

Evaluating the Spillover Effects of an Ageism Reduction Intervention on Other Social Biases

Yuho Shimizu, Seijo University, Japan

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Abstract

There is a growing need to reduce ageism toward older adults. Prior studies have developed interventions that present a brief explanatory text emphasizing that “everyone will become an older adult someday” and introducing empirical findings from Stereotype Embodiment Theory. While such interventions can reduce ageism, they may unintentionally increase prejudice toward other groups. This could occur if the message is misinterpreted as implying that it is acceptable to hold biases against social groups one is unlikely to join. Therefore, the present study examined whether this type of intervention might inadvertently reinforce racism, sexism, or ableism. A total of 564 Japanese participants took part in an online experiment and were randomly assigned to either an experimental group ($n = 289$) or a control group ($n = 275$). The experimental group read the explanatory text described above, while the control group read an unrelated passage. To test group differences, Bayesian analyses were conducted to support the null hypothesis of no effect. Bayesian regression analyses, controlling for age and gender, showed no group differences in racism ($\beta = -.12$, 95% Credible Interval [CI] $[-.29, .05]$, Bayes Factor [BF] = 0.57), sexism ($\beta = -.01$, 95% CI $[-.17, .15]$, BF = 0.21), or ableism ($\beta = -.09$, 95% CI $[-.25, .08]$, BF = 0.37). These results suggest that the intervention based on Stereotype Embodiment Theory does not reinforce other forms of prejudice. Therefore, the intervention developed in previous research should be actively utilized in the future to reduce ageism.

Keywords: ageism, racism, sexism, ableism, Bayesian analysis

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Introduction

In Japan and many other countries, the proportion of older adults in the total population is increasing. Accordingly, the importance of older adults and other generations working together and coexisting is growing year by year. Meanwhile, one of the obstacles to such intergenerational cooperation is ageism, which is defined as a “process of systematic stereotyping and discrimination against people because they are old” (Butler, 1987, p. 22). Ageism has been shown to negatively affect the well-being of older adults (Brinkhof et al., 2023), highlighting the need for its reduction.

One study in Japan that aimed to reduce ageism among younger people is Shimizu et al. (2022). This study employed a strategy that focused on the unique characteristic of older adults, emphasizing the idea that everyone will eventually become old. In addition, the Stereotype Embodiment Theory (SET; Levy, 2009) can be cited as a gerontological theory related to this characteristic. The SET suggests that individuals internalize age-related stereotypes from a young age. As they grow older, these stereotypes become self-relevant and can influence their health, behavior, and self-perception, often in negative ways. For example, in a 38-year longitudinal study involving 440 younger and middle-aged adults, Levy et al. (2009) found that individuals who held ageism at baseline were more likely to develop cardiovascular disease compared to those who did not.

In Shimizu et al. (2022), participants were presented with a brief explanatory text that included the fact that everyone will eventually become an older adult, along with empirical findings related to the SET (i.e. SET intervention). This brief intervention reduced participants’ ageism, and the effect was shown to last for about one week (Shimizu et al., 2022). Moreover, the intervention was also found to increase the importance participants placed on policies supporting older adults (Shimizu et al., 2023). Based on the above, the SET intervention can be considered moderately effective in reducing ageism.

While this intervention has demonstrated effectiveness in reducing ageism, it may also inadvertently reinforce prejudice or discrimination against other social groups. This is because the SET intervention may strengthen attitudes that justify prejudice and discrimination toward groups perceived as unlikely to become part of one’s own future self. For example, since it is essentially impossible for a White person to envision themselves as a member of a racially marginalized group, such as Black individuals, the SET intervention may inadvertently increase tolerance for prejudice toward that group. Therefore, it is necessary to demonstrate that the SET intervention does not reinforce prejudice or discrimination against other social groups.

This study aims to implement the SET intervention and verify that it does not reinforce prejudice or discrimination against other social groups. As concrete examples, this study addresses prejudice against racial minorities, sexual minorities, and people with disabilities, which are commonly examined in research on prejudice. Therefore, in this study, participants will be divided into an experimental group and a control group. After the intervention, racism, sexism, and ableism will be measured and compared between the groups. In doing so, this study aims to examine whether the null hypothesis of no difference between groups is supported. Therefore, this study employs Bayesian analysis, which allows for the affirmative acceptance of the null hypothesis.

Methods

Participants

Participants were recruited through major Japanese crowdsourcing platforms, CrowdWorks and Lancers. The participants consisted of 598 individuals (362 men and 236 women). A total of 34 participants who answered incorrectly on the reading check for the explanatory text used as the experimental manipulation (details provided below) were excluded from the analysis. As a result, the final sample used for analysis consisted of $N = 564$, including 337 men and 227 women. The mean age was 42.84 years (range = 21–64, $SD = 9.10$).

Procedure

The experiment was conducted online. Participants were informed about the purpose of the study and provided their consent to participate. They were randomly assigned to either an experimental group ($n = 289$) or a control group ($n = 275$). The experimental group read the explanatory text, while the control group read an unrelated passage. Next, participants responded to items measuring racism, sexism, and ableism. Finally, they were asked to report their age and gender as demographic variables. The data and the R code used for the analysis have been made available on the Open Science Framework (OSF) repository (https://osf.io/4jmbq/overview?view_only=b60c6c97bc71477d83b0c898e4861de1).

Intervention

In the experimental group, participants read the following text (Shimizu et al., 2023, p. 5): “Everyone will eventually become older adults with time. However, we can internalize negative attitudes toward older adults throughout our lives, and turn them against ourselves. In short, the stronger your current internalized negative attitudes, the worse your own mental and physical health as you become older (e.g., increased loneliness, decreased memory). Therefore, you should avoid maintaining negative attitudes toward older adults as they will have undesirable impacts on your own future. Such negative attitudes can also lead to a disregard for the will of older adults and other negative effects, which should be avoided for the sake of the older adults around you.”

In the control group, participants read the following text (Shimizu et al., 2023, p. 6):

Internet technology has changed the traditional information environment. There was once a clear division between huge senders and small receivers of information (e.g., TV and viewers or newspapers and readers). In the past, people were only receptive to information in the media; however, the interaction between the sender and receiver and the immediacy of communication have dramatically changed this environment. Media that allow people to demonstrate their active nature are called ‘participating’ media. These circumstances have produced new problems relating to trustworthiness and risk judgments regarding websites and information.

This explanatory text is grounded in the work of Ikeda (2010).

Reading Check Items

In the experimental group, participants were asked the following questions (Shimizu et al., 2023, p. 6): “Everyone will eventually become older adults with time,” and “Negative attitudes toward older adults have undesirable impacts on ourselves and the older adults around us.” In the control group, participants were asked the following questions (Shimizu et al., 2023, p. 6): “Media that allow people to demonstrate their active nature are called ‘participating’ media,” and “There are new issues of trustworthiness and risk judgement regarding websites and information.” The response options were “yes” or “no,” with “yes” being the correct answer in all cases. Only participants who answered both questions correctly in each group were included in the analysis.

Questionnaire Items

Racism, sexism, and ableism were measured using the social distance scale developed by Muto and Kugihara (2015). Participants responded to the following eight items regarding racial minorities, sexual minorities, and people with disabilities: “1. not want to live together,” “2. not want to work together,” “3. not want to be friends,” “4. not want them to live nearby,” “5. not want to marry them,” “6. cannot understand them,” “7. not want to have conversations with them,” and “8. would be embarrassed if others knew someone like this was in their family.” The response options were as follows: “1. strongly disagree,” “2. disagree,” “3. somewhat disagree,” “4. somewhat agree,” “5. agree,” and “6. strongly agree.” For each category, the average score of the eight items was calculated, with higher scores indicating greater levels of racism, sexism, or ableism. The reliability coefficients (Cronbach’s alpha) were .95 for racism, .94 for sexism, and .94 for ableism, respectively.

Results

Racism scores were $M = 2.54$ ($SD = 1.02$) in the experimental group and $M = 2.66$ ($SD = 1.09$) in the control group. Sexism scores were $M = 2.76$ ($SD = 1.12$) in the experimental group and $M = 2.76$ ($SD = 1.12$) in the control group. Ableism scores were $M = 2.71$ ($SD = 1.06$) in the experimental group and $M = 2.81$ ($SD = 1.06$) in the control group.

Bayesian regression analyses were conducted with racism, sexism, and ableism scores as dependent variables, and group (1 = experimental group, 0 = control group) as the independent variable. Participant age and gender were controlled in the analysis. The results showed no differences in racism, sexism, or ableism scores between the two groups (in order, $\beta = -.12$, 95% Credible Interval [CI] [-.29, .05], Bayes Factor [BF] = 0.57; $\beta = -.01$, 95% CI [-.17, .15], BF = 0.21; $\beta = -.09$, 95% CI [-.25, .08], BF = 0.37). In other words, the null hypothesis of no difference between the two groups was actively supported over the alternative hypothesis of a difference. Accordingly, these results suggest that the SET intervention does not reinforce other forms of prejudice.

Discussion and Conclusion

This study seeks to carry out the SET intervention and confirm that it does not lead to increased prejudice or discrimination toward other social groups, including racial minorities, sexual minorities, and people with disabilities. To this end, Bayesian analysis, which allows for the active acceptance of the null hypothesis, was employed. Results from an online experiment conducted with Japanese participants showed that the SET intervention did not reinforce racism,

sexism, or ableism. Therefore, the SET intervention should be actively utilized in the future to reduce ageism.

While the SET intervention did not produce any backfire effects such as reinforcing prejudice or discrimination toward other social groups, it also failed to reduce other forms of prejudice. This suggests that the SET intervention is specifically effective in reducing ageism, but not in addressing other types of bias. Given that the intervention focuses exclusively on content related to older adults, this result is not unexpected. To enhance its broader applicability, however, it may be beneficial to integrate the SET intervention with strategies targeting other forms of prejudice. Combining SET with additional educational or contact-based approaches could help reduce prejudice and discrimination across a wider range of social categories.

This study yielded the findings described above; however, it is limited by the fact that participants' racism, sexism, and ableism were measured only once. Consequently, it remains unclear to what extent the SET intervention produced changes in these three forms of prejudice. Additionally, in this study, to reduce participant burden and facilitate comparisons across target groups, prejudice toward each group was assessed using the same social distance scale (Muto & Kugihara, 2015). For more precise measurement of racism, sexism, and ableism, it is preferable to employ scales specifically designed for each category. Therefore, future research should incorporate more specialized items tailored to each specific form of prejudice.

Declaration of Generative AI and AI-Assisted Technologies in the Writing Process

The author declares that no AI or AI-assisted technologies have been used to generate, refine, or correct the content in the manuscript. The ideas, design, procedures, findings, analyses, and discussion are originally written and derived from careful and systematic conduct of the research.

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Contact email: yuhos1120mizu@gmail.com