

BRIEF REPORT

Reframing aging during COVID-19: Familial role-based framing of older adults linked to decreased ageism

Reuben Ng PhD^{1,2}  | Nicole Indran BSocSci (Hons)¹ 

¹Lee Kuan Yew School of Public Policy,
National University of Singapore,
Singapore

²Lloyd's Register Foundation Institute for
the Public Understanding of Risk,
National University of Singapore,
Singapore

Correspondence

Reuben Ng, Lee Kuan Yew School of
Public Policy, National University of
Singapore, Singapore.
Email: spprng@nus.edu.sg

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Abstract

Background: Contributions of older adults amid the COVID-19 pandemic have been eclipsed by discourse positioning them as an at-risk population. We assess whether age-based framing (e.g., *senior citizen*) is associated with more negative stereotyping in the media compared to familial role-based framing (e.g., *grandparent*) across 8 months, from a baseline period (October 2019–December 2019) to the onset of the pandemic (January 2020–May 2020).

Methods: Leveraging a 12-billion-word news media database—with over 30 million news articles from over 7000 websites—we identified the most common synonyms for age-based framing (e.g., *senior citizen*) and familial role-based framing (e.g., *grandparent*). For each framing category, we compiled the most frequently used descriptors every month, amassing 488,907 descriptors in total. All descriptors were rated from 1 (very negative) to 5 (very positive) to determine a Cumulative Aging Narrative Score (CANS) for age-based and familial role-based framing.

Results: Age-based framing of older adults increased negative stereotyping in the media by seven times compared to familial role-based framing during COVID-19. The percentage of positive topics for age-based framing was significantly lower during COVID-19 (35%) than before (61%). Conversely, the percentage of positive topics for familial role-based framing was higher during the pandemic (91%) than before (70%).

Conclusion: This is one of the first empirical studies on whether framing older adults based on age or role is linked to more negative stereotypes during COVID-19. We argue for a more role-centered approach in framing older adults so that their contributions are acknowledged and valued by society.

KEYWORDS

age stereotypes, ageism, aging narratives, psychomics, quantitative social science, reframing aging, text as data

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INTRODUCTION

The growing recognition of the heterogeneity of the older population has been attended by recent calls to reframe aging.¹ However, since the outbreak of COVID-19, older persons have been singled out as its highest risk group.² This has in turn given rise to a recurring and undesirable depiction of COVID-19 as an “old person problem.”³ That the pandemic could potentially derail ongoing global efforts to combat ageism is thus regrettable.⁴ So pervasive is the belief in the propensity of the virus to infect the older demographic that it has inspired new lexicon; “senior deleter,” “elder repeller,” and “boomer remover” are some of the terms that have been bandied about to describe the virus. Besides being deemed a burden for ostensibly draining societal resources,⁵ older people have also been dismissed as expendable by virtue of their advanced age.⁶ COVID-19-related deaths of older adults have even been treated by some politicians with sheer nonchalance.⁷ The need to reframe aging is more pressing now than ever. Accordingly, our study compares role-based framing with age-based framing of older adults before and during the pandemic.

Older adults perform a variety of roles in society, a major one being the familial role. We focus specifically on framing them by their roles as grandparents. This is one of the first studies comparing the implications of adopting age-based and familial role-based terms. While critical attention has been paid to the connotations of age-specific terms used to refer to older adults,^{8,9} research on role-based terms remains scant. We contribute to this nascent area of research by comparing media narratives of age and familial role-based framing, particularly over the course of COVID-19. It is precisely during the pandemic that older adults have reasserted themselves as a vital part of society—as grandparents, essential workers, and volunteers—regardless of their image as an at-risk category. From a practical perspective, our study reiterates the need for aging to be reframed so that the contributions of older adults are acknowledged and valued by society.

We first compare how age-based terms and familial role-based terms differ in how they link to societal sentiments toward older persons. We hypothesize that age-based framing will be associated with more negative sentiments toward older adults than role-based framing (Hypothesis 1). Next, to gain insight into the differing media portrayals for age-based and familial role-based framing, we compare the topics associated with these terms. We hypothesize that familial role-based framing is linked to more positive topics during the pandemic than age-based framing (Hypothesis 2).

Key points

- Framing older adults based on their age (e.g., *senior citizen*) compared to their familial roles (e.g., *grandparent*) increased negative age stereotyping by seven times during COVID-19.
- Framing older people by their familial roles foregrounds their important contributions. Meanwhile, framing them by their age highlights their vulnerability to COVID-19.
- The media should adopt a more role-centric approach in framing older people so that their contributions are acknowledged and valued by society.

Why does this paper matter?

Ageism is linked to poorer health and costs the U.S. healthcare system \$63 billion per year. Negative age stereotypes have been perpetuated by the media since the onset of COVID-19. This is one of the first studies which tests a strategy to reframe aging by focusing on the invaluable roles performed by older adults rather than their age.

METHODS

Dataset

The News on the Web Corpus is the largest global dataset containing more than 7000 web-based newspapers and over 30 million articles.¹⁰ This is a dynamic corpus with 300,000 new articles added each month. Cultivation theory¹¹ suggests that the large representation of online media accurately reflects societal portrayals of aging, making the corpus appropriate for studying age and familial role-based narratives of aging. This study spans an 8-month period from October 2019 to May 2020.

Measurement of age-based and familial role-based framing

Similar to previous studies,^{12–14} for age-based framing, we shortlisted the most common synonyms of “older adult”: *elder(s)*, *elderly*, *senior(s)*, *old(er) adult(s)*, *old people*, *old age*, *senior citizen(s)*, *(the) aged*, *nursing home resident*. For familial role-based framing, the following terms were compiled: *grandparent*, *grandparents*, *grandfather*, *grandmother*, *grandpa*, *grandma*, *granddad*, *granny*.

Collocates—descriptors that co-occurred most frequently with each synonym—were generated according to the list of synonyms every month from October 2019 to May 2020. To observe the representation of older adults before COVID-19, October 2019 (2 months before the virus was first reported in December 2019) was used as the baseline period. The endpoint was determined by the availability of data at the time of analysis. Descriptors were extracted using a well-established methodology^{12–14} of frequency, lexical proximity, context-screening, and semantic bonding (Supplementary Text S1). The process generated 488,907 collocates of age-based and familial role-based terms.

To assess Hypothesis 1, each collocate (descriptor) was rated from 1 (very negative) to 5 (very positive) by two raters. This is a validated method¹⁵ used in past corpus-based analyses.^{6,12–14,16–20} Very negative collocates were rated 1 (e.g., *abuse, molest*), neutral collocates were rated 3 (e.g., *wheel, journey*), and very positive collocates were rated 5 (e.g., *venerable, amazing*). The inter-rater reliability using Cronbach's alpha was 0.972 (95% CI: 0.946, 0.986) for the scoring method. For every synonym per month, we calculated a mean score which was then weighted (by the number of times the synonym appeared in that month) to determine a Cumulative Aging Narrative Score (CANS) for age-based and familial role-based framing, respectively, per month.

Analytic strategy

Hypothesis 1 was assessed by analyzing the age-based and familial role-based trends from October 2019 to May 2020, and by determining whether the respective slopes differed significantly. To assess Hypothesis 2, Latent Dirichlet Allocation (LDA)—a natural language processing method for topic modeling—was conducted on the age-based and familial role-based collocates before and during COVID-19. Subsequently, a two-way mixed ANOVA was conducted with framing (age-based vs. familial role-based) as the between factor, and the two time periods (before vs. during COVID-19) as the within factor. Analyses were conducted using Python 3.7 and OriginPro 2019b.

RESULTS

Hypothesis 1: Age-based terms describing older adults are associated with more negative stereotyping compared to role-based terms across the pandemic

As hypothesized, age-based framing from October 2019 to May 2020 was associated with more negativity as shown by a significant trend ($\beta = -0.023$, $p = 0.00148$),

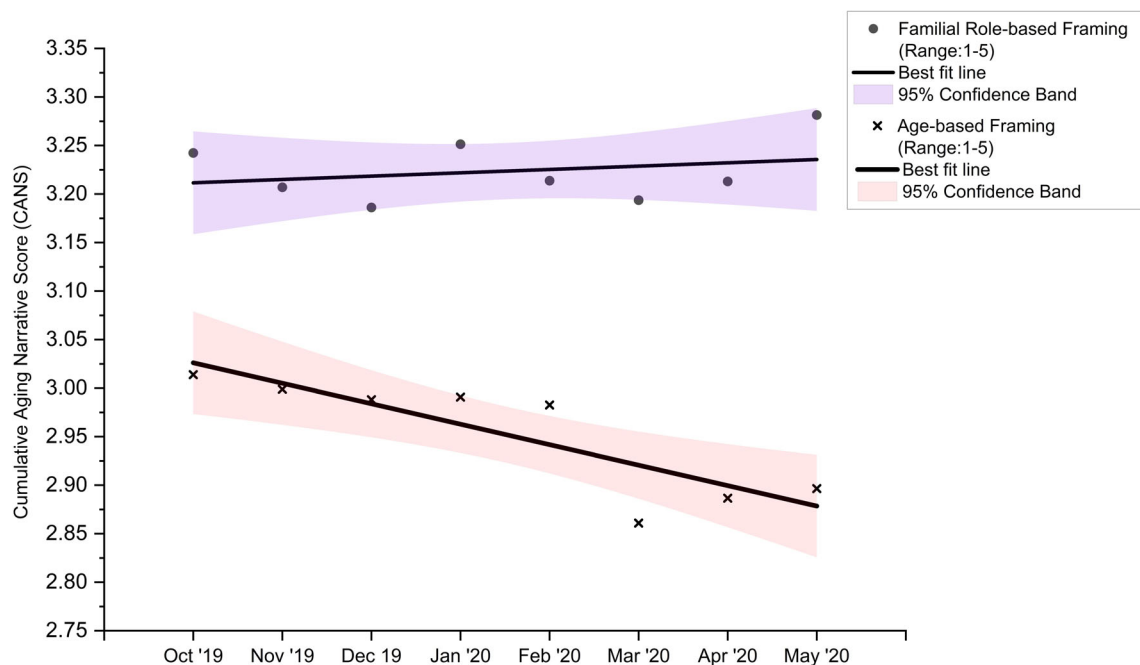


FIGURE 1 Framing of older adults impacted the valence of news media coverage during COVID-19. Throughout the COVID-19 pandemic, framing older adults based on their familial roles (e.g., *grandparent*) was linked to 0.7% increase in positive portrayals in the news media, while age-based framing (e.g., *senior citizen*) was linked to 4.84% more negative portrayals. The Cumulative Aging Narrative Score (y axis) ranges from 1 to 5

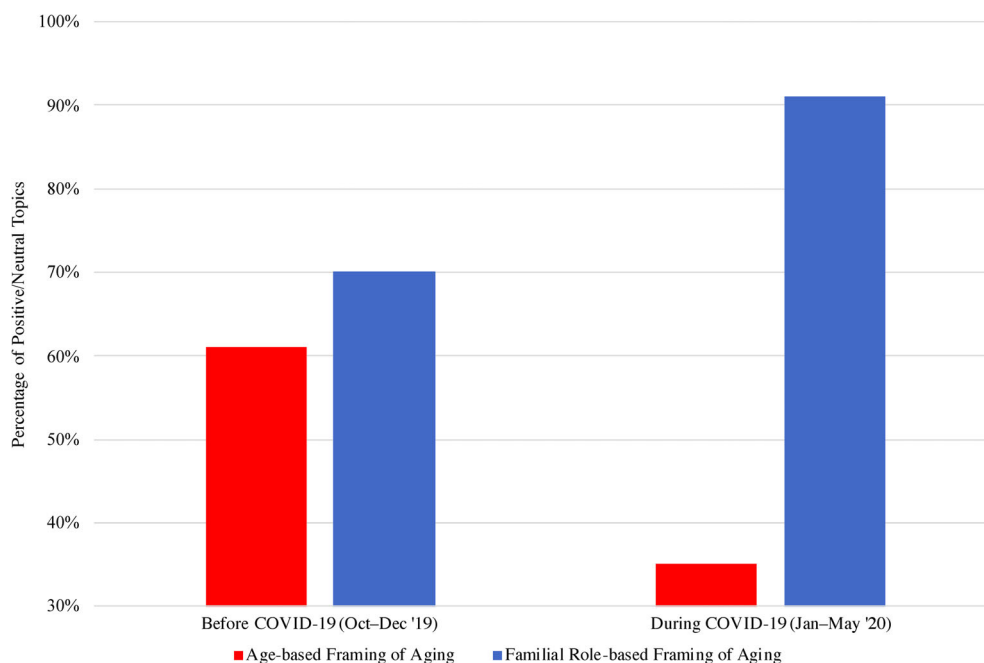
compared to the trend for familial role-based framing which did not reach significance ($\beta = -0.00343$, $p = 0.532$). The difference between both slopes was statistically significant ($F(1, 12) = 11.260$, $p = 0.00572$), supporting Hypothesis 1 (Figure 1). For familial role-based framing, the intercept was 3.21 ($p < 0.0001$; 95% CI: 3.18, 3.23). This indicates that familial role-based stereotypes of older adults were positive during the baseline period before COVID-19 in October 2019, with a

0.0034-unit increase per month, increasing by 0.7% over 8 months, although the trend was nonsignificant. In contrast, the trend for age-based framing was statistically significant and linked to a 4.84% decreasing trend (0.023-unit per month) over 8 months, which reflects negative stereotyping of older adults in the news media. Age-based framing increased negative age stereotyping by seven times (4.84%/0.7%) compared to familial role-based framing.

TABLE 1 Narratives of Age-based and Familial Role-based Framing of Older Adults before and during COVID-19. Age-based narratives in the news media grew more negative during the pandemic, centering almost entirely on older adults as a vulnerable and at-risk population. Conversely, familial role-based narratives in the media became more positive, focusing largely on a renewed sense of appreciation for grandparents.

| | Before COVID-19 (October 2019–December 2019) | During COVID-19 (January 2020–May 2020) |
|---|--|--|
| Narratives of age-based framing | <ul style="list-style-type: none"> • Frailty (39%) • Privileges for older adults (22%) • Social support (18%) • Leadership (11%) • Pension and welfare programs (10%) | <ul style="list-style-type: none"> • Vulnerability to COVID-19 (65%) • Social isolation (13%) • Personal protective measures (12%) • Celebratory events (10%) |
| Narratives of familial role-based framing | <ul style="list-style-type: none"> • Intergenerational contact (39%) • Crime (30%) • Affection (21%) • Historical events (10%) | <ul style="list-style-type: none"> • Yearning for intergenerational contact (40%) • Veneration (20%) • Exemplary workers (12%) • Lessons imparted by grandparents (10%) • Expressions of affection (9%) • Pandemic-induced restrictions (9%) |

FIGURE 2 Percentage of positive/neutral topics for age-based versus familial role-based framing before and during COVID-19 in the news media. There was a significant interaction between framing (age-based and familial role-based) and stereotypic content before (October 2019–December 2019) and during (January 2020–May 2020) the COVID-19 pandemic. The percentage of positive/neutral topics associated with age-based framing was lower during COVID-19 (35%) than before (61%). Conversely, the percentage of positive/neutral topics associated with familial role-based framing was higher during the pandemic (91%) than before (70%)



Hypothesis 2: Role-based framing, compared to age-based framing, is linked to more positive topics in the news media over two time periods (before vs. during COVID-19)

Topics were generated for age-based and familial role-based terms before and during COVID-19 (Table 1). Before the pandemic, age-based topics were rather varied, featuring matters regarding the aging population, politics, and discounts for older adults. Age-based narratives grew decidedly more negative during the pandemic, with 65% of the narratives centered on older adults as a vulnerable population. Meanwhile, familial role-based narratives before and during the pandemic were not too dissimilar, although the narratives became more positive during COVID-19. Before COVID-19, topics ran the gamut from crime to affection. During the pandemic, familial role-based topics focused on a yearning for intergenerational contact (40%) as well as a renewed sense of appreciation for grandparents for the lessons they impart (10%), the affection they provide (9%), and their occupational contributions (12%) (see Supplementary Text S1 for complete details).

There was a significant interaction between framing (age-based vs. familial role-based) and stereotypic content before (October 2019–December 2019) and during (January 2020–May 2020) the pandemic ($F(1, 18) = 6.081, p = 0.024, \eta p^2 = 0.253$). The percentage of positive/neutral topics for age-based framing was higher before COVID-19 (61%) than during COVID-19 (35%). Conversely, the percentage of positive/neutral topics for familial role-based framing was higher during the pandemic (91%) than before (70%). These results (Figure 2) support Hypothesis 2.

DISCUSSION

This is one of the first known studies which tests a strategy to reframe aging by focusing on the invaluable roles performed by older adults rather than their age. Through operationalizing a CANS as a measure of age stereotypes in the media, we found that age-based framing was linked to more negative media portrayals of older adults during COVID-19, while familial role-based framing was linked to more positive portrayals. Since the outbreak, older adults have been framed continually in public discourse as a monolithic group of frail, helpless, and vulnerable individuals.^{3,21} This was evident in our findings, where age-based narratives during the pandemic revolved predominantly around older adults' susceptibility to the virus. Such age-based framing has lent itself to the "othering" of this

community²²—a process of differentiation through which a boundary is drawn between the old and young.

In contrast, familial role-based framing was associated with less negative stereotypes in the media. This means that when age is not made a focal point, negative portrayals of older adults become less visible. Past studies have shown that reframing notions of aging may mitigate implicit bias against older people.¹ Thus, more emphasis should be placed on the roles undertaken by older adults. The reality is that older adults are often net providers—rather than recipients—of help and care.^{23,24} They have assumed roles before the outbreak and have continued to do so during this period despite public directives inhibiting their mobility.²¹

As illustrated in the familial role-based narratives, older adults are integral to the workforce. During the pandemic, older people have remained a sizable segment of the essential workforce, both as healthcare professionals and retail staff.⁴ In the United States, among workers aged 60 and above, nearly a third have been designated as essential, equivalent to the proportion of younger age groups. Our results also reflect greater appreciation for the affection and wisdom offered by grandparents who play an increasingly pivotal role in childcare globally. In 2017, about nine million grandparents comprised the "Grandparent Army" in the United Kingdom, with almost three million serving as regular care providers.²⁵ Meanwhile, roughly 2.5 million grandparents are fully responsible for their grandchildren in the United States.²⁶ Notwithstanding disruptions to social care arrangements and the potential increase in exposure to the virus, grandparents have continued to fulfill their caregiving responsibilities.⁴

Although this study focuses specifically on the familial roles of older adults, it is certainly not to imply that age-based framing should be substituted with familial role-based framing, especially as not all older adults are grandparents. Rather, the point is that news outlets and society need to be mindful of the diversity of roles older people play. Additionally, we acknowledge that age-based framing was utilized throughout this study. The issue is ultimately not so much with age-based framing as it is with the negative connotations evoked by old age. Given that the use of age as a proxy for social categorization serves practical purposes, our recommendation is not to avoid age-based framing, but to instead employ a more role-centered approach in discussions involving older persons. This will help counteract the negativity associated with old age. The manner in which the older cohort is discursively constructed will have a ripple effect on society in general, affecting not only older adults whose long-term health is on the line,^{27–29} but also younger people whose attitudes toward aging will inform their future self-concepts and health outcomes.⁷ Messages

promulgated by media outlets throughout this crisis—and after—should feature more optimistic representations of older adults such that their contributions are not eclipsed by existing narratives of vulnerability. This will aid in dislodging negative stereotypes about older people who constitute a trove of knowledge and experience ready to be mined.⁶

This study has limitations. We recognize that a role-centric approach may perpetuate the idea that older adults are valuable only if they engage in productive activities.²⁶ However, an emphasis on roles may undermine the notion that older adults are non-contributing members of society while reminding society of their enormous potential. Ultimately, our findings reveal that older persons are viewed more positively when framed by their familial roles. Future studies could explore other measurement approaches^{30–41} and framing strategies that may be adopted to describe this group.

Even as COVID-19 has put ageism on stark display, it has also invoked a sense of appreciation for older family members. As the perils of the pandemic continue to sweep the globe, intergenerational solidarity is of utmost importance. This study finds that framing older adults by roles rather than age may encourage greater appreciation for this cohort.

CONFLICT OF INTEREST

The authors declare no conflicts of interests.

AUTHOR CONTRIBUTIONS

Reuben Ng designed the study, developed the methodology, analyzed the data, and wrote the paper. Nicole Indran co-wrote the paper.

SPONSORS' ROLE

The funders had no role in study design, data collection, analysis, writing, and decision to publish.

DATA AVAILABILITY STATEMENT

Data are publicly available at <https://www.english-corpora.org>

ORCID

Reuben Ng  <https://orcid.org/0000-0002-1186-0570>

Nicole Indran  <https://orcid.org/0000-0003-3095-2988>

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SUPPORTING INFORMATION

Additional supporting information may be found in the online version of the article at the publisher's website.

Supplementary Text S1. Supplementary methodology and results.

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