

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Impact of Structural Ageism on Greater Violence Against Older Persons: A Cross-National Study of 56 Countries
AUTHORS	Chang, E-Shien; Monin, Joan; Zelterman, Daniel; Levy, Becca

VERSION 1 – REVIEW

REVIEWER	Peter Lloyd-Sherlock University of East Anglia, UK
REVIEW RETURNED	12-Sep-2020

GENERAL COMMENTS	<p>This is a very good paper, dealing with an important issue. It has many strengths and points of originality. It does, however, require a number of revisions.</p> <p>The main issue is how reliable the GBD is at capturing data on violence against older people. This may well be subject to misreporting for a variety of reasons, especially for people who are at high risk of injury from falls, etc. The way in which the data are collected and reported will have a huge effect on this highly sensitive and often stigmatised issue. As such, the authors need to discuss this important potential weakness in their study design and, as far as can be done, justify the approach they take. This should include reference to other studies on effective methodologies.</p> <p>The authors need to strengthen the discussion of causal mechanism, especially in the earlier sections of the paper.</p> <p>Though not essential, it would be very instructive to look at relationships between older age and risk of experiencing violence at country level. This would add considerably to the strength of your insights.</p>
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REVIEWER	Anne Cockcroft McGill University, Canada
REVIEW RETURNED	20-Oct-2020

GENERAL COMMENTS	<p>Language There are some sentences where the subject and verb do not match. Please review this.</p> <p>Abstract You need to re-phrase "rates of violence in 100,000 persons aged 70 and over" to "rates of violence per 100,000 persons aged 70 and over". Otherwise it is misleading.</p> <p>Strengths and limitations</p>
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	<p>The second point is neither a strength nor a limitation - it just reiterates the main finding.</p> <p>Methods I was confused by the section on country level covariates. It was not clear at what point or how you reduced down the number of covariates. Surely this last part should be part of the statistical analysis.</p> <p>Discussion My main concerns are about the discussion. You mention in the strengths and limitations that the ecological design limits inference at individual level. I agree. It would be useful to see this more strongly recognised in the discussion.</p> <p>You state: "Findings in this study may help policymakers, national and international health authorities, and health care professionals address the growing global health burden of violence in older persons." But it is not clear quite how your findings can help. The composite exposure scores make it difficult to know which part of the score might be more important in different contexts. It is likely that this will vary between countries. Also, just knowing that the overall level of structural ageism is related to the overall levels of violence against older people is not really very useful in teasing out what might make a difference in different contexts. You need to elaborate on this limitation and requirement for further study more clearly.</p> <p>It was surprising to see no mention at all about gender. Violence against women is also a major global public health problem and it is quite likely that gender might intersect with age in predicting the risk of violence faced by older people. I realise that this study is based entirely on analysis of national level figures, rather than individual level data. But many countries have data about the rate of violence against women. It would be interesting to see if the relationship between structural ageism and prevalence of violence against older people is found in both men and women.</p>
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VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

Comments to the Author

This is a very good paper, dealing with an important issue. It has many strengths and points of originality.

Thank you for your thoughtful comments and for suggesting that this paper “has many strengths and points of originality.”

The main issue is how reliable the GBD is at capturing data on violence against older people. This may well be subject to misreporting for a variety of reasons, especially for people who are at high risk of injury from falls, etc. The way in which the data are collected and reported will have a huge effect on this highly sensitive and often stigmatized issue. As such, the authors need to discuss this important potential weakness in their study design and, as far as can be

done, justify the approach they take. This should include reference to other studies on effective methodologies.

We agree with the reviewer that misclassification can be a concern of large, cross-national datasets, including GBD. To our knowledge, GBD is the only large epidemiologic dataset that included prevalence rates of violence against older people at the global level. Another advantage of GBD data is that it strictly follows the International Classification of Disease (ICD) tool, which is the gold standard to produce population-level health data in over 100 countries worldwide (including WHO). Thus, our outcome variable, i.e., interpersonal violence, strictly follows the ICD diagnostic codes. However, we recognize that violence in general and elder abuse in particular, can be stigmatizing, and also illegal in most of the countries. This can possibly lead to variability in data quality across countries. To this end, to accurately define cases, GBD study investigators have addressed misclassification through data processing, cross-comparisons, and other estimation techniques to provide comparable estimates of violence across countries (Details can be located in Appendix 1, Section 4, of GBD Study 2017). Additionally, given that GBD was drawn from various data sources, including national-level epidemiologic surveillance data, nationally representative surveys, as well as health information produced from data recorded in health systems, such as administrative data and medical records, the diversity of its data sources help mitigate data quality issues as compared to only one single data source. However, we have also now added this point as a data limitation (p.17) and provide thoughts for future investigations.

As the Reviewer suggested, we also strengthened our study design rationale by referring to other investigations that used parallel approaches in violence research, such as investigations on suicides and intimate partner violence. This is now added on p.10.

Reference:

Naghavi M. Global, regional, and national burden of suicide mortality 1990 to 2016: systematic analysis for the Global Burden of Disease Study 2016. *BMJ*. 2019;364:194.

Global, regional, and national incidence, prevalence, and years lived with disability for 354 diseases and injuries for 195 countries and territories, 1990-2017: a systematic analysis for the Global Burden of Disease Study 2017. (2018). *Lancet*, 392(10159), 1789-1858. doi: 10.1016/s0140-6736(18)32279-7

World Health Organization International Classification of Diseases Information Sheet, <https://www.who.int/standards/classifications/classification-of-diseases> (2017, accessed 29 August 2017).

The authors need to strengthen the discussion of causal mechanism, especially in the earlier sections of the paper.

The potential mechanism between structural ageism and violence has not been well-understood. However, there are a few postulations from various theoretical frameworks that aim to explain the linkage between structural ageism and violence. As premised by the Stereotype Embodiment Theory, a plausible psychological pathway may be that ageism operating at the structural level could trickle down to shape individuals' negative age beliefs, and in turn affect behavioral outcomes. Another pathway through which structural ageism may be associated with violence could be by creating and reinforcing a social environment that denigrates older persons. This has been shown in the parallel intimate partner violence literature, such that abusers tend to justify violence in a social context that denigrate victims as a disempowered social group. Last, considering structural ageism embodies a sociopolitical context that disempower older persons, the inherent hierarchical power relations may also leave older persons with less resources and abilities to protect themselves from violence and its associated risk factors. These structural mechanisms remain to be tested in future research.

We have now strengthened our discussion regarding the potential causal mechanism between ageism and violence earlier in the introduction section (p.6-7).

Though not essential, it would be very instructive to look at relationships between older age and risk of experiencing violence at country level. This would add considerably to the strength of your insights.

Thank you for your comment. The country-level IHME outcome data did not allow us to separate out prevalence rates of violence against oldest-old versus younger-old persons, as the age cut-off was 70 and above as an older-age group. However, we agree with the Reviewer that there is a clear need for future investigations to incorporate older age as a potential modifier. This is parallel with Reviewer 2's point regarding the potential modifying role of sex in the association between ageism and violence. Whether or not older age and female sex may place subgroups of older persons at even higher risk of experiencing violence remains to be investigated. Future multi-level analyses that combine both population level and individual level data may further assist in addressing the examination of these intersectionality between older age, sex, and structural stigma in affecting violence. We now include this point in the discussion section (p.16).

Reviewer: 2

Comments to the Author

Language

There are some sentences where the subject and verb do not match. Please review this.

We have reviewed our paper and corrected the grammar.

Abstract

You need to re-phrase "rates of violence in 100,000 persons aged 70 and over" to "rates of violence per 100,000 persons aged 70 and over". Otherwise it is misleading.

Thank you for the suggestion. This is now revised.

Strengths and limitations

The second point is neither a strength nor a limitation - it just re-iterates the main finding.

Thank you for pointing this out. We have revised this point so it is more clearly stated as a strength (p.4).

Methods

I was confused by the section on country level covariates. It was not clear at what point or how you reduced down the number of covariates. Surely this last part should be part of the statistical analysis.

Based on literature in violence and violence perpetration, we first selected a pool of relevant covariates a priori. These included five country-level variables, including population ratio, GNI per capita, average years of school, unemployment rate, alcohol consumption per capita. Second, to optimize study power and present the most parsimonious model, we turned to backward elimination strategy to select the final covariate that reached significant level of $p < .10$. The backward selection stepwise regression is commonly used in country-level ecological studies with relatively small sample sizes (e.g., Sardinha et al; Elgar et al). Results from the backward selection stepwise regression model retained only three covariates (population ratio, with $p = .02$; GNI per capita, with $p = .08$; and alcohol consumption per capita, with $p < .001$). Average years of school ($p = .78$) and unemployment rate ($p = .52$) did not reach the significant level. Thus, we presented the most parsimonious model with only three covariates in the final results.

We now include this information in the methods/covariates section (p.10-11)

References:

Sardinha L, Nájera Catalán HE. Attitudes towards domestic violence in 49 low- and middle-income countries: A gendered analysis of prevalence and country-level correlates. *PLoS One*. 2018;13(10):e0206101-e0206101.

Elgar FJ, Donnelly PD, Michaelson V, et al. Corporal punishment bans and physical fighting in adolescents: an ecological study of 88 countries. *BMJ Open*. 2018;8(9):e021616.

Discussion

My main concerns are about the discussion. You mention in the strengths and limitations that the ecological design limits inference at individual level. I agree. It would be useful to see this more strongly recognised in the discussion.

This analysis is indeed susceptible to limitations that are common in cross-national studies at the population-level. Ecological bias would generally be a limitation. This bias occurs when relationships which exist for groups are assumed to be true for individuals as well. To avoid potential confounding in this inference, we considered a large pool of covariates in our analyses. However, even if all covariates are controlled for, ecological studies would not be able to tease out who in this older population may have even higher risk of experiencing violence. Therefore, this is indeed an important area for future research. We now list this point as a limitation and offer suggestions for future investigation on p.17.

You state: "Findings in this study may help policymakers, national and international health authorities, and health care professionals address the growing global health burden of violence in older persons." But it is not clear quite how your findings can help. The composite exposure scores make it difficult to know which part of the score might be more important in different contexts. It is likely that this will vary between countries. Also, just knowing that the overall level of structural ageism is related to the overall levels of violence against older people is not really very useful in teasing out what might make a difference in different contexts. You need to elaborate on this limitation and requirement for further study more clearly.

We think our findings could have important prevention implications, as evidence suggest that programs and policies that help protect the rights and well-being of stigmatized populations have been identified as an important approach for preventing violence and aggression toward the stigmatized groups (WHO, 2009). Thus, our study highlights the potential importance of addressing structural ageism as part of a comprehensive strategy for preventing violence for older persons.

Both aspects of structural ageism, discriminatory policies and derogatory social norms, represent latent factors that underly structural ageism (as demonstrated by our factor analysis). Therefore, we think that potential intervention programs may be most efficacious in addressing policies and norms simultaneously with a top-down approach. This may include interventions that

focus on establishing and enforcing legal, policy, and rights-based structures for older persons, as drawn from the multi-level stigma intervention literature (Hatzenbuehler et al, 2013). This may also include society-wide social media campaigns to help address biases and negative attitudes toward older persons.

We have now clarified these avenues for potential change and implications for future directions as well as interventions in the discussion section (p.18).

References:

Hatzenbuehler ML, Phelan JC, Link BG. Stigma as a fundamental cause of population health inequalities. *Am J Public Health*. 2013;103(5):813-821.

World Health Organization. *Changing cultural and social norms supportive of violent behavior*. Geneva, Switzerland 2009.

It was surprising to see no mention at all about gender. Violence against women is also a major global public health problem and it is quite likely that gender might intersect with age in predicting the risk of violence faced by older people. I realise that this study is based entirely on analysis of national level figures, rather than individual level data. But many countries have data about the rate of violence against women. It would be interesting to see if the relationship between structural ageism and prevalence of violence against older people is found in both men and women.

Thank you for your comment. The country-level IHME outcome data did not allow us to separate out prevalence rates of violence against older men versus women. We agree with the reviewer that violence against women is a major global health concern. Indeed, parallel to our findings, several ecological studies have pointed out the role of sexism in predicting violence against women at the country level (Herrero et al, Sardinha et al). These studies have consistently found that women in higher gender-based structural stigma countries had a greater risk of experiencing intimate partner violence. However, this line of inquiry has been generally bereft of understanding whether older age may modify the association between structural gender-based stigma and violence, and it is also unknown whether or not structural ageism may play a role. Considering there is more sparse evidence concerning the patterns of and types of violence against older women (Crockett et al, 2015) compared to violence against women in their reproductive years, more research is needed to understand whether and to what extent violence affects older women, and equally important, whether or not intersectional stigma (ageism and sexism) may be associated with higher violence prevalence rates toward older women. This point is now added on p.16.

VERSION 2 – REVIEW

REVIEWER	Peter Lloyd-Sherlock University of East Anglia, UK
REVIEW RETURNED	17-Apr-2021

GENERAL COMMENTS	The revisions effectively address all my suggested changes. I am now completely satisfied for the manuscript to be accepted for publication.
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REVIEWER	Anne Cockcroft McGill University, Canada
REVIEW RETURNED	11-Apr-2021

GENERAL COMMENTS	Thank you for responding to my comments.
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