On one hand, Eastern countries in this study reported generally more positive views toward the aging process; on the other hand, Western countries ascribed significantly greater wisdom to older adults. Moreover, countries' over-65 population in 2007 (in which Western countries were generally the highest) positively predicted general positive views toward aging, but negatively predicted beliefs about wisdom among older adults. Thus, as this study's authors admit, purported East–West differences in attitudes toward older adults—as well as the purported link between over-65 population proportion and ageism—is somewhat unclear. One reason for this lack of clarity, put forth by other researchers, is that considerable heterogeneity exists between different Asian regions with respect to stage of population aging (Lee, Mason, & Park, 2011).

Another possible explanation for a lack of a definitive link between demographic trends and attitudes toward the aged is that an over-65 proportion statistic for a given year is too static, failing to adequately capture the strain of recent, dramatic rises in population aging. In this sense, different results might emerge when examining *speed of aging*—that is, the rate of each country's recent spike in over-65 population proportion. This perspective paints a different picture (see Figure 1): As measured by two indices of aging speed—absolute growth in number of seniors and growth in seniors relative to the total population—*Eastern* countries indeed hold the highest rates over a recent 30-year period (Bloomberg Data, 2012; United Nations Population Division, 2012). Thus, from this standpoint, Eastern countries (particularly in East Asia) appear to face the greatest challenges of an aging population, as the top nine countries in absolute aging speed are all in Asia, with four of the top five in East Asia; for relative aging speed, six of the top seven are in East Asia. By contrast, over this same time period, Western countries generally have experienced more gradual rates of population aging—and therefore a less abrupt obligation to accommodate the aged.

Anecdotally, numerous countries in the East specifically face heightened concerns about how to cope with newly older populations. Particular focus has examined the plight of four recently industrialized “Asian Tiger” economies (Hong Kong, Singapore, South Korea, and Taiwan; Kim, 1998), and how population aging presents significant fiscal challenges, such as whether there will be enough savings available for future generations (Heller, 1997; Heller & Symansky, 1998). These concerns do plague portions of the West as well—though Europe more extremely than, for instance, the United States (Floden, 2003).

Nevertheless, if the noted aging–ageism hypothesis holds, then industrialized countries that have been experiencing the most rapid growth in population aging might come to derogate their elders at a similarly faster pace. In other words, a speedier increase in the average human life span—normally considered a positive societal trend, all things equal—might have the unfortunate consequence of speedier devaluation of the aged. And the societal strain caused by a fast-aging population may trump collectivistic cultural values to take care of all members of society. In fact, such values may spur resentment toward those (i.e., seniors) who might be perceived as not pulling their collectivist weight in an industrialized world.

Thus, from a speed-of-aging perspective, the East may indeed exhibit greater negativity toward older adults than the West, as a

comparatively more accelerated and unprecedented age burden forms for families and societies alike. And given that the countries with the highest speeds generally are in East Asia, from this standpoint it follows that East Asian countries specifically are more likely candidates for older adult derogation. At the same time, Eastern traditions of filial piety and similar overall levels of industrialization between the East and the West suggest that this might not be the case. Which of the three cited arguments carries the most empirical weight? The current meta-analysis quantitatively searches for the answer.

The Current Meta-Analysis

To shed light on cross-cultural evaluations of the aged, a meta-analysis compared older adult-focused attitude measures in studies that include at least one Eastern and one Western sample. Meta-analysis allows for the comparison of effect sizes across studies that may utilize disparate methods (e.g., Cooper, 2010; Johnson & Eagly, 2000).

We defined countries as Eastern or Western based on prior work in cross-cultural psychology. In line with the noted distinctions, “Western” countries included primarily Anglophone Western countries (Australia, Canada, New Zealand, United Kingdom, the United States) as well as Western European countries, based on noted geoscheme classifications (United Nations Department for General Assembly & Conference Management, 2012). Meanwhile, “Eastern” countries comprised Asian countries, subdivided per U.N. official groupings (United Nations Statistics Division, 2013): East Asian countries included China, Hong Kong, Japan, Korea, and Taiwan, whereas Southeast/South Asian countries included India, Malaysia, Pacific Islands, Philippines, Singapore, Thailand, and Vietnam. These intraregional subgroupings allowed for more nuanced regional moderator analyses, supplementing broader East–West country classifications for overall analyses. Moreover, to investigate the potential impact of structural country-level variables over time, we calculated a series of lagged (i.e., Time 2 minus Time 1) moderator variables, calculating changes from the past to time of data collection (see Method).

Method

Literature Search

Articles were derived from a search of common electronic databases: PsycINFO, PsycARTICLES, PubMed, and Google Scholar. In addition, we searched comparable, relevant foreign language databases, including Naver (Korea), CNKI (China), and CiNii/NII Scholarly and Academic Information Navigator (Japan).

Article searches comprised relevant terms (and derivations thereof) concerning (a) ageism (*ageism, age-based prejudice, attitudes, elder, elderly, older, older people, older workers, perceptions of the elderly, grandparents*); and (b) investigations across the relevant cultures (*culture, cross cultural, East, West, Eastern, Western, individualistic, holistic, Confucian*)—in addition to combinations of the two. Culture-relevant terms also included individual countries located in the current regions of interest (e.g., *China, Japan, India, United States, United Kingdom*). In order to maximize search results, terms included both hyphenated and nonhyphenated forms (e.g., *cross cultural* and *cross-cultural*). We also

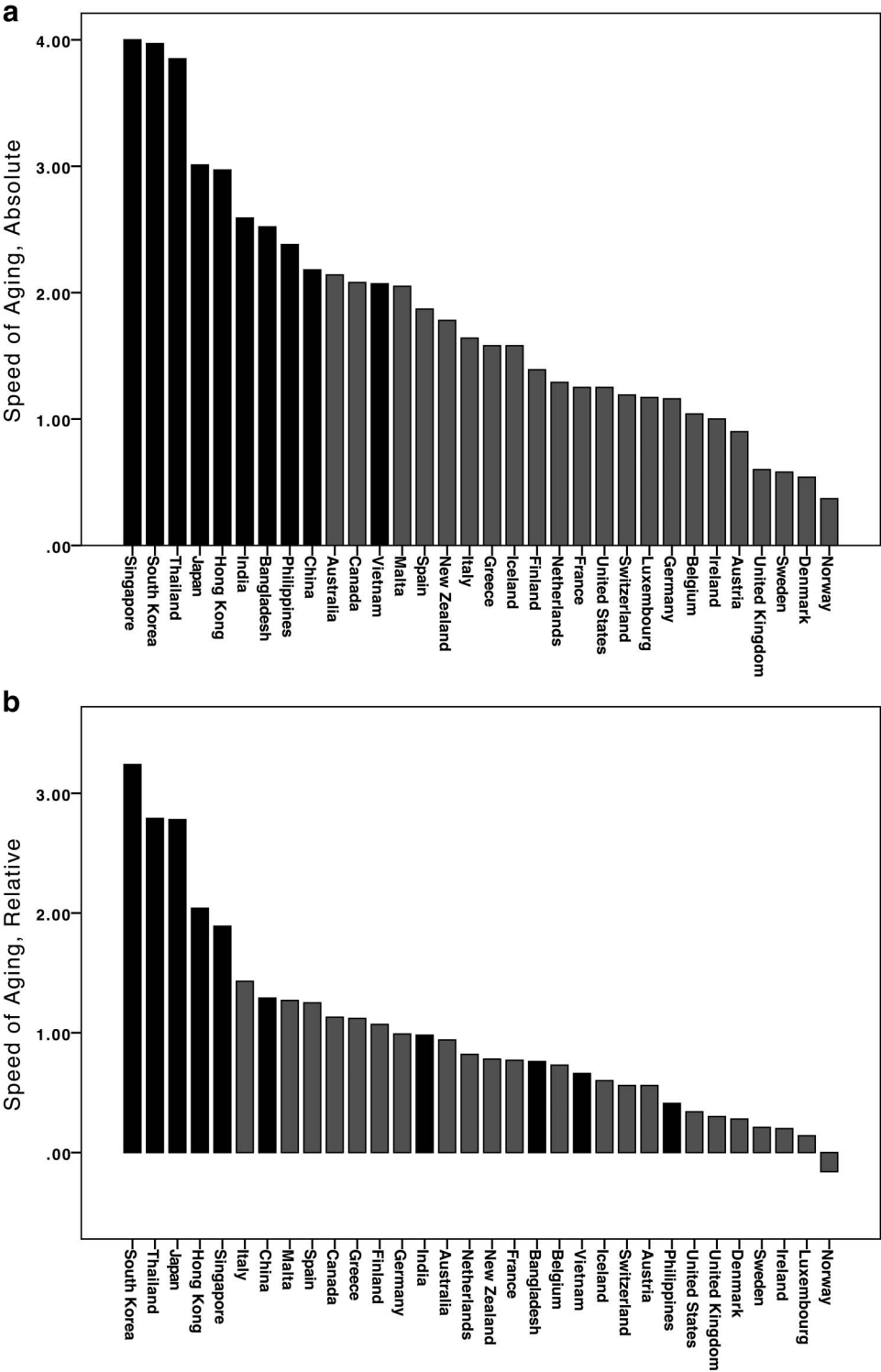


Figure 1. *a–1b*. Country-level aging speed from 1981–2012, as measured by annual percentage growth in number of seniors (top) and annualized growth of seniors in one generation relative to total population (bottom; Bloomberg Data, 2012; United Nations Population Division, 2012). Western countries displayed are United Nations WEOS countries (Anglophone Western and Western Europe). Bars for Eastern countries are bolded for emphasis.

used the references cited in the obtained articles to search further for relevant articles.

Inclusion Criteria

In line with standard meta-analytic methods, we devised study eligibility criteria to maximize the precision of an Eastern-versus-Western analysis on attitudes toward the aged.

East–West comparison. Eligible studies required the comparison of at least one Eastern and one Western sample—defined as such using the criteria indicated—on attitudes toward older people. The inclusion of both Eastern and Western participants in the same study was preferable, in order to maximize the clarity of standardized, East–West mean differences in attitudes toward the aged.¹

Quantitative measures of attitudes toward older adults. The current analysis includes only quantitative studies, published and unpublished, of older adult evaluations. This included (a) general attitude measures (e.g., ageism scales or evaluatively loaded trait ratings of older adults concerning perceived wisdom, warmth, competence, or the like); (b) measures of attitudes toward aging or the aging process; or (c) behavior-based measures (e.g., questions about habitual contact with older adults or else evaluative interpersonal impressions concerning a face-to-face interaction). If a study gathered attitude ratings of older targets as well as other-aged targets (middle-aged, younger), we included the older targets only in the main analysis, not seeking to make cross-aged target comparisons in the current investigation.²

For effect size calculation (see forthcoming Meta-Analytic Strategy section), studies needed to report either (a) means, standard deviations, and relevant *N* for each Eastern and Western sample; (b) pairwise East–West test statistics (independent samples *t*- or *F*-statistics) with corresponding degrees of freedom; or (c) standardized mean effect size differences between Eastern and Western samples (e.g., Cohen's *d*) and sample sizes. When these statistics were not available, requests to authors asked for either the missing information or for original data sets. For unnumbered tests described merely as “nonsignificant,” we coded the effect size as zero; this approach is overly conservative but a common assumption when specific results are not reported or obtainable (e.g., Meyer & Mark, 1995).

Native participants. In order to maintain the most objectively cross-cultural comparisons possible, we required that studies include participants who were raised and had lived predominantly in their home country. In the case of two studies (Lin & Bryant, 2009; Lin, Bryant, & Boldero, 2010), the Eastern participants had lived in the Western country for less than 5 years, but were raised in their home country, and thus could be considered culturally Eastern.

Four of the studies included in this meta-analysis (Giles et al., 2001; Laidlaw et al., 2010; Ryan et al., 2004; Tien-Hyatt, 1986) reported data for three groups: (a) native Easterners living in an Eastern country, (b) native Westerners living in a Western country, and (c) Eastern immigrants living in a Western country. However, in these studies, it was ambiguous how much this third group had assimilated to the new country. Thus, for these cases, we excluded this ambiguous third group and computed effect sizes between the more clear-cut Eastern and Western groups.

Publication year. Although initially we did not restrict our search to a specific time period, all discovered papers (both published and unpublished) appeared in the last 30 full years prior to the current analysis (1984–2014). As it turned out, this fits the time frame of the noted cross-cultural psychology research boom, and also fits our general aim of gauging contemporary views of the aged across cultures.

Paper selection and gathering of inaccessible data. A preliminary screening examined abstracts of the numerous (> 10,000) initial search results, gauging whether articles indeed appeared to concern attitudes toward older adults in Eastern or Western societies. After removing duplicate references, we examined 124 potentially eligible full-text articles to see if they fully met inclusion criteria. Of these articles, 84 were excluded: 26 due to being purely qualitative and thus lacking quantitative information for effect size calculation, 21 due to lacking a cross-cultural focus, 25 that lacked East–West comparison specifically, and 12 that did not concern attitudes toward aging or older adults. Meanwhile, another 10 were potentially eligible but initially unavailable, due to insufficient reporting of data or full-text articles being unobtainable from online databases or interlibrary loan.

This final group, of reports or data unavailable through conventional routes, generated requests directly from their authors for missing information (published or unpublished). This resulted in the inclusion of data from seven of these articles (Durante et al., 2013; Harwood et al., 1996; Harwood et al., 2001; Löckenhoff et al., 2009; McCann & Keaton, 2013; North & Fiske, 2013b; Ota, Giles, & Somera, 2007). A request for studies posted on the list-server for the Society for Personality and Social Psychology (SPSP) sought but did not yield additional eligible studies, both published and unpublished.

Five articles (Chung & Lin, 2012; North & Fiske, 2013a; North & Fiske, 2013b; Ota et al., 2007; Yun & Lachman, 2006) included separate statistics for different age groups of participants. With access to data from these separate samples, we treated each as a separate study, per common meta-analytic strategies (e.g., Kite et al., 2005). This technique also allowed for more precise moderator analyses, such as exploring the effect of participant age on attitudes toward older adults (see Moderator Analyses section), though we note that findings were virtually equivalent when we did not separate the different-aged samples within these articles.

Ultimately, the literature search yielded 37 eligible articles with sufficient results for effect size calculation; after disaggregating

¹ Certainly there exist studies—unreported in this article—that gauge attitudes toward the aged within an Eastern or Western population only. However, given the necessity of computing effect sizes measuring East–West differences, we felt it would be too arbitrary to pair studies on different populations with one another. Thus, as stated here, we opted to include only studies that themselves directly compare the two. As additional support for this approach, publication bias tests indicate (mentioned in Footnote 7) that the chances are virtually nonexistent that enough missing studies exist to reduce effect sizes to a trivial magnitude.

² We note that some of the studies in this meta-analysis do report attitudes toward other age groups. Although Easterners in these studies demonstrated greater negativity than Westerners in perceptions of middle-aged targets ($k = 8$, $g = -0.35$, 95% CI $[-0.50, -0.20]$, $p < .001$), the difference was nonsignificant toward young targets ($k = 18$, $g = -0.08$, 95% CI $[-0.25, 0.09]$, $p = .36$). This suggests that the East–West older adult evaluation findings we report are not merely due to a general negativity bias in the East.

samples by participant age as indicated, the total number of available study-level effect sizes climbed to 40. These studies comprised 154 distinct measures comparing Eastern versus Western attitudes toward the aged, and 21,093 total participants. Among these measure-level East–West effect sizes, only six were estimated as zero due to a lack of information; for all other effects, sufficient test statistic and df (or N) information was available. However, due to insufficient data reporting—and lack of access to original data—the current analysis does not include three potentially eligible articles (Chappell, 2003; Harwood et al., 1994; Sharps, Price-Sharps, & Hanson, 1998).³

Meta-Analytic Strategy

For all analyses, we used the software Comprehensive Meta-Analysis Version 3 (CMA; Borenstein, 2013).

Strategy for overall East–West effects ($k = 40$). The current methodological approach derived from standard techniques of testing group-based differences on continuous outcomes (Lipsey & Wilson, 2001). The general approach calculated standardized mean difference scores (Johnson & Eagly, 2014; Rosenthal, 1994) between Eastern and Western samples on quantitative measures of attitudes toward older adults. Also per common strategies (e.g., Hagger, Wood, Stiff, & Chatzisarantis, 2010), and as indicated, effect sizes were computed via means and standard deviations, or else the reported test statistics comparing Eastern and Western participants in these domains. In calculating standardized mean differences, we employed Hedges's g effect sizes (part of the “Cohen's d family”), which are acutely designed to adjust for potential small sample biases (Cooper, 2010; Hedges & Olkin, 1985).

Effect size operationalization. All effect sizes reflect East–West comparisons in attitudes toward older adults, relative to one another (rather than absolute metrics of positivity or negativity per se). We operationalized a positive g to reflect the common lay assumption that Easterners view their aged more positively than Westerners do; by contrast, a negative g for a given comparison indicated that Easterners were more negative. As indicated, a g of zero was assigned to unspecified effects that were reported as null.

Random-effects modeling. In this analysis we report random-effects models, which account for variance at both the study level as well as participant sampling error, rather than the latter only (Cooper, 2010). The assumption of uniform effects across studies was not appropriate for the current analysis, given the particular diversity in countries and methodologies.

Available effect sizes. Each study contributed its own independent effect size to the overall East-versus-West meta-analysis.⁴ When a study yielded multiple effect sizes (due to using multiple measures), these effect sizes were combined to form one overall effect size for that study. The aggregated study-level effect sizes then formed the meta-analysis' omnibus East–West effect size (see Overall Effect of East versus West section of Results). However, moderator analyses utilized a different approach, as discussed next.

Strategy for moderators. Nearly all articles included more than one measure of age-based attitudes. In order to make use of all available information, we did not exclude any measures from included studies for which these data were available. However, to maximize both assumptions of independence and the utility of

available data, we employed a *shifting unit of analysis* approach to effect size computation (Cooper, 2010). This technique computes overall effects by averaging within-study effects, but also incorporates all individual effect sizes—even if they came from the same study—in computing moderator analyses. (This was particularly useful to test the moderating impact of country, given that many articles used samples from multiple countries within the same broad—i.e., East or West—region.) In combining this level of analysis with the omnibus analysis described earlier, the shifting unit of analysis approach is an accepted compromise between maximizing available information from each study and maintaining assumptions of independence to the extent possible (Cooper, Robinson, & Patall, 2006).

Categorical and continuous moderator analyses. For categorical variables, subgroup analyses separated total effect size variance into variance within and between groups (resembling traditional ANOVA). For each moderator, after removing within-study variance from the total variance, the remaining between-groups variance (Q_b) tested whether effect sizes differed at different categorical levels (Borenstein, Hedges, Higgins, & Rothstein, 2009; Masi, Chen, Hawkey, & Cacioppo, 2011). Where applicable, two independent coders categorized effect sizes into different groupings. Where coder disagreements existed, a third coder made a final decision.

For continuous moderator variables, a method of moments meta-regression procedure tested whether the moderator X effect size slope was significant, using a similar Q_b statistic. Multiple-moderator meta-regression was used as well, to test the significance of moderators simultaneously, controlling for one another.

Different moderator levels. Moderator analyses took place at four different levels.

Study level (maximum $k = 40$). First, at the East–West *study level*, we examined potential moderating sample effects—specifically, gender and age distribution, year of data collection, and sample size—on the omnibus analysis. In estimating year of data collection, based on prior work, we used the value of two years prior to publication for article in which precise year was not known (Konrath et al., 2011; Lee & Pratto, 2011; Twenge et al., 2008). Some effect sizes were based on multiple papers published in different years (Cuddy et al., 2009 and Fiske et al., 2002; Lin &

³ Among these three articles, two report greater negative attitudes in the East than in the West (Harwood et al., 1994; Sharps et al., 1998) and the other (Chappell, 2003) reports mixed evidence. Thus, the inclusion of these articles' data is unlikely to alter the current omnibus findings of the East being more negative toward the aged than the West. Moreover, all three articles comprise countries already included in the meta-analysis, so a lack of data access did not preclude additional countries.

⁴ One study (McCann et al., 2004) reports data from one Western sample (U.S.A.) and two Eastern samples (North Vietnam and South Vietnam) on four different attitude measure DVs. Because the omnibus, study-level analysis requires independence of effect sizes, and without access to the original data set, we were forced to compute East–West effect sizes by selecting only one of these samples. (Fortunately, using only one region was not misleading, as the two Vietnamese samples were highly similar in their responses: These 5-point Likert DVs yielded an average mean difference between the two regions of 0.11). We decided to use North Vietnam only in this omnibus analysis, given its greater average alpha reliability across DVs. However, we included both North Vietnam and the South Vietnam data in moderator analyses, using the shifting unit of analysis approach described.

Bryant, 2009 and Lin et al., 2010). In such cases, we arbitrarily chose to use the most recent year of publication when conducting the 2-years-prior calculation, seeing as one of the articles would be unavoidably misrepresented either way.

Measure level (maximum $k = 154$). Second, at the East–West *measure level*, we disaggregated each study’s individual measurement effect sizes, testing for significant measurement artifacts within the omnibus analysis. These included the number of items composing dependent variables, and type of evaluative measure—operationalized as (a) trait versus behavior, and (b) Kite et al.’s (2005) proposed five categories of old age attitude measures: (a) age stereotype, (b) attractiveness, (c) competence, (d) behavior/behavioral intention, and (e) evaluation. Coders demonstrated strong agreement in classifying a given measure as a trait or a behavior (98.7%; $\kappa = .97$, $p < .001$) and when categorizing measures into Kite et al.’s (2005) classifications (94.1%; $\kappa = .97$, $p < .001$).

Country level, intraregional (maximum $k = 65$). The last two levels of analysis focused on the East–West *nation level*, collapsing all measure-level effect sizes within a given country to conduct cross-cultural comparisons.⁵ Holding the opposite region constant, we then explored intercountry differences within a given region (e.g., comparing the effect sizes for China vs. the West, Japan vs. the West, and so on for all other Eastern countries; then U.S. vs. the East, Canada vs. the East, and so on for all the other Western countries). This allowed us to examine intraregional differences between countries and potential moderators thereof—specifically, East versus South Asia in the East, and in the West, Europe versus non-Europe and Anglophone Western versus non-Anglophone Western. Coders demonstrated perfect agreement in classifying countries into different regions: East Asia versus South Asia, North America versus non-North America, Europe versus non-European Western, and Anglophone Western versus non-Anglophone (intratester reliability = 100%, Cohen’s $\kappa = 1.00$).

Country level, pairwise national comparisons (maximum $k = 158$). With nearly all included studies reporting elder attitude data by individual country, we further subdivided regional analyses, by splitting available data into a series of individual Eastern nation-versus-Western nation analyses. These analyses matched each comparison to estimated year of data collection (e.g., Boduroglu et al., 2006 provide China vs. U.S. data, estimated as collected in 2004; McCann et al., 2003 provide Japan vs. U.S. data, estimated as collected in 2001, as well as Thailand vs. U.S. data, also estimated as collected in 2001). If multiple studies provided the same concurrent pairwise country comparison (e.g., Huang, 2013 and Luo et al., 2013 both report China vs. U.S. data estimated as collected in 2011), these data were collapsed into one nation-versus-nation effect size for that year (i.e., both studies formed the effect size “China vs. U.S., 2011”). Thus, unlike the broader-level intraregional analyses described, this level of analysis accounted for data potentially collected at different time points (e.g., China vs. U.S. in 2011 composed a different effect size than China vs. U.S. in 2009).

Moreover, these analyses allowed for key structural statistics to be matched to year of data collection, where appropriate. To quantitatively investigate the main factors underlying each of the three outlined arguments (collectivism, industrialization, and population aging rate), we gathered relevant data measuring each country’s level of each. Where possible, for maximizing concurrency, we matched in-

dices to country by year of data collection. In cases in which year of data collection was unknown, as noted, we used a standard estimate of two years prior to publication date (Konrath, O’Brien, & Hsing, 2011; Lee & Pratto, 2011; Twenge et al., 2008).

Collectivism. First, to quantify cultural values, we incorporated each country’s score on *individualism/collectivism*, per Hofstede’s cultural values framework (Hofstede, Hofstede, & Minkov, 2010). Although not without critiques, Hofstede’s framework has been praised as an efficient gauge for quantitatively integrating culture into empirical research (Soares, Farhangmehr, & Shoham, 2007). Greatly resembling the cited work in cross-cultural psychology, the Hofstede conceptualization of a highly collectivistic culture leans toward “a tightly-knit social framework in which individuals can expect their relatives [. . .] or other in-group to look after them in exchange for unquestioning loyalty” (Hofstede, 1985, p. 348). By contrast, an individualistic culture prefers “a loosely-knit social framework [. . .] in which individuals are expected to take care of only themselves and their immediate families” (Hofstede, 1985, p. 348). From these criteria, and using quantitative survey responses from employees around the world (Hofstede, 1984), each country has earned a data-driven rating, ranging from 0 (*completely collectivist*) to 100 (*completely individualist*). In line with cross-cultural psychological findings, Eastern countries garner ratings far closer to the collectivist side of the spectrum, whereas Western countries emerge as more individualistic (see Figure 2). After gathering this information, we incorporated this score into the current analysis as a potentially moderating variable of regional findings.⁶

Industrialization. Next, we gathered each country’s Gross Domestic Product, per the World Bank (GDP; World Bank World Development Indicators, 2013c) during time of data collection (estimated as indicated above). For Taiwan, whose GDP data were not included, we retrieved information from an alternate economic indicators website that reports GDP in U.S. dollars (<http://www.tradingeconomics.com/taiwan/gdp>). To get an indicator of industrialization rate over time, we calculated three different percentage GDP change metrics: change in GDP to time of data collection (Time 2 minus Time 1) from 20, 10 and 5 years prior. Each of these statistics figured into the current analysis.

Population aging rate. We also gathered each country’s senior dependency ratio: the proportion of the population over-65 relative to that of the working-age population (15–64). We again obtained data from the World Bank (World Bank World Development Indicators,

⁵ As a form of sensitivity analysis, across all analyses that collapsed variables, we also performed calculations using disaggregated measure-level effect sizes—utilizing all individual measurement effect sizes, even if they came from the same study. Although disaggregation maximizes accessible information, its primary drawback in utilizing multiple effect sizes from the same study is simultaneously maximizing violations of independence. For simplicity, we report only the study-level (i.e., collapsed) effect sizes in this article, though we note that the pattern of findings at the disaggregated level mirrored those of the collapsed level.

⁶ Unlike demographic statistics, Hofstede’s cultural values indices could not be matched with year of data collection, because the precise year in which these statistics were generated is unclear. However, per Hofstede’s own website (<http://geert-hofstede.com/faq.html>), “Since culture changes only very slowly, the scores can be considered up to date.” Moreover, to our knowledge, the Hofstede statistic is the most straightforward, concurrent cross-national comparison on collectivism—not to mention a useful indicator of traditional cultural values (and how these values hold up in relation to current demographic realities) regardless.

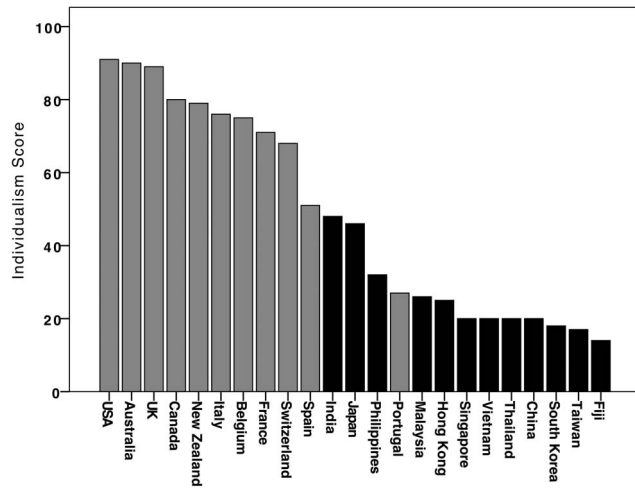


Figure 2. Individualism-collectivism score as a function of country (per Hofstede et al., 2010). Countries displayed comprise all samples included in the current meta-analysis. Higher scores signify greater individualism, whereas lower scores signify greater collectivism. Bars for Eastern countries are bolded for emphasis. Fiji is included as part of the East due to one of the studies in the current analysis (Gattuso & Shadbolt, 2002), whose Asian/Pacific Islander sample was predominantly (83%) native to that country.

2013b). For Taiwan, whose dependency-ratio data were not included in this primary dataset, we used its Ministry of the Interior website (<http://www.moi.gov.tw/english/>). Although highly correlated with over-65 population proportion per se, the senior dependency ratio has the advantage of more directly gauging the level of societal strain caused by an aging population. As with industrialization, for over-time rate of change of this statistic, we calculated three fluid gauges of population aging over time: dependency ratio increase (Time 2 minus Time 1) to time of data collection from 20, 10 and 5 years prior. Each figured into the current analysis.

Analyses. Incorporating these three societal factors (cultural collectivism, recent industrialization, population aging rate), we employed multiple-moderator meta-regression analysis, which partials out the unique variance of each predictor, controlling for the others (Higgins & Thompson, 2004).

We ran three different multiple-moderator meta-regression models, each of which simultaneously tested the relative predictive value of recent spikes in population aging, and recent spikes in industrialization, and longstanding cultural values on attitudes toward the aged: (1) a 5-years prior model, comprising 5-year increase in aging, 5-year increase in industrialization, and cultural collectivism; (2) a 10-years prior model, comprising 10-year increase in aging, 10-year increase in industrialization, and cultural collectivism; and (3) a 20-years prior model, 20-year increase in aging, 20-year increase in industrialization, and cultural collectivism.

Results

Overall Effect of East Versus West⁷

Overall meta-analytic results appear numerically in Table 1, with a visual representation (forest plot) appearing in Figure 3. The average

corrected, standard mean East–West difference for all studies was $g = -0.31$, 95% CI $[-0.41, -0.20]$, $Q(40) = 483.83$, $p < .001$, with Easterners holding moderately more negative views than Westerners, in an omnibus sense.

The significant Q statistic indicates heterogeneity in the effect size across studies: In addition to sampling error within studies, at least some of the error is likely due to differences in effect sizes between studies. This indicates a high likelihood of variables moderating the overall effect, further warranting the in-depth exploration described next (Higgins & Thompson, 2002; Higgins et al., 2003).

Study-Level Moderator Analyses (Maximum $k = 40$)

Sample characteristics. No significant moderation emerged with respect to gender distribution (proportion female), rater age, or year of data collection. A mixed effect (method of moments) meta-regression found that sample size was a marginally significant moderator of the East–West difference, $Q(39) = 3.10$, $p = .08$. However, a multiple-moderator meta-regression analysis simultaneously entering all three cited continuous predictors (estimated year of data collection, percentage female, and sample size), found that none of these variables emerged as significant, controlling for one another (see Table 2).

Measure-Level Moderator Analyses (Maximum $k = 154$)

Number of items composing DVs. A meta-regression found that number of items tended to predict the magnitude of the (negative) East–West effect size, $Q(146) = 4.54$, $p = .03$ (see Table 2).

Type of measure. East-versus-West effect size did not change as a function of trait-versus-behavior measurement classification. However, with more sensitive distinctions (Kite et al., 2005), a significant measure type effect emerged, $Q_b = 10.68$, $p = .03$ (see Table 2). Although the Eastern negativity effect was consistent across assessment types (with the exception of attractiveness, for which only a single measure was available across studies), the effect was strongest for behavior/behavioral intent measures (see Table 3 for measure type categorizations).

Country-Level Moderator Analyses, Intraregional (Maximum $k = 65$)

Intraregional effects: East. A trend toward an intra-Eastern regional difference approached significance, $Q_b = 2.51$, $p = .11$. The East–West difference was moderate among effect sizes comprising

⁷ Due to numerous concerns with common tests of “publication bias” (e.g., Evans, 1996), such as assuming a single population value—an off-base assumption given the current study’s heterogeneity and thereby multiple population values—we do not report this analysis in the text. Nevertheless, we note that we conducted three such tests, all of which indicated a lack of publication bias. First, a fail-safe N of 4,351 signified a large number of missing studies needed to push the opposing overall effect size to a barely significant value (well above Rosenberg’s [2005] suggested critical value of $5N + 10$). Second, a trim-and-fill funnel plot depicting study-level effect sizes indicated an approximately symmetrical distribution around the mean, suggests that effect sizes are unlikely to be missing from the analysis (Cooper, 2010). Finally, Egger’s regression test of plot asymmetry was nonsignificant, $t(38) = 1.18$, two-tailed $p = .24$.

Table 1

Overall Meta-Analysis: Attitudes Toward Older Adults as a Function of East–West Culture

Authors	Publication year	Eastern countries	Western countries	<i>g</i>	95% CI	<i>N</i> East	<i>N</i> West	Sample age range	% Female
Boduroglu et al.	2006	China	USA	0.24	[−0.19, 0.68]	43	37	Younger- & older-aged	50.0
Chang, Chang, & Shen	1984	Taiwan	USA*	0.11	[−0.07, 0.28]	200	400	18–32	45.8
Chiu et al.	2001	HK	UK	−0.23	[−0.40, −0.06]	300	256	22–60	64.5
Chung & Lin (Young)	2012	China	USA	0.58	[0.11, 1.05]	31	43	18–31	54.1
Chung & Lin (Older)	2012	China	USA	1.44	[0.94, 1.95]	39	36	55–87	76.0
Cuddy, Fiske, Kwan, et al.; Fiske et al.	2009, 2002	HK, Japan, SK	Belgium, USA	−0.25	[−0.48, −0.02]	116	202	college-aged & adult	NA
Davidson, Luo, & Fulton	2008	China	USA	−0.03	[−0.65, 0.60]	64	64	6–11	50.0
Durante et al.	2013	Malaysia	Portugal, Spain, UK	0.03	[−0.25, 0.30]	77	172	college-aged & adult	NA
Gattuso & Shadbolt	2002	Fiji [^]	Australia	−0.21	[−0.44, 0.02]	167	131	18–50	84.1
Giles, Harwood, Pierson, et al.	1998	China	USA	−0.20	[−0.49, 0.08]	93	98	college-aged	66.0
Giles et al.	2001	Taiwan	USA	−0.33	[−0.69, 0.02]	98	46	17–28	59.9
Giles, Noels, Ota, et al.	2000	China, India, Japan, Philippines, Singapore, SK, Thailand	Australia, Canada, NZ, USA	−0.30	[−0.41, −0.19]	917	492	??–30	52.2
Giles, Noels, Williams, et al.	2003	Japan, Philippines, SK	Canada, NZ, USA	−0.39	[−0.54, −0.24]	376	337	16–30	56.2
Harwood, Giles, McCann, et al.	2001	China, Hong Kong, Philippines, Thailand	Australia	−0.22	[−0.44, 0.00]	510	96	48–96	56.4
Harwood, Giles, Ota, et al.	1996	HK, Philippines, SK	Australia, NZ, USA	−0.34	[−0.46, −0.22]	606	448	college-aged	NR
Huang	2013	China, Japan, Taiwan, Vietnam	UK, USA	−0.42	[−0.53, −0.30]	1002	400	college-aged	52.7
Laidlaw et al.	2010	China	UK	−1.22	[−1.73, −0.70]	98	20	60–92	55.1
Lin & Bryant; Lin, Bryant, & Boldero	2009, 2010	China, Malaysia, Singapore	Australia	−0.55	[−1.04, −0.06]	34	31	17–35	75.4
Löckenhoff et al.	2009	China, HK, India, Japan, Malaysia, SK	Australia, France, Italy, NZ, Portugal, Switzerland, UK, USA	−0.04	[−0.13, 0.05]	854	1009	college-aged	67.6
Luo et al.	2013	China	USA	−1.19	[−1.37, −1.01]	302	265	college-aged	66.7
McCann et al.	2003	Japan, Thailand	USA	−0.41	[−0.63, −0.19]	200	141	college-aged	72.4
McCann et al.	2004	Vietnam	USA	0.00	[−0.22, 0.21]	163	167	college-aged	67.9
McCann & Giles	2006	Thailand	USA	−0.12	[−0.33, 0.09]	180	168	under 35	67.2
McCann & Giles	2007	Thailand	USA	−0.20	[−0.44, 0.04]	125	142	18–34	76.4
McCann & Keaton	2013	Thailand	USA	−0.19	[−0.43, 0.06]	125	142	18–33	76.4
North & Fiske (Young)	2013c; n.d.	India	USA	−0.80	[−0.92, −0.69]	477	1089	17–30	52.0
North & Fiske (Middle-Aged)	2013c; n.d.	India	USA	−1.00	[−1.13, −0.87]	314	921	31–81	57.7
Ota, Giles, & Gallois	2002	Japan	Australia	−0.91	[−1.14, −0.68]	155	171	17–27	54.6
Ota, Giles, & Somera (Young)	2007	Japan, Philippines	USA	−0.11	[−0.41, 0.19]	151	64	17–28	55.9
Ota, Giles, & Somera (Older)	2007	Japan, Philippines	USA	−0.39	[−0.65, −0.13]	198	86	60–91	56.7
Ryan et al.	2004	China	Canada	−0.11	[−0.46, 0.23]	64	62	18–74	57.9
Ryan, Jin, & Anas	2009	SK	Canada	−0.44	[−0.66, −0.22]	165	161	18–27	NR
Strom et al.	1999	China	USA	−0.60	[−0.70, −0.50]	751	1086	NR	NR
Sung	2004	SK	USA	−0.30	[−0.44, −0.17]	401	501	college-aged	47.2
Tien-Hyatt	1986	Taiwan	USA	−0.12	[−0.73, 0.49]	20	20	60–75	100
Williams, Ota, Giles, et al.	1997	China, HK, Japan, Philippines, SK	Australia, Canada, NZ, USA	−0.28	[−0.38, −0.18]	1030	601	18–29	60.2
Yun & Lachman (Young)	2006	SK	USA	−0.43	[−0.80, −0.06]	61	51	19–39	56.3
Yun & Lachman (Middle-Aged)	2006	SK	USA	−0.69	[−1.08, −0.30]	56	51	41–59	55.1
Yun & Lachman (Older)	2006	SK	USA	−0.48	[−0.89, −0.08]	45	51	61–78	54.2
Zhou	2007	China	USA	−0.28	[−0.54, −0.02]	119	108	college-aged	52.9
Total				−0.31	[−0.41, −0.20]	10,727	10,366		

Note. * includes Asian-Americans. [^] Fiji is included as part of the East for Gattuso and Shadbolt (2002), whose Asian/Pacific Islander sample was predominantly (83%) native to that country. *g* = standardized mean East–West difference in older adult views, with the Hedges correction; negative effect sizes signify East as more negative. HK = Hong Kong; SK = South Korea; NZ = New Zealand; UK = United Kingdom; USA = United States of America. Unspecified age ranges indicate unreported (NR) or otherwise unavailable (NA) values. Two articles (Lin & Bryant, 2004; Lin, Bryant & Boldero, 2010) use the same sample with different outcome measures. Two other sets of articles (Cuddy et al., 2009; Fiske et al., 2002; North & Fiske, 2013b; North & Fiske, n.d.) use identical outcome measures on an Eastern and Western sample, respectively. Effect sizes represent collapsed effect sizes at the study level (i.e., one effect size for each study).

East Asian samples ($g = -0.41$, $k = 43$, 95% CI $[-0.46, -0.23]$; $p < .001$), but only marginal among those including South Asian samples ($g = -0.17$, $k = 22$, 95% CI $[-0.36, 0.03]$; $p = .09$); see Table 4.

Follow-up, Eastern-country-versus-Western-region analyses found a significant difference, $Q_b = 50.78$, $p < .001$. South Korea, Singapore, India, Japan, Hong Kong, and Thailand all emerged as significantly more negative than the West in attitudes toward the aged. (Another country, Malaysia, was marginally more *positive* than the West; see Table 4.) The remaining countries, Fiji, China, Taiwan, Vietnam, and the Philippines, did not significantly differ from the West.

Intraregional effects: West. Significant geographical region effects on attitudes toward older adults also emerged within the West, although not as consistently as within the East (see Table 4). No significant difference emerged when splitting available studies into North American versus non-North American segments ($Q_b = 1.24$, $p = .27$), as both were significantly more positive than the East. However, a significant difference emerged between Europeans and non-Europeans. Although the former did not differ from the East in their views toward the aged ($g = -0.08$, $k = 12$, 95% CI $[-0.24, 0.09]$; $p = .38$), the latter remained significantly more positive than the East ($g = -0.31$, $k = 45$, 95% CI $[-0.41, -0.21]$; $p < .001$), $Q_b = 5.59$, $p = .02$. Virtually identical results emerged when dividing

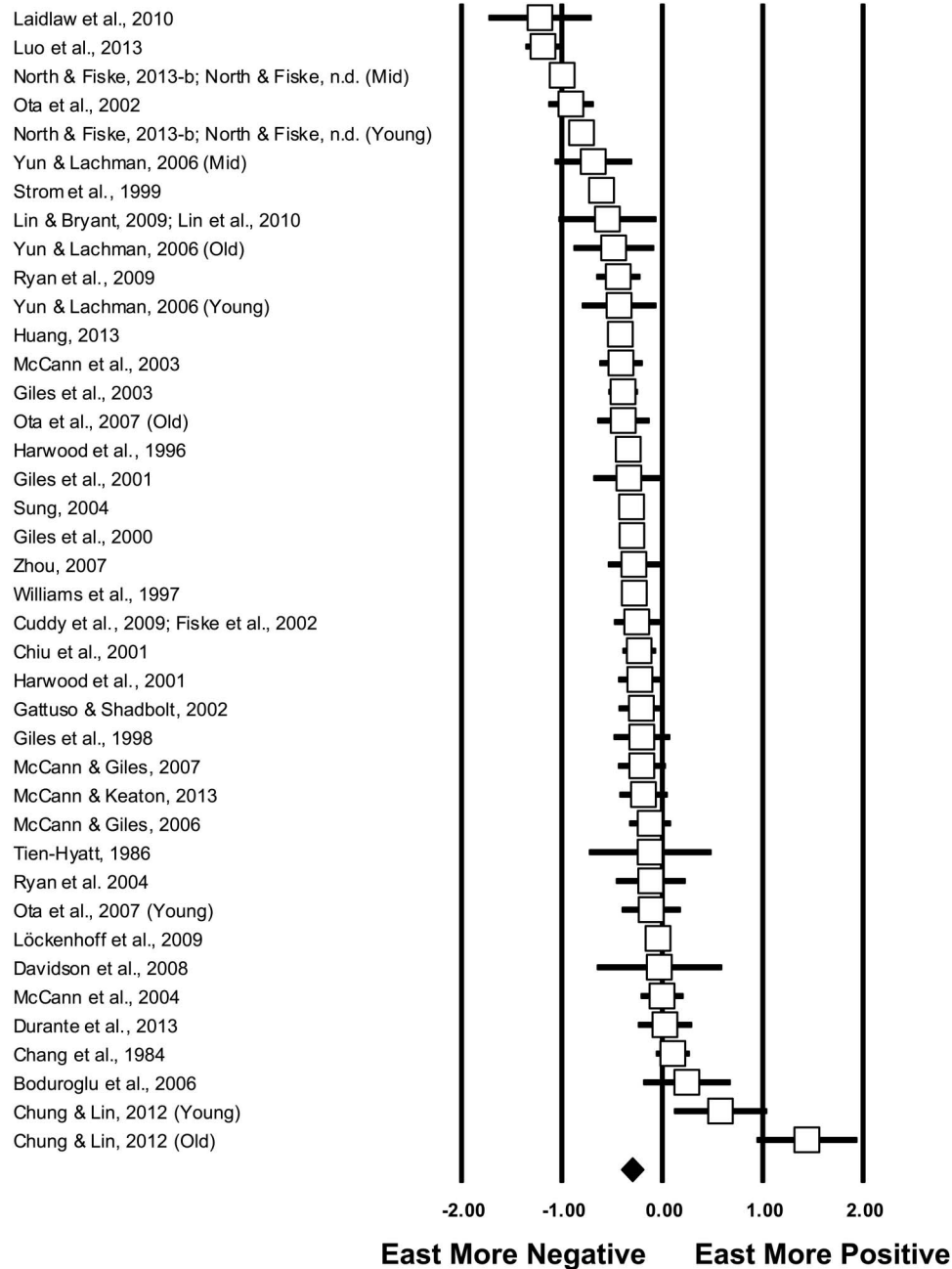


Figure 3. Forest plot of overall East-West effect sizes by study. Effect size markers are proportional to weights; horizontal lines represent 95% confidence intervals. "Old" = older participant results only, "Mid" = middle-aged participant results only, "Young" = younger participant results only.

between Anglophone Western ($g = -0.31$, $k = 50$, 95% CI $[-0.41, -0.22]$; $p < .001$) and non-Anglophone samples ($g = 0.07$, $k = 7$, 95% CI $[-0.07, 0.22]$; $p = .33$), $Q_b = 18.99$, $p < .001$.

Finally, a significant moderating effect of individual Western country emerged, $Q_b = 70.16$, $p < .001$ (see Table 4). Mirroring broader regional patterns, Anglophone Western regions (Australia, Canada, United States, United Kingdom, and New Zealand) represented the countries that were significantly more positive in their elder views than the East. Samples from the other Western coun-

tries, all non-Anglophone, were not significantly more positive—and two (France and Switzerland) were significantly more negative than Eastern countries.

Country-Level Moderator Analyses, Pairwise National Comparisons (Maximum $k = 158$)

All structural and cultural statistics used for pairwise East-West country comparisons appear in Table 5; multiple-moderator meta-

Table 2
Study-Level Moderator Analyses

Moderator	Category	k	g	95% CI	Q_{between}	p_{between}
Study level, collapsed measure-level effect sizes (maximum available k = 40)						
Time period	Year of data collection ^{^^}	40			1.47	.23
Gender distribution	% Female [^]	36			1.50	.22
Sample size	Total N [^]	40			3.10⁺	.08
Rater age	College-aged/under 35 only	25	−0.32***	−0.44, −0.19	0.26	.61
	Includes adults (over 35)	14	−0.24 ⁺	−0.51, 0.02		
Study-level multiple-moderator meta-regression						
		B	SE	95% CI	Z	p
	Intercept	25.65	17.47	−8.60, 59.90	1.47	.14
	Year of data collection	−0.01	0.01	−0.03, 0.00	−1.50	.13
	Sample size	0.00	0.00	0.00, 0.00	−1.04	.29
	% Female	0.52	0.56	−0.58, 1.62	0.93	.35
Study level, disaggregated measure-level effect sizes (maximum available k = 154)						
Measurement length	Number of items in DV [^]	147			4.54**	.03
Basic measure type	Trait rating	109	−0.24***	−0.33, −0.15	0.07	.79
	Behavior rating	45	−0.26***	−0.36, −0.16		
Kite et al. (2005) Measure type	Behavior/behavioral intent	40	−0.32***	−0.42, −0.22	11.06*	.03
	Age stereotype	35	−0.28***	−0.46, −0.09		
	Evaluation/warmth	21	−0.24***	−0.38, −0.10		
	Competence	56	−0.20***	−0.32, −0.08		
	Attractiveness	2	0.12	−0.13, 0.36		

Note. k = number of effect sizes in analysis; g = standardized mean East–West difference in older adult views, with the Hedges correction; negative effect sizes signify East as more negative. [^] Continuous variable, testing for significant moderation using meta-regression. ^{^^} Where unavailable, data collection year estimated as two years prior to publication. All effect sizes are in the direction of (East–West), so negative effect sizes signify the East being more negative toward the aged, and positive effect sizes the East being more positive. Excepting the multiple-moderator meta-regression, each individual moderator analysis occurred independent from the other moderator analyses.

⁺ $p \leq .10$. * $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

regression analysis tables incorporating these statistics appear in Table 6.

5-years prior model. Controlling for the other variables, East–West differences in national population aging speed (from 5 years prior to data collection) negatively predicted East–West differences in attitudes toward older adults ($Z = -4.07, p < .001$), see Figure 4. By contrast, East–West differences in individualistic cultural values positively predicted older adult evaluations ($Z = 4.99, p < .001$), see Figure 5. However, differences in industrialization speed (from 5 years prior to data collection) was not a significant predictor of differences in attitudes toward the aged.

10-years prior model. Controlling for the other variables, East–West differences in aging speed (from 10 years prior to data collection) again negatively predicted East–West attitude differences toward older adults ($Z = -3.10, p = .002$), see Figure 4. Meanwhile, differences in cultural individualism positively predicted these effect sizes ($Z = 4.53, p < .001$), see Figure 5. Once again, differences in industrialization speed (from 10 years prior to data collection) was not a significant predictor of older adult attitude differences.

20-years prior model. Controlling for other variables, East-versus-West differences in aging speed (from 20 years prior to data collection) again negatively predicted East–West differences in older adult-related attitudes ($Z = -4.02, p < .001$), see Figure 4. East–West differences in cultural individualism were again a positive predictor of such attitudes ($Z = 3.94, p < .001$), see Figure 5. East differences in industrialization speed (from 20 years prior to data collection) was once again a nonsignificant predictor of elder evaluations.

Discussion

Contrary to prevailing beliefs that Easterners revere their elders more than Westerners do, a meta-analysis on studies directly comparing the two broad geographical regions found Eastern cultures to hold significantly greater negative attitudes, at least overall. Although Eastern cultures may continue to hold high expectations for respecting one's elders (Ng, 1998, 2002), the current findings suggest that this does not necessarily translate into greater contemporary positive regard. However, the presence of significant homogeneity, and follow-up moderator analyses, suggested that understanding cross-cultural attitudes toward older adults requires more than broad, East–West classifications.

Intraregional subgroup analyses found geographical location to be a significant moderator in a variety of ways. Within the East, the East–West disparity was most pronounced when averaging over only East Asian samples—as opposed to including only South/Southeast Asian samples, where the East–West difference was only marginally significant (albeit still in the overall direction of relative Eastern negativity). Among the West, European and non-Anglophone countries tended to be more negative than non-European and Anglophone Western regions. A further layer of complexity emerged when investigating individual countries within these regions; most notably, within the West, some European regions appeared even more negative than Easterners—again suggesting that a mere East–West explanation for the overall findings is incomplete.

Furthering a more nuanced story, pairwise, country-level meta-regression analyses—factoring in time of data collection—sought

Table 3
Categorization of Measurement Characteristics for Moderator Analysis

Study	Reported outcome variable	Measure type (trait/behavior)	Measure type (per Kite et al., 2005)	N Items in measure
Boduroglu et al., 2006	Mental/physical stereotypes (negative)	Trait	Competence	NR
	Mental/physical stereotypes (positive)	Trait	Competence	NR
	Social/emotional stereotypes (negative)	Trait	Competence	NR
	Social/emotional stereotypes (positive)	Trait	Competence	NR
Chang et al., 1984	Kilty & Feld Scale	Trait	Age stereotype	35
	Kogan's Scale	Trait	Age stereotype	17
Chiu et al., 2001	Adaptability	Trait	Competence	6
	Work effectiveness	Trait	Competence	4
Chung & Lin, 2012 (Young)	View of aging	Trait	Age stereotype	30
Chung & Lin, 2012 (Old)	View of aging	Trait	Age stereotype	30
Cuddy et al., 2009; Fiske et al., 2002	Competence	Trait	Competence	4
	Warmth	Trait	Evaluation/warmth	4
Davidson et al., 2008	Friendliest (Age 65)	Trait	Evaluation/warmth	1
	Friendliest (Age 80)	Trait	Evaluation/warmth	1
	Happiest (Age 65)	Trait	Age stereotype	1
	Happiest (Age 80)	Trait	Age stereotype	1
	Healthiest (Age 65)	Trait	Competence	1
	Healthiest (Age 80)	Trait	Competence	1
	Least spend time (Age 65)	Trait	Behavior/behavioral intent	1
	Least spend time (Age 80)	Trait	Behavior/behavioral intent	1
	Meanest (Age 65)	Trait	Evaluation/warmth	1
	Meanest (Age 80)	Trait	Evaluation/warmth	1
	Most helpful (Age 65)	Trait	Competence	1
	Most helpful (Age 80)	Trait	Competence	1
	Most spend time (Age 65)	Trait	Behavior/behavioral intent	1
	Most spend time (Age 80)	Trait	Behavior/behavioral intent	1
	Nicest (Age 65)	Trait	Evaluation/warmth	1
	Nicest (Age 80)	Trait	Evaluation/warmth	1
	Competence	Trait	Competence	4
	Warmth	Trait	Evaluation/warmth	4
Gattuso & Shadbolt, 2002	Intimate contact	Behavior	Behavior/behavioral intent	1
	Nonintimate contact	Behavior	Behavior/behavioral intent	1
Giles et al., 1998	RAQ	Trait	Age stereotype	27
	Active	Trait	Competence	1
	Attractive	Trait	Attractiveness	1
	Flexible	Trait	Competence	1
	Friendly	Trait	Evaluation/warmth	1
	Generous	Trait	Evaluation/warmth	1
	Good	Trait	Evaluation/warmth	1
	Happy	Trait	Age stereotype	1
	Healthy	Trait	Competence	1
	Independent	Trait	Competence	1
	Interesting	Trait	Age stereotype	1
	Kind	Trait	Evaluation/warmth	1
	Knowledgeable	Trait	Competence	1
	Liberal	Trait	Age stereotype	1
	Neat	Trait	Competence	1
	Not lonely	Trait	Age stereotype	1
	Optimistic	Trait	Age stereotype	1
	Productive	Trait	Competence	1
	Tolerant	Trait	Evaluation/warmth	1
	Trustworthy	Trait	Evaluation/warmth	1
	Uncomplaining	Trait	Evaluation/warmth	1
	Wise	Trait	Competence	1
Giles et al., 2001	Accommodation	Behavior	Behavior/behavioral intent	7
	Avoidant communication	Behavior	Behavior/behavioral intent	4
	Nonaccommodation	Behavior	Behavior/behavioral intent	18
	Positive emotions	Trait	Evaluation/warmth	4
	Respect/obligation	Trait	Competence	8
Giles et al., 2003	Accommodation (elder family)	Behavior	Behavior/behavioral intent	5
	Accommodation (elder nonfamily)	Behavior	Behavior/behavioral intent	5
	Age-irrelevant positivity (elder family)	Behavior	Evaluation/warmth	3
	Age-irrelevant positivity (elder nonfamily)	Behavior	Evaluation/warmth	3

(table continues)

Table 3 (continued)

Study	Reported outcome variable	Measure type (trait/behavior)	Measure type (per Kite et al., 2005)	N Items in measure
	Contact (elder family)	Behavior	Behavior/behavioral intent	1
	Contact (elder nonfamily)	Behavior	Behavior/behavioral intent	1
	Nonaccommodation (elder family)	Behavior	Behavior/behavioral intent	5
	Nonaccommodation (elder nonfamily)	Behavior	Behavior/behavioral intent	5
Giles et al., 2000	Vitality	Trait	Competence	19
Harwood et al., 2001	Benevolence	Trait	Evaluation/warmth	4
	Vitality	Trait	Competence	5
Harwood et al., 1996	Benevolence	Trait	Evaluation/warmth	3
	Vitality	Trait	Competence	5
Huang, 2013	Aging semantic differential	Trait	Age stereotype	32
Huang, 2013	Knowledge/FAQ	Trait	Age stereotype	25
Laidlaw et al., 2010	AAQ: Physical change	Trait	Age stereotype	8
	AAQ: Psychological growth	Trait	Age stereotype	8
	AAQ: Psychosocial loss	Trait	Age stereotype	8
Lin & Bryant, 2009; Lin et al., 2010	FSA	Trait	Age stereotype	29
	Implicit prejudice (IAT)	Trait	Age stereotype	NA
Löckenhoff et al., 2009	Attractiveness	Trait	Attractiveness	1
	Everyday tasks	Trait	Age stereotype	1
	Family authority	Trait	Competence	1
	General knowledge	Trait	Competence	1
	Learn	Trait	Age stereotype	1
	Life satisfaction	Trait	Age stereotype	1
	Received respect	Trait	Age stereotype	1
	Societal views	Trait	Age stereotype	1
	Wisdom	Trait	Competence	1
Luo et al., 2013	FSA	Trait	Age stereotype	29
McCann et al., 2003	Accommodation	Behavior	Behavior/behavioral intent	6
	Avoidance	Behavior	Behavior/behavioral intent	4
	Nonaccommodation	Behavior	Behavior/behavioral intent	13
	Respect obligation	Behavior	Competence	9
McCann et al., 2004	Accommodation	Behavior	Behavior/behavioral intent	6
	Avoidance	Behavior	Behavior/behavioral intent	3
	Nonaccommodation	Behavior	Behavior/behavioral intent	6
	Respect	Behavior	Behavior/behavioral intent	4
McCann & Giles, 2006	Accommodation	Behavior	Behavior/behavioral intent	6
	Avoidant communication	Behavior	Behavior/behavioral intent	9
	Nonaccommodation	Behavior	Behavior/behavioral intent	4
McCann & Giles, 2007	Accommodation	Behavior	Behavior/behavioral intent	6
	Nonaccommodation	Behavior	Behavior/behavioral intent	4
	Respect obligation	Behavior	Competence	9
McCann & Keaton, 2013	Accommodation	Behavior	Behavior/behavioral intent	3
	Avoidance	Behavior	Behavior/behavioral intent	3
	Flexible	Trait	Competence	2
	Loyal	Trait	Age stereotype	3
	Memory	Trait	Competence	2
	New technology	Trait	Competence	2
	Nonaccommodation	Behavior	Behavior/behavioral intent	3
	Physical	Trait	Competence	2
	Productive	Trait	Competence	2
	Respect	Behavior	Competence	1
North & Fiske, 2013b; North & Fiske, n.d.; (Young)	SIC Ageism Scale	Trait	Age stereotype	20
North & Fiske, 2013b; North & Fiske, n.d.; (Mid)	SIC Ageism Scale	Trait	Age stereotype	20
Ota et al., 2002	Age group vitality	Trait	Competence	19
	Benevolence	Trait	Evaluation/warmth	4
	Personal vitality	Trait	Competence	5
Ota et al., 2007 (Young)	Accommodation	Behavior	Behavior/behavioral intent	6
	Avoidance	Behavior	Behavior/behavioral intent	4
	Nonaccommodation	Behavior	Behavior/behavioral intent	13
	Respect obligation	Behavior	Competence	9
Ota et al., 2007 (Old)	Accommodation	Behavior	Behavior/behavioral intent	6
	Avoidance	Behavior	Behavior/behavioral intent	4
	Nonaccommodation	Behavior	Behavior/behavioral intent	13
	Respect obligation	Behavior	Competence	9

(table continues)

Table 3 (continued)

Study	Reported outcome variable	Measure type (trait/behavior)	Measure type (per Kite et al., 2005)	N Items in measure
Ryan et al., 2004	Hearing/Memory	Trait	Competence	7
	Social skill	Trait	Competence	6
	Story telling	Trait	Age stereotype	4
Ryan et al., 2009	Capacity (Other)	Trait	Competence	18
	Capacity (Self)	Trait	Competence	18
	Change (Other)	Trait	Competence	17
	Change (Self)	Trait	Competence	17
	Locus (Other)	Trait	Competence	9
	Locus (Self)	Trait	Competence	9
Strom et al., 1999	Concerns	Trait	Age stereotype	30
	Potentials	Trait	Competence	30
Sung, 2004	Acquiescent respect	Trait	Competence	1
	Care respect	Trait	Competence	1
	Consulting respect	Trait	Competence	1
	Linguistic respect	Trait	Competence	1
	Precedential respect	Trait	Competence	1
	Salutatory respect	Trait	Competence	1
Tien-Hyatt, 1986	Self-perceived reverence for the elderly	Trait	Competence	4
	Self-perceptions of aging	Trait	Age stereotype	4
Williams et al., 1997	Accommodation	Behavior	Behavior/behavioral intent	7
	Nonaccommodation	Behavior	Behavior/behavioral intent	6
	Positivity	Behavior	Evaluation/warmth	3
	Respect	Behavior	Competence	3
Yun & Lachman, 2006 (Young)	Anxiety About Aging Questionnaire	Trait	Age stereotype	20
Yun & Lachman, 2006 (Mid)	Anxiety About Aging Questionnaire	Trait	Age stereotype	20
Yun & Lachman, 2006 (Old)	Anxiety About Aging Questionnaire	Trait	Age stereotype	20
Zhou, 2007	Negative indicators	Trait	Age stereotype	NR
	Positive indicators	Trait	Age stereotype	NR

Note. NA = not applicable; NR = not reported.

to predict East–West differences in attitudes toward older adults, based on key country-level factors. Two significant predictors emerged consistently: First, differences in nation-level population aging strain, using three different reference points (i.e., aging spike to the present from 5 years, 10 years, and 20 years prior to data collection, respectively) predicted relative *negativity* toward older adults. Second, and more unexpectedly, differences in longstanding cultural individualism (vs. collectivism) predicted relative *positivity* toward older adults. Both factors were significant when controlling for comparably timed, recent rises in nation-level industrialization speed, which did not emerge as a significant predictor of cultural attitudes toward the aged. Even though the East overall has undergone steeper recent rises in industrialization compared with the West (Kim, 1998; Lee, LaPlaca, & Rassekh, 2008), which has plateaued in comparison, the current findings suggest that a population aging rate hypothesis (in addition to an unanticipated collectivism-ageism link) holds greater weight that a mere modernization one. More broadly, these findings suggest that attitudes toward older adults derive from modern cultural realities, rather than East–West distinctions per se. In the next section, we discuss potential explanations for these predictive factors and their implications.

Finally, study-level meta-regression analyses, testing for study characteristic moderator variables, found two significant variables. First, measures comprising more items tended to find more pronounced East–West effects; insofar as a negative East–West difference exists in attitudes toward older adults, more sensitive measures appear to be better gauges of the effect. (This finding could also be a reliability effect, such that measures with greater

internal reliability are more precise indicators of the effect that exists in the world. However, sufficient reliability information was not available across studies to know for certain.) Second, a particular measure type distinction (per Kite et al., 2005) emerged as a significant moderator, with behavior-based measures yielding the strongest (and attractiveness measures yielding the weakest) East–West differences.

A Story More Complex Than East–West: Perceptions Versus Realities

To some the current overall results may seem surprising, but other studies have similarly found that cultures widely believed to be more respectful of elders are not always so. For instance, some speculate that Latin American cultures exhibit particularly positive views of older adults, due to high rates of intergenerational cohabitation (Burr & Mutchler, 1999). Nevertheless, the noted, mixed stereotype of warmth-but-incompetence permeates predominantly Latin American countries, too. For instance, researchers examining prevailing views of older adults find that they are perceived as warm but incompetent in Bolivia, Brazil, and Mexico, similar to North American and Western European samples (de Paula Couto & Koller, 2012; Durante et al., 2013). Another article, included in the current meta-analysis (Löckenhoff et al., 2009), finds comparably negative attitudes toward the aged among Peruvian and Chilean samples as in other countries around the world (spanning Europe, East Asia, South Asia, and North America). Although both countries' samples apparently believe that aging yields wisdom and respect, they also agree with the majority of

Table 4
Intraregional Moderator Analyses

Moderator	Category	k	g	95% CI	Q _{between}	P _{between}
Regional analyses, collapsed measure-level effect sizes (maximum available k = 65)						
Eastern Region (vs. All West)	East Asia	43	−0.41***	[−0.46, −0.23]	2.51	.11
	South Asia	22	−0.17 ⁺	[−0.36, 0.03]		
Eastern Country (vs. All West)	South Korea	10	−0.58***	[−0.80, −0.36]	50.78***	<.001
	Singapore	1	−0.54***	[−0.74, −0.33]		
	India	4	−0.48*	[−0.90, −0.06]		
	Japan	9	−0.43**	[−0.64, −0.22]		
	Hong Kong	5	−0.31**	[−0.56, −0.07]		
	Thailand	5	−0.24***	[−0.37, −0.11]		
	Pacific Islander	1	−0.21 ⁺	[−0.44, 0.02]		
	China	14	−0.17	[−0.75, 0.10]		
	Taiwan	5	−0.16	[−0.36, 0.05]		
	Vietnam	3	−0.11	[−0.35, 0.13]		
	Philippines	6	0.08	[−0.19, 0.35]		
	Malaysia	2	0.14 ⁺	[−0.02, 0.30]		
(All East vs.) Western Region	North America	34	−0.30***	[−0.42, −0.17]	1.24	.27
	non-North America	23	−0.20***	[−0.32, −0.09]		
	Europe	12	−0.08	[−0.24, 0.09]	5.59*	.02
	non-Europe	45	−0.31***	[−0.41, −0.21]		
	Western Anglophone	50	−0.31***	[−0.41, −0.22]	18.99***	<.001
	non-Anglophone	7	0.07	[−0.07, 0.22]		
(All East vs.) Western Country	Australia	7	−0.38***	[−0.57, −0.19]	70.16***	<.001
	Canada	4	−0.37***	[−0.48, −0.27]		
	USA	30	−0.29***	[−0.43, −0.15]		
	United Kingdom	5	−0.29*	[−0.55, −0.03]		
	New Zealand	4	−0.25**	[−0.42, −0.08]		
	Belgium	1	−0.23	[−0.51, 0.05]		
	Spain	1	−0.13	[−0.44, 0.18]		
	Italy	1	−0.03	[−0.23, 0.18]		
	Portugal	2	0.10	[−0.07, 0.28]		
	Switzerland	1	0.26*	[0.05, 0.46]		
	France	1	0.29**	[0.08, 0.49]		

Note. k = number of effect sizes in analysis; g = standardized mean East–West difference in older adult views, with the Hedges correction; negative effect sizes signify East as more negative. Each individual moderator analysis occurred independent from the other moderator analyses.

⁺ $p \leq .10$. * $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

other sampled countries that with aging comes a significant decline in attractiveness and general societal positive perceptions, as well as the ability to perform everyday tasks and learn new skills. Taken together, such results demonstrate that popular perceptions of cultural elder respect do not always reflect realities. Given prevailing beliefs about inherent Eastern elder reverence, the current findings represent further evidence that lay beliefs are not always accurate.

Population Aging Rate and Devaluation of Older Adults

The current results also lend the most empirical support to the population aging rate-ageism hypothesis (Argument #3) introduced earlier in this article. A link between population aging rate and ageism unfortunately is not too surprising, with younger generations facing increased burden of taking care of their elders around the world. This appears to be the case in parts of the East especially, as cited earlier (see Figure 1). For example, Japan, whose over-60 population proportion has already reached 32%, faces the highest aging rate in the world (United Nations Population Division, 2012). In China, a one-child birth policy portends

similar dramatic rises in the senior population relative to younger generations (Zhang & Goza, 2006). With a steadily growing older population and perceptions of societal burden possibly growing along with it, the current risk for resentment may be particularly high in these societies (North & Fiske, 2012). This is especially the case in light of the recent recession, whose global impact hit countries in the East particularly hard—including its upper-echelon economies (Balfour, 2009; Fackler, 2008).

Notably, a population aging rate-ageism correlation might seem to contradict a “contact hypothesis” prediction: that greater exposure to older adults might decrease prejudice toward them (Allport, 1954; Dovidio & Gaertner, 1999). However, the contact hypothesis also requires that specific, core criteria contexts for interaction between groups (e.g., shared goals, equal status) must be met for such exposure to yield positive outcomes. Unfortunately, the current findings suggest that rapidly aging and industrializing societies, as currently constructed, do not meet the requirements for an enlarged older population to be associated with increased positive views.

Instead, an association between population aging and negative attitudes toward elders suggests that age-based prejudices may

Table 5

Pairwise Country Difference Scores Underlying structural, Multiple-Moderator Meta-Regression Analyses

Pairwise country difference (East minus West)								
Country comparison (Year)	Attitudes toward older adults (g)	Cultural individualism	Aging rate (5 yr.)	Aging rate (10 yr.)	Aging rate (20 yr.)	Industrialization rate (5 yr.)	Industrialization rate (10 yr.)	Industrialization rate (20 yr.)
SK-USA (1998)	-1.75	-73	1.89	2.13	1.10	-0.37	0.11	2.90
SK-Australia (1998)	-1.59	-72	0.68	0.26	-0.65	-0.33	0.16	3.38
SK-Canada (1998)	-1.39	-62	0.69	0.20	-1.42	-0.14	0.60	3.88
China-UK (2008)	-1.22	-69	0.10	0.92	1.25	1.32	2.62	11.45
Japan-USA (1998)	-1.12	-45	4.52	6.90	8.45	-0.43	-0.43	0.07
SK-NZ (1998)	-1.07	-61	1.07	1.01	0.36	-0.25	0.60	3.73
Singapore-USA (1998)	-0.99	-71	1.75	1.92	0.84	0.28	2.06	8.92
Japan-Australia (2000)	-0.91	-44	3.85	6.12	6.47	-0.24	0.19	1.58
India-USA (2012)	-0.90	-43	-0.74	-0.10	0.65	0.34	2.41	3.14
Japan-Australia (1998)	-0.87	-44	3.32	5.03	6.69	-0.39	-0.39	0.55
HK-USA (1994)	-0.84	-66	0.63	1.32	2.16	0.68	2.24	9.75
SK-NZ (2001)	-0.78	-61	1.86	2.49	2.10	0.14	0.38	4.86
HK-Australia (1994)	-0.76	-65	-0.24	0.48	1.17	0.90	2.39	10.84
HK-NZ (1994)	-0.76	-54	0.25	1.06	1.87	0.72	1.50	10.51
Japan-Canada (1998)	-0.76	-34	3.33	4.97	5.93	-0.21	0.06	1.05
SK-Canada (2001)	-0.75	-62	1.46	1.69	0.04	-0.26	0.44	4.68
SK-USA (2001)	-0.74	-73	2.70	3.92	4.07	-0.41	-0.08	3.75
China-USA (1998)	-0.74	-71	1.00	0.78	-0.64	0.99	1.56	3.02
Singapore-Australia (1998)	-0.73	-70	0.54	0.05	-0.92	0.32	2.10	9.40
Japan-USA (2011)	-0.72	-45	5.02	10.01	18.35	0.06	-0.29	-0.73
Japan-UK (2011)	-0.65	-43	5.08	9.87	17.75	0.22	-0.37	-0.47
SK-NZ (1994)	-0.64	-61	0.17	-0.23	-1.32	0.58	1.99	18.07
China-USA (2011)	-0.63	-71	-0.41	0.37	1.93	7.41	4.66	18.01
SK-USA (1994)	-0.63	-73	0.55	0.03	-1.03	0.55	2.73	17.30
Singapore-Canada (1998)	-0.62	-60	0.55	-0.01	-1.68	0.50	2.55	9.90
China-USA (1997)	-0.60	-71	0.82	0.31	-0.98	0.94	1.76	1.40
Taiwan-USA (1998)	-0.58	-74	1.65	-18.90	-18.90	0.04	1.16	N/A
SK-Australia (1994)	-0.57	-72	-0.32	-0.80	-2.03	0.76	2.88	18.39
India-USA (1998)	-0.54	-43	0.55	0.07	-1.51	0.19	-0.31	-0.79
SK-USA (2004)	-0.53	-73	3.08	5.27	5.30	0.35	0.03	4.71
SK-NZ (2007)	-0.53	-61	2.10	4.27	4.86	-0.23	-0.04	4.11
SK-Canada (1995)	-0.52	-62	-0.01	-0.99	-2.33	0.95	3.69	20.64
SK-USA (2007)	-0.51	-73	2.45	5.35	6.87	0.50	0.35	4.52
Thai-USA (2001)	-0.51	-71	1.93	3.22	2.86	-0.68	-0.54	0.01
SK-Australia (1995)	-0.48	-72	-0.15	-0.66	-1.77	0.78	3.31	20.31
China-Australia (1998)	-0.47	-70	-0.20	-1.09	-2.39	1.03	1.61	3.51
SK-USA (1995)	-0.47	-73	0.88	0.45	-0.59	0.68	3.59	19.56
SK-Belgium (2007)	-0.46	-57	2.80	3.89	1.93	0.00	0.19	4.38
SK-Australia (2007)	-0.45	-72	2.10	3.80	3.69	-0.34	0.07	2.99
SK-Canada (2007)	-0.44	-62	1.85	3.59	3.34	-0.12	-0.20	4.12
Japan-Canada (1995)	-0.44	-34	2.41	3.03	4.38	0.71	2.19	6.94
China-Canada (1995)	-0.43	-60	-0.54	-1.99	-3.23	1.03	0.71	1.06
SK-NZ (1995)	-0.41	-61	0.40	-0.04	-1.06	0.55	2.76	19.14
China-Canada (1998)	-0.40	-60	-0.19	-1.15	-3.16	1.22	2.06	4.01
Japan-Australia (1995)	-0.40	-44	2.27	3.37	4.93	0.54	1.81	6.62
HK-NZ (2007)	-0.40	-54	2.82	3.75	6.05	-0.78	-0.87	0.80
China-Australia (1995)	-0.39	-70	-0.68	-1.66	-2.68	0.86	0.33	0.73
Japan-Canada (2001)	-0.38	-34	3.91	6.66	7.94	-0.28	-0.02	1.08
Japan-USA (1995)	-0.38	-45	3.31	4.48	6.12	0.44	2.09	5.86
Japan-NZ (2001)	-0.38	-33	4.31	7.46	10.00	0.12	-0.08	1.26
Vietnam-USA (2011)	-0.37	-71	-1.64	-1.82	-1.23	0.87	1.99	15.41
Japan-NZ (1998)	-0.36	-33	3.71	5.78	7.71	-0.31	0.06	0.90
HK-USA (2007)	-0.36	-66	3.18	4.83	8.06	-0.05	-0.49	1.21
Japan-USA (2005)	-0.36	-45	4.99	10.03	14.50	-0.31	-0.85	0.29
China-USA (1995)	-0.36	-71	0.35	-0.55	-1.50	0.76	0.61	-0.02
Japan-USA (2001)	-0.35	-45	5.15	8.89	11.97	-0.43	-0.54	0.15
Taiwan-USA (2011)	-0.35	-74	-0.10	1.50	4.73	-0.03	-0.19	-0.01
Taiwan-USA (1999)	-0.33	-74	3.52	-18.78	-18.78	-0.14	0.74	N/A
Japan-NZ (1995)	-0.32	-33	2.82	3.98	5.64	0.31	1.26	5.44
China-NZ (1995)	-0.32	-59	-0.13	-1.04	-1.97	0.63	-0.22	-0.44
HK-Australia (2007)	-0.31	-65	2.82	3.28	4.87	-0.89	-0.77	-0.32
Taiwan-Australia (1998)	-0.31	-73	0.45	-18.31	-18.31	0.08	1.20	N/A

(table continues)

Table 5 (continued)

Country comparison (Year)	Pairwise country difference (East minus West)							
	<i>Attitudes toward older adults (g)</i>	<i>Cultural individualism</i>	<i>Aging rate (5 yr.)</i>	<i>Aging rate (10 yr.)</i>	<i>Aging rate (20 yr.)</i>	<i>Industrialization rate (5 yr.)</i>	<i>Industrialization rate (10 yr.)</i>	<i>Industrialization rate (20 yr.)</i>
SK-USA (2002)	-0.30	-73	2.90	4.46	3.90	-0.16	0.07	4.27
Vietnam-UK (2011)	-0.30	-69	-1.58	-1.95	-1.82	1.03	1.92	15.67
HK-Belgium (2007)	-0.29	-50	3.53	3.36	3.12	-0.55	-0.65	1.07
Japan-NZ (2007)	-0.29	-33	4.60	9.04	14.17	-0.96	-1.06	-1.63
China-Australia (1999)	-0.29	-70	-0.07	-0.86	-2.24	0.73	1.86	3.25
SK-Italy (2007)	-0.29	-58	0.71	0.28	-2.95	0.09	0.26	4.75
China-UK (2011)	-0.28	-69	-0.35	0.24	1.33	7.57	4.58	18.27
China-USA (2005)	-0.28	-71	0.78	1.99	1.44	0.61	1.39	4.35
India-Australia (1998)	-0.27	-42	-0.66	-1.80	-3.27	0.23	-0.27	-0.30
HK-Canada (1995)	-0.27	-55	-0.02	-0.10	0.68	0.87	2.39	10.94
Taiwan-UK (2011)	-0.27	-72	-0.04	1.37	4.14	0.13	-0.27	0.25
Taiwan-Canada (1998)	-0.25	-63	0.46	-18.14	-18.14	0.26	1.65	N/A
Philippines-Canada (1995)	-0.25	-48	-1.36	-3.05	-5.25	0.66	0.75	1.52
Thai-Australia (1999)	-0.24	-70	0.56	0.41	-1.20	-0.35	0.40	1.60
HK-UK (1999)	-0.23	-64	1.83	2.31	5.59	-0.19	0.64	3.77
SK-Portugal (2007)	-0.23	-9	1.23	1.89	0.68	0.07	0.03	2.62
Japan-USA (2007)	-0.23	-45	4.95	10.12	16.18	-0.22	-0.67	-1.22
Singapore-NZ (1998)	-0.22	-59	0.93	0.80	0.10	0.40	2.55	9.75
HK-Australia (1995)	-0.22	-65	-0.16	0.23	1.23	0.70	2.01	10.61
India-Canada (1998)	-0.22	-32	-0.65	-1.86	-4.03	0.41	0.18	0.20
HK-USA (1995)	-0.21	-66	0.87	1.34	2.42	0.60	2.29	9.86
Fiji-Australia (2000)	-0.21	-76	-0.08	-1.36	-2.57	-0.27	-0.07	-1.37
Philippines-Australia (1999)	-0.20	-58	-0.67	-2.22	-4.33	0.09	0.66	0.13
China-USA (1996)	-0.20	-71	0.60	-0.15	-1.28	0.94	1.11	1.33
Thai-USA (2005)	-0.20	-71	1.80	3.65	4.10	0.16	-0.66	1.52
Japan-Australia (2007)	-0.20	-44	4.60	8.57	13.00	-1.07	-0.95	-2.75
Philippines-Australia (1995)	-0.19	-58	-1.50	-2.72	-4.69	0.49	0.37	1.19
Thai-USA (2011)	-0.19	-71	0.24	2.05	4.93	0.67	1.14	1.24
SK-UK (2007)	-0.17	-71	2.40	5.00	6.11	0.06	-0.03	3.42
Philippines-USA (1995)	-0.16	-59	-0.47	-1.61	-3.51	0.39	0.65	0.44
HK-NZ (1995)	-0.15	-54	0.39	0.84	1.94	0.47	1.46	9.44
HK-Italy (2007)	-0.15	-51	1.44	-0.25	-1.76	-0.46	-0.58	1.44
Philippines-USA (2005)	-0.14	-59	0.48	1.16	-0.45	0.00	-0.32	0.34
Malaysia-Spain (2011)	-0.13	-25	-0.31	0.56	-3.52	0.51	0.27	2.98
Thai-USA (2004)	-0.12	-71	1.94	3.70	3.66	0.05	0.55	2.86
China-Canada (2002)	-0.11	-60	0.03	-0.25	-2.60	0.37	2.17	4.77
India-NZ (2007)	-0.11	-31	-0.16	0.03	-1.20	0.31	0.86	0.98
India-USA (2007)	-0.11	-43	0.20	1.11	0.81	1.05	1.25	1.39
HK-Australia (1999)	-0.10	-65	0.93	0.69	2.81	0.02	1.12	4.48
Philippines-NZ (1995)	-0.10	-47	-0.95	-2.10	-3.99	0.27	-0.18	0.02
HK-Portugal (2007)	-0.06	-2	1.95	1.37	1.87	-0.48	-0.81	-0.69
Japan-Italy (2007)	-0.06	-30	3.21	5.04	6.36	-0.64	-0.77	-0.99
India-Australia (2007)	-0.06	-42	-0.16	-0.44	-2.38	0.20	0.97	-0.14
Japan-Belgium (2007)	-0.04	-29	5.30	8.65	11.24	-0.72	-0.83	-1.36
China-USA (2006)	-0.03	-71	0.57	1.79	1.65	0.74	1.46	6.09
HK-UK (2007)	-0.02	-64	3.12	4.48	7.30	-0.49	-0.87	0.10
SK-Switz (2007)	-0.02	-50	1.80	3.25	4.06	0.25	0.38	5.03
Vietnam-USA (2002)	0.00	-71	0.58	0.90	-0.73	0.14	2.17	N/A
Philippines-Canada (2001)	0.00	-48	-0.48	-1.69	-4.80	-0.25	0.48	-0.24
Malaysia-NZ (2007)	0.00	-53	0.01	0.07	-1.61	-0.13	-0.14	2.63
Philippines-USA (2001)	0.00	-59	0.76	0.54	-0.76	-0.39	-0.04	-1.17
China-NZ (2007)	0.01	-59	-0.03	0.43	-0.19	0.35	1.60	9.54
Malaysia-USA (2007)	0.01	-65	0.36	1.16	0.40	0.60	0.25	3.04
China-NZ (1998)	0.02	-59	0.18	-0.34	-1.38	1.11	2.05	3.85
SK-France (2007)	0.02	-53	2.26	3.55	1.75	0.04	0.22	4.68
Philippines-NZ (2001)	0.02	-47	-0.08	-0.89	-2.73	0.15	0.42	-0.06
Vietnam-USA (2002)	0.03	-71	0.58	0.90	-0.73	0.14	2.17	N/A
China-USA (2007)	0.03	-71	0.33	1.51	1.82	1.08	1.99	9.95
Japan-Portugal (2007)	0.04	19	3.73	6.66	10.00	-0.66	-1.00	-3.12
Malaysia-Australia (2007)	0.08	-64	0.01	-0.40	-2.78	-0.25	-0.03	1.51
India-Italy (2007)	0.09	-28	-1.55	-3.97	-9.01	0.63	1.15	1.62
Japan-UK (2007)	0.09	-43	4.90	9.77	15.42	-0.67	-1.06	-2.33
China-Australia (2007)	0.10	-70	-0.03	-0.04	-1.36	0.24	1.71	8.42

(table continues)

Table 5 (continued)

Country comparison (Year)	Pairwise country difference (East minus West)							
	<i>Attitudes toward older adults (g)</i>	<i>Cultural individualism</i>	<i>Aging rate (5 yr.)</i>	<i>Aging rate (10 yr.)</i>	<i>Aging rate (20 yr.)</i>	<i>Industrialization rate (5 yr.)</i>	<i>Industrialization rate (10 yr.)</i>	<i>Industrialization rate (20 yr.)</i>
Malaysia-UK (2011)	0.12	-63	-0.54	0.11	-0.05	0.74	1.11	3.38
HK-Switz (2007)	0.14	-43	2.53	2.73	5.25	-0.30	-0.46	1.72
Philippines-USA (1998)	0.16	-59	0.31	-0.54	-2.72	0.01	0.18	-0.68
Taiwan-NZ (1998)	0.17	-62	0.84	-17.88	-17.88	0.16	1.65	N/A
HK-France (2007)	0.19	-46	2.98	3.03	2.94	-0.51	-0.62	1.37
India-NZ (1998)	0.20	-31	-0.27	-1.05	-2.25	0.31	0.18	0.04
Malaysia-Italy (2007)	0.20	-50	-1.38	-3.92	-9.42	0.18	0.16	3.27
India-Portugal (2007)	0.20	21	-1.03	-2.35	-5.38	0.61	0.92	-0.51
Malaysia-Portugal (2011)	0.22	-1	-1.00	-1.90	-5.13	0.54	0.70	2.69
Philippines-NZ (1994)	0.23	-47	-1.06	-2.12	-3.92	0.25	-0.51	0.70
India-UK (2007)	0.23	-41	0.14	0.76	0.04	0.60	0.86	0.28
China-Italy (2007)	0.23	-56	-1.41	-3.56	-8.00	0.67	1.89	10.18
China-USA (2004)	0.24	-71	0.96	2.09	1.21	0.51	1.77	4.47
Japan-Switz (2007)	0.25	-22	4.30	8.02	13.38	-0.48	-0.65	-0.71
Japan-France (2007)	0.29	-25	4.76	8.32	11.06	-0.68	-0.81	-1.06
Philippines-USA (1994)	0.30	-59	-0.67	-1.85	-3.63	0.21	0.23	-0.07
Malaysia-Portugal (2007)	0.32	-1	-0.86	-2.30	-5.79	0.17	-0.07	1.14
Philippines-Australia (1994)	0.34	-58	-1.55	-2.69	-4.63	0.43	0.37	1.02
Malaysia-UK (2007)	0.35	-63	0.31	0.80	-0.36	0.16	-0.13	1.94
China-Portugal (2007)	0.35	-7	-0.90	-1.95	-4.36	0.65	1.66	8.05
China-UK (2007)	0.37	-69	0.27	1.16	1.06	0.64	1.60	8.84
India-Switz (2007)	0.37	-20	-0.46	-0.99	-2.00	0.79	1.27	1.90
India-France (2007)	0.42	-23	0.00	-0.69	-4.31	0.59	1.11	1.55
Philippines-Canada (1998)	0.44	-48	-0.88	-2.46	-5.24	0.23	0.67	0.31
Philippines-Australia (1998)	0.47	-58	-0.89	-2.41	-4.47	0.05	0.22	-0.19
Malaysia-Switz (2007)	0.49	-42	-0.29	-0.94	-2.41	0.35	0.28	3.55
Malaysia-France (2007)	0.53	-45	0.17	-0.65	-4.72	0.14	0.12	3.20
China-Switz (2007)	0.55	-48	-0.32	-0.58	-0.98	0.83	2.01	10.46
China-France (2007)	0.58	-51	0.13	-0.29	-3.30	0.62	1.85	10.11
Philippines-NZ (1998)	0.89	-47	-0.51	-1.65	-3.46	0.13	0.66	0.16
China-USA (2010)	1.07	-71	-0.41	0.37	1.93	7.41	4.66	18.01

Note. All difference scores appear as Eastern country minus Western country; thus, positive scores indicate the East being higher than the West and negative scores indicate the reverse. Given that fiscal year 2013 data were not available in the structural data sets used (World Bank World Development Indicators, 2013b, 2013c), for articles published in 2013 in which data collection year was not known (Durante et al., 2013; Luo et al., 2013; McCann & Keaton, 2013) 2012 structural data were used as the starting point for lagged calculations. Chang et al.'s (1984) Taiwan-USA comparison is not included, due to structural indices being unavailable for relevant years prior to data collection. *g* = standardized mean difference in positivity toward older adults. Cultural Individualism = difference score in individualism, per Hofstede's (1984) country-level metric. Aging Rates = difference in senior dependency ratio increase to data collection year, from specified (5, 10, 20) years prior. Industrialization rates = difference in GDP increase to data collection year, from specified (5, 10, 20) years prior. HK = Hong Kong; SK = South Korea; Thai = Thailand; NZ = New Zealand; Switz = Switzerland; UK = United Kingdom; USA = United States of America.

arise, in part, from societal conflict over resources. Although researchers have speculated that resource tensions lie at the heart of age-based prejudices, and recent investigations offer preliminary evidence that this is the case (North & Fiske, 2012, 2013a), scant work explores the role of sociostructural, demographic influences on age-based attitudes. The current analysis represents a significant step forward in that same direction, and a framework for future studies on age-based attitudes in an aging world.

Postindustrialization? Individualism and Positive Elder Regard

The current analysis also found cultural collectivism to predict respect for older adults, but in the opposite direction of lay beliefs—such that cultural *individualism* (the direct opposite of collectivism) predicted positive evaluations. This finding contradicts lay assumptions that collectivism predicts respect for elders, given its emphasis on taking care of and respecting society's shared whole, which ostensibly includes old and young alike. Instead, the

current findings give rise to an alternate hypothesis of individualism-based elder respect, which is rarely considered in the ageism literature.

One explanation for this unanticipated finding is the postmodernist one introduced earlier in this article. Although many theorists link modernization with a devaluation of older adults, a more nuanced sociological perspective argues that an emphasis on rational values, tolerance, and respect for the individual might occur after modernization has occurred (Inglehart & Baker, 2000; Inglehart & Norris, 2003). In this latter, postindustrialization period, an increased emphasis on individual welfare and respect (not to mention political correctness) might heighten appreciation for older adults' experience and insight, despite the erosion of traditional elder-respect beliefs. This supports a prediction of late-stage individualism trumping collectivism in fostering elder respect—and also supports the current findings that industrialization per se may not significantly predict older adult views. Nevertheless, this finding is relatively unexpected, and future researchers and theorists should consider individual- and culture-level

Table 6

Multiple-Moderator Meta-Regression Models, Testing Differences in Older Adult Attitudes as a Function of Pairwise Differences in Country-Level Structural and Cultural Predictors

	B	SE	LL	UL	Z	p
5-years prior model						
Intercept	0.294	0.099	0.101	0.487	2.980	.003
65+ dependency ratio increase difference (5 yr.)	-0.076	0.019	-0.113	-0.040	-4.070	<.001
GDP % increase difference (5 yr.)	0.008	0.030	-0.051	0.067	0.260	.80
Individualism difference	0.008	0.002	0.005	0.012	4.990	<.001
10-years prior model						
Intercept	0.220	0.096	0.033	0.407	2.300	.02
65+ dependency ratio increase difference (10 yr.)	-0.021	0.007	-0.035	-0.008	-3.100	.002
GDP % increase difference (10 yr.)	-0.014	0.028	-0.068	0.041	-0.490	.62
Individualism difference	0.008	0.002	0.004	0.011	4.530	<.001
20-years prior model						
Intercept	0.209	0.095	0.023	0.395	2.210	.03
65+ dependency ratio increase difference (20 yr.)	-0.024	0.006	-0.035	-0.012	-4.020	<.001
GDP % increase difference (20 yr.)	-0.009	0.006	-0.022	0.003	-1.430	.15
Individualism difference	0.007	0.002	0.004	0.011	3.940	<.001

Note. "Differences" refer to pairwise comparisons subtracting Western nation from Eastern nation values; see Table 5. B = unstandardized beta weight for regression equations; SE = standard error of beta weight; LL = lower limit of slope confidence interval; UL = upper limit of slope confidence interval; Z = test statistic, testing slopes as significantly different from zero; p = p-value for test statistic.

individualism as a predictor of contemporary attitudes toward older adults.

A related explanation for this individualism finding is that, in a postmodernized, industrialized society, a collectivist mindset might actually predict backlash against the aged (thereby contradicting the default collectivism-low-ageism hypothesis). An emphasis on collectivism might spur resentment toward older adults for demanding support and enjoying benefits, but being unable to contribute to society's newfound emphasis on manual labor and new technologies (Nelson, 2005). This is also in line with a sociofunctional analysis of prejudice, including ageism, which predicts resentment toward older people if they appear unable to reciprocate benefits from other group members (Cottrell & Neuberg, 2005). This might explain why Europe—which is more collectivist than the rest of the West, but still more individualistic than the East—would be more negative toward the aged than the rest of the West, and even certain parts of the East. Future research should certainly include more European data, to draw stronger conclusions about cultural collectivism and backlash toward presumed nonreciprocators. With access to a more diverse range of Western data, such analysis might find that cultural values hold greater predictive validity of elder evaluations than East or West (or any other) geographical orientation. (Alternatively, the current individualism finding may reflect a public-private distinction for future analysis to unpack—i.e., greater *public* emphasis on revering elders in the East, but privately, more negative attitudes.)

Nevertheless, as one indication of the aging world's sad realities, highly industrialized societies are witnessing increases in elder abuse and abandonment rates (Litwin & Zoabi, 2003, 2004). Perhaps as a consequence, elder suicide rates are similarly rising (Conwell, Van Orden, & Caine, 2011), presumably due to the gap between older adults' expectations and their increased neglect and perceived uselessness in increasingly developed nations. This seems to be the case particularly in the East; indeed, the world's three highest elder suicide rates belong to South Korea, Taiwan,

and China (LaFraniere, 2011). The problem seems to be only worsening; for instance, since the year 2000 the rate of elder suicides has almost quadrupled in South Korea, which now has the highest such rate in the developed world (Sang-Hun, 2013). This unfortunate statistic has also reached record highs in Japan in recent years (Pritchard & Baldwin, 2002).

Nonmoderating Variables

Sample age distribution did not have an impact on East–West evaluations of older adults; in other words, the effect was similar for samples composed of younger and adult raters alike. Perhaps this is unsurprising, given indications that people of all ages—even older people themselves—generally exhibit negative attitudes toward the concepts of aging and the aged (North & Fiske, 2012). A lack of sample age effects also raises the possibility of a temporal era effect, such that people of all ages currently existing in rapidly aging societies come to derogate their aged. At the same time, a significant limitation of this interpretation is that the age ranges of the samples included are somewhat restricted. Future research should strive to disentangle temporal effects versus age effects per se—a challenge for researchers in any field studying the effect of age in modern times (e.g., Joshi, Dencker, & Franz, 2011).

A related and perhaps slightly more unexpected finding was sample gender distribution not moderating the effect of culture on older adult stereotypes. Because men tend to exhibit greater levels of prejudice than women in various domains—including ageism (Fraboni, Saltstone, & Hughes, 1990; North & Fiske, 2013b; Rupp, Vodanovich, & Credé, 2005)—one might expect gender distribution to present some degree of moderating impact. However, this pattern did not emerge. Perhaps women's greater involvement in elder care, where this is culturally mandated but potentially burdensome (e.g., Zhan & Montgomery, 2003), explains the apparent equivalence between male and female attitudes.

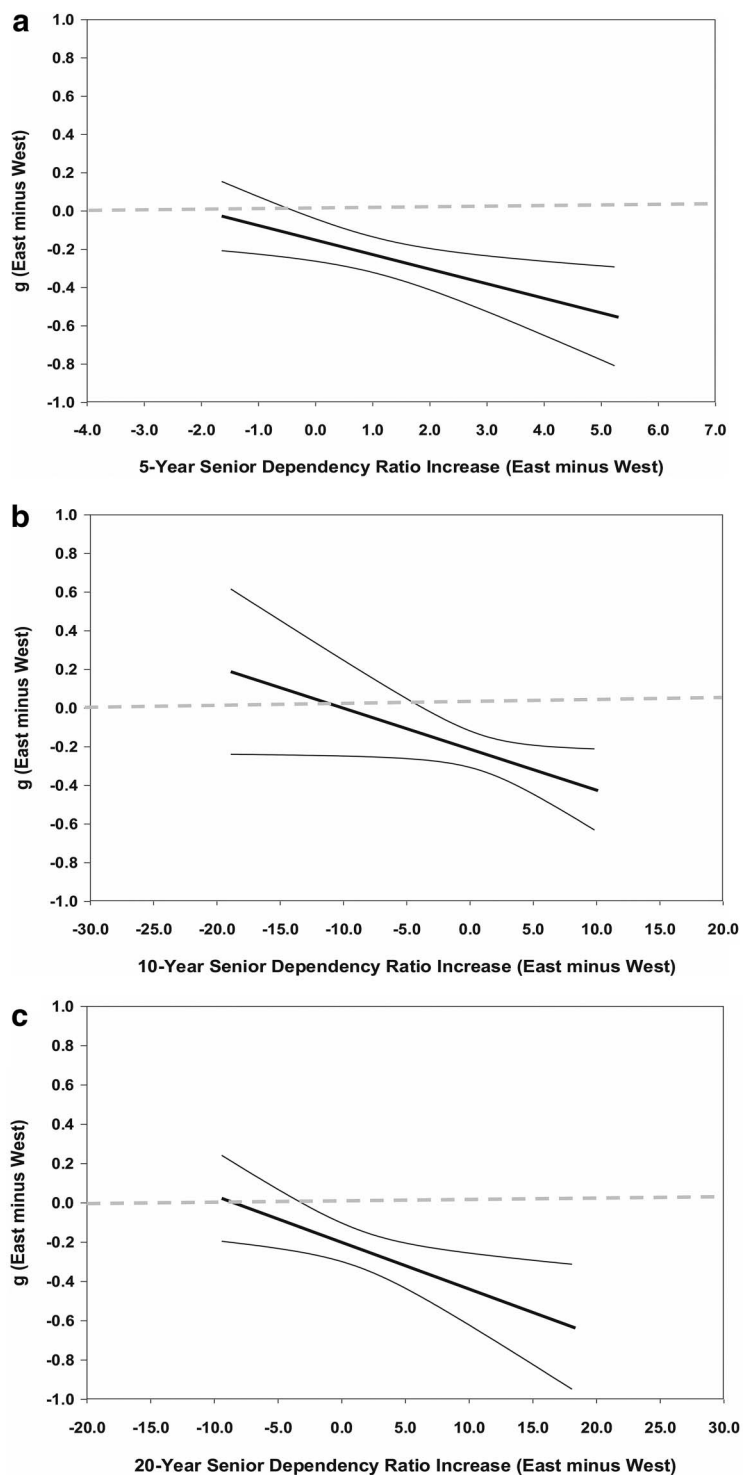


Figure 4. a–4c. Nation-level, East–West standardized mean difference in attitudes toward older adults as a function of nation-level differences in 5-year (top), 10-year (middle), and 20-year (bottom) senior dependency ratio increases. Negative differences indicate the East as growing more slowly than the West in dependency ratio. meta-regression lines (center) derive from individual effect size scatterpoints, categorized by data collection locale and year of data collection. Bordering lines represent 95% confidence interval bands (see, e.g., Johnson & Huedo-Medina, 2011). Horizontal (dotted) lines represent 0, East–West equivalence in effect sizes.

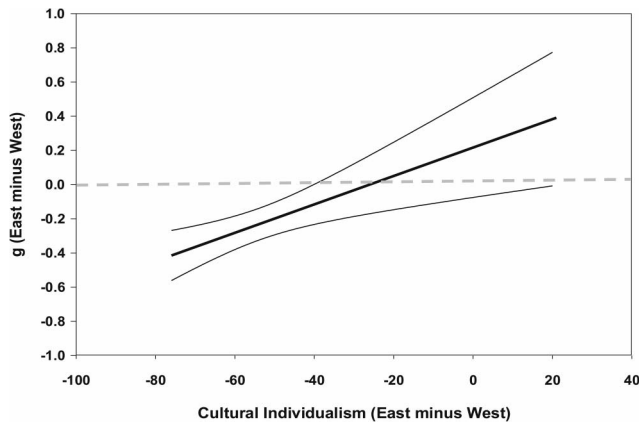


Figure 5. Nation-level, East–West standardized mean difference in attitudes toward older adults as a function of nation-level differences in cultural individualism (Hofstede, 1984). Negative differences indicate the East as less individualistic than the West. Meta-regression line (center) derives from individual effect size scatterpoints, categorized by data collection locale and year of data collection. Bordering lines represent 95% confidence interval bands. Horizontal (dotted) lines represent 0, East–West equivalence in effect sizes.

Limitations and Future Directions

As indicated, the current meta-analysis includes only studies that directly compare Western participants with Eastern participants in their attitudes toward older people. Admittedly, it does not take into account studies that focus on only one population or the other, which would broaden the overall scope of understanding worldwide attitudes toward the aged. For instance, greater inclusion of European data might be especially telling, given that many such nations are experiencing high levels of aging (particularly Germany, which comprises the currently second largest over-65 population; World Bank World Development Indicators, 2013b). The advantage of the current approach is clarity of design; this procedure controls for various nuisance factors, such as differences in questionnaire types, time of data collection, and general methodological procedure. However, we note that it is technically possible to model data and control for these nuisance factors statistically.

Another limitation of the available studies might be a subtle Western bias in authorship. Although the majority of articles in the current meta-analysis include authors in Eastern locales, nearly all of them (excepting Chiu et al., 2001; Huang, 2013; Ota et al., 2002; Ota et al., 2007) featured Western scholars as primary authors. Moreover, an overall lack of eligible articles via Eastern search engines (to our knowledge) suggests that investigating East–West differences in attitudes toward older adults may primarily be a Western undertaking for now. The reason this comparison is (maybe) of less interest to researchers in Eastern countries is an empirical question in and of itself. Perhaps this relative neglect reflects, in a metalevel sense, generally heightened negative views toward older adults in the East; alternatively, it could be an artifact of stereotyping research being largely Western focused (Williams & Spencer-Rodgers, 2010). Nevertheless, our hope is that—particularly given the cited, aging-related issues afflicting

the East—a greater number of Eastern researchers will come to take the lead in investigating this timely topic.

We also note that the current synthesis inevitably comprised varied rating scales and anchors across studies. Such diversity can be problematic, spurring even well-established literatures to draw incorrect cross-cultural conclusions (Oishi et al., 2005; Oyserman, Coon, & Kemmelmeier, 2002). However, this is to some extent a consideration for virtually every meta-analysis seeking to standardize effect sizes from studies using varying research approaches, especially studies conducted across cultures (often in different languages). As such, future cross-cultural investigations of older adult evaluations should strive to reduce response artifacts through standardized empirical means.

An important caveat for the current findings is that, as indicated, the analyses are inherently comparative. In other words, they cannot speak directly to the question of whether attitudes toward older adults are positive or negative (or neutral) in an absolute sense within a given society. It is thus important to interpret the current findings as elucidating relative differences in attitudes toward older adults between cultures, and not implying that attitudes toward older adults are necessarily positive in more individualistic and more-slowly aging nations.

We also note that although our current analysis focuses on particular cultural and structural factors that foster age-based prejudices, other potential moderators exist. For instance, another possible moderator, virtually unexplored by the studies included in this meta-analysis, are different mental representations of “elderly” across participants. For instance, one of the articles in the current meta-analysis reports cross-national differences in the perceived onset of old age, with mean responses ranging from 40 to 59 (Giles et al., 2000). However, without such data available across studies, this information could not be included in the current analysis. Future research should more directly explore nuanced perceptions of old age, which may indeed vary as a function of culture, speed of aging, or other factors. Another promising direction might be a more focused analysis of regional religious tradition (e.g., East Asian Confucianism vs. South Asian Buddhism) and how these might shape differences in perceptions of older adults.

One limitation of the current cultural value findings might be their reliance on Hofstede’s dimensions, which are useful (and per the current analysis, predictive) but include data dating as far back as the 1970s. One alternative is Schwartz’s value types, which offers a questionnaire measuring 10 different cultural values that differ by region (Fischer, Vaclair, Fontaine, & Schwartz, 2010) and which similarly have been widely used by researchers to make cross-national comparisons (Schwartz, 1992; Spini, 2003). Of direct relevance to the current analysis, the Schwartz perspective posits one value to be *conformity*, emphasizing obedience and respecting elders (Schwartz, 1994). However, to our knowledge, a single authoritative source quantifying each country simultaneously on this value (in the way that the Hofstede values do) does not exist. Given such disparity in articles and methodologies—not to mention zero sources available that include all 23 specific countries represented in the current investigation—the current analysis did not utilize this alternative route at gauging cultural values. Nevertheless, future research incorporating such values and perceptions of the aged might utilize concurrent data, so as to yield the clearest picture of how these factors interact simultaneously.

A final limitation more broadly concerns the meta-regression results presented in this article. Although these analyses offer some evidence for relationships between variables, the conclusions offered are by nature limited by potential *ecological fallacy* or *aggregation bias* (Thompson & Higgins, 2002). In meta-regression, it is important to not assume that a statistical relationship between group-level variables necessarily mirrors that between corresponding individual-level variables; in fact, in many cases, this assumption is quite incorrect. Likewise, the meta-regression findings presented in this article should be viewed with the same degree of caution; future research can make more definitive associative conclusions using individual- and group-level data, as others have argued (Reade, Delaney, Bailey, & Angus, 2008).

Conclusion

This meta-analysis represents the first wide-scale synthesis of studies that compare cross-cultural attitudes toward older adults. Despite lay and researcher beliefs that Eastern cultures hold their aged in greater esteem than do Western cultures, the current analysis found evidence for a reverse overall pattern—albeit one with high heterogeneity, suggesting significant moderators, and a story warranting more qualification than broad, East-versus-West categories. Indeed, this medium-sized overall effect was moderated by geographic region, with East Asians exhibiting the greatest negativity within the East, and Europeans being the most negative within the West. Across regions, multiple-moderator meta-regression analyses suggested that negative views of the aged are driven by recent, rapid demographic changes in population aging. Moreover, cultural individualism appears to predict positive older adult evaluations—raising new, counterintuitive hypotheses about the value types that benefit older adults in postmodernized societies. Future empirical studies should investigate these and other potential mechanisms in a more focused manner. Nevertheless, the current findings underscore the inadequacy of broad, geographic generalizations in understanding contemporary attitudes toward older adults, emphasize the importance of recent demographic trends on perceptions of the aged, and suggest that cultural traditions emphasizing elder reverence may not hold up in the modern, aging world.

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