

The Role of Ageism in Climate Change Worries and Willingness to Act

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Abstract

This study examined the association of negative ageist prescriptive expectations regarding older people with worries about climate change and willingness to act. An online survey was completed by 250 Australians over the age 18. Higher levels of ageism (e.g., negative prescriptive views towards older people) were associated with fears about the impact of climate change on one's life, worries about the impact of climate change on older members of the family, and willingness to pay higher taxes to fight climate change. Holding more negative prescriptive views towards older people can serve as an incentive to act and at the same time carries an emotional negative valence associated with concerns and worries about the impact of climate change. Although willingness to act and concerns about climate change may inspire adaptation and mitigation efforts, it is important to ensure that they are not tied to ageism.

Keywords

ageism, intergenerational tension, social justice, climate change, environment

What this paper adds

- This is the first study to examine the relationship between ageism and climate change worries and willingness to act.
- More ageist views are associated with fears about the impact of climate change on one's life and greater worries about the impact of climate change on older members of the family.
- More ageist views are associated with greater willingness to pay higher taxes to fight climate change.

Applications of study findings

- Both ageism and climate change pose major threats to our society.
- Tying the two is wrong because we may aim to solve one societal problem, namely, climate change at the cost of another, namely, ageism.
- As argued by the recent UN report on The Decade in a Climate-changing World, we need a healthy climate for healthy aging and healthy longevity.

Introduction

The past decade has seen a rise in interest in and awareness of climate change and its negative impact on the planet and its inhabitants. The human-induced impact of climate change on ecosystems is already noticeable. This is manifested not only in more extreme temperature changes, such as the unprecedented heatwaves affecting Europe currently, but also in rise in sea levels, and more frequent and extreme droughts, flooding, and various natural disasters. Climate change is thought to have a direct impact on our health and wellbeing and is even associated with increased risk for mortality in certain population groups (National Oceanic and Atmospheric Administration, 2022). The Intergovernmental

Panel on Climate Change (IPCC) Sixth Assessment Report indicates that global greenhouse gas (GHG) emissions have continued to rise in the past decade and accelerated mitigation actions have to be undertaken to limit warming to below 2°C

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or preferably, below 1.5°C. Importantly, this must be achieved by the end of this decade to prevent major irreversible damage on the planet (Intergovernmental Panel on Climate Change, 2022). These unprecedented concerns explain the increasing global attention to climate change effects, mitigation (e.g., efforts to reduce or prevent greenhouse gas emission via alternative energy sources or limited energy consumption), and adaptation (e.g., preparing or adjusting to current and future effects of climate change such as installing better alarm systems in the case of severe climate events or adjusting indoor temperatures) efforts.

Climate Change Worries and Willingness to Act

Concerns about climate change have increased over the past few decades. In a study conducted in France and Australia, researchers found that risk perceptions concerning climate change were indirectly related to engaging in environmental behaviors (Bradley et al., 2020). However, although concerns could have positive effects as instigators of action, they also could serve as harbingers of distress, depression, and anxiety (Searle & Gow, 2010).

An international study which relied on data from the Eurobarometer and the European Parliament has found that citizens of regions that have cooler temperature are more likely to be concerned about climate change compared with residents of warmer, Mediterranean climate. This association occurs only in high income countries of favorable socioeconomic status (Hoffmann et al., 2022). Research also has found that skepticism about climate change is associated with conservative ideology in the United States, but less so in other countries, thus providing a reason for hope concerning the ability to influence public attitude and increase commitment to climate change adaptation and mitigation efforts (Homsey et al., 2018).

Both age and sex have been associated with concerns about climate change and different levels of involvement in the climate change movement (Zelezny et al., 2000). A study of 607 Americans between the ages of 27 and 45 has found that almost 60% of the sample was very concerned or extremely concerned about their carbon footprint and almost all were concerned about the impact of these on future generations (Schneider-Mayerson & Leong, 2020). The study found an inverse relationship between climate change concerns and age, with younger people being more worried about climate change compared with older people (Schneider-Mayerson & Leong, 2020). Women as well have shown greater concerns about climate change compared with men (Searle & Gow, 2010). Indeed, to date, the most prominent members of the climate change movement are young women. Climate change deniers, on the other hand, tend to be older men of power (Ritchie, 2021). As to socioeconomic status, research has found people of higher socioeconomic status to be the most responsible for the effects of climate change, but the least concerned about mitigation efforts (Nielsen et al., 2021).

The role of political ideology in shaping attitudes about climate change also has received attention. A study comparing 20 countries based on the ISSP Environmental module has found that political ideology plays an important role in climate change attitudes especially in Anglophone countries compared with Western European countries and post-Communist states (Smith & Mayer, 2019). In the United States, conservatives of lower socioeconomic status are more concerned about climate change compared with those of higher socioeconomic status (Ballew et al., 2020). Another study conducted in Australia has found that left-right political ideology served as the most important predictor of politicians' climate change beliefs, with center-left and progressive parties holding beliefs that are more in line with current scientific evidence about climate change (Fielding et al., 2012).

Climate Change and Social Justice

Climate change has a direct impact on human rights. It impacts humans' access to food, water, shelter, energy, and air. It has a substantial impact on people's physical and mental health, including mortality. The effects of climate change are not shared equally, as there are certain groups in society that are more susceptible to the negative impacts of climate change. This includes older people and younger children, women, poorer people, indigenous populations, people with disabilities, and people who live in low- and middle-income countries. These population groups are not only more likely to be affected by climate change effects, but are also most in need of adaptation and mitigation efforts that will protect and promote their right to life and livelihood (Levy & Patz, 2015). Hence, climate change, including adaptation and mitigation efforts, should be viewed from the perspective of social and environmental justice.

Justice is an ethical concept which reflects a normative perspective concerning the differential impact of varied (in) actions. Justice is not absolute, but instead can be interpreted differently by different people and groups. There are three distinguished forms of social justice: distributional, procedural, and recognitional (Gewirtz, 2001; Popke et al., 2016). Distributional justice concerns the fair allocation of the impact of climate change, as well as mitigation and adaptation efforts. Procedural social justice refers to the inclusion of different groups in the decision-making process relevant to climate change mitigation and adaptation efforts. Recognitional social justice concerns the acknowledgment of adversities and impacts of climate change, including climate change adaptation and mitigation efforts on different groups in society. All three forms of justice must work in tandem to protect the most vulnerable sections of society from the unprecedented impacts of climate change.

Climate Change, Intergenerational Tension, and Ageism

Although much of the literature on social justice has addressed the distinction between the global north and the global south as well as more local struggles in search for social justice among indigenous populations and different ethnic/racial minority groups, social justice also has temporal dimensions (Ayalon et al., 2022). The temporal features of climate change refer to the fact that (in)actions of the past or the present have implications for the future including for generations not yet born. This is why older people often are held accountable for their carbon footprint as well as for their failure to ensure climate change policy, which takes into consideration future generations (Ayalon, 2020).

Although the exact cut-off that defines old age varies across countries and individual characteristics (Ayalon et al., 2014), older people are considered to be particularly susceptible to the negative impacts of climate change (Gamble et al., 2013). This susceptibility is partially attributed to physiological mechanisms including premorbid conditions such as cognitive and sensory impairments (Filiberto et al., 2009; Gomes et al., 2022; Page et al., 2012). However, limited social support, social isolation, limited sense of safety and trust in the community, an impoverished environment, and inadequate response of social, economic, and political institutions place older people at a higher risk for mortality during extreme weather events (Klinenberg, 1999). Hence, it is not chronological age alone, but a variety of other attributes that contribute to inequalities in the face of climate change events.

Despite their increased susceptibility, older people often are blamed for their (in)action in the context of climate change. At times, older people are seen as contributing the most to environmental pollution and greenhouse gas emission throughout their life due to certain lifestyle habits and practices; yet, they also are the ones in positions of power to impact change at the policy level (Ayalon et al., 2021), though such impact has not been effective enough to date. Additionally, older people are expected to make sacrifices in the form of mitigation efforts to possibly impact a future of which they will not be part.

A recent review has focused on intergenerational relations in the context of climate change (Ayalon et al., 2022). The review identified two poles along the dimensions of conflict and differences between the generations versus solidarity and transmission of knowledge and practices across generations. The review concluded that both younger and older people are affected by age-based discrimination related to climate change as well as by direct and indirect climate change effects including mitigation and adaptation efforts. Nonetheless, differences between the generations can be overcome by stressing the solidarity between the generations and the valued knowledge of older people who can contribute to

climate change mitigation and adaptation efforts (Ayalon et al., 2022).

Related to the concept of intergenerational tension is the concept of ageism. Ageism is defined as stereotypes, prejudice, and discrimination towards people because of their age (Iversen et al., 2009). Ageism can be directed towards both younger and older members of society and can be both positive and negative. For instance, we might think of younger people as particularly stylish and beautiful simply because of their age or as arrogant and noisy, reflecting positive and negative ageist attitudes towards younger people. Likewise, we might think of older people as wise and warm because of their age or alternatively we might view them as incompetent, vulnerable or a burden to society, reflecting positive and negative ageist attitudes towards older people, respectively. Research so far has focused mainly on the negative aspects of ageism towards older people (Ayalon & Tesch-Römer, 2018).

To date, the concept of ageism has received only minimal attention with regard to climate change (Ayalon et al., 2022), with the limited research conducted on the topic emphasizing ageism toward younger people who are portrayed as inexperienced and overzealous in the case of climate change (Bergmann & Ossewaarde, 2020). However, given the temporal aspects of climate change and its differential impact on people because of their age as well as the differential power of different age groups to influence policy concerning climate change, the concept of ageism possibly has relevance for the understanding of climate change attitudes.

We address ageism from the perspective proposed by North & Fiske, 2013. This perspective suggests that older people are subject to prescriptive norms which dictate that they should give the right of the way to younger people when resources are scarce and should not consume too many of the shared resources. Older people also are expected to maintain an old age identity rather than cross the line and dress and behave like younger people. These expectations are potentially of relevance in the case of climate change because the changing climate poses an imminent reminder concerning limited global resources and their exhaustion by current and previous generations at the expense of future generations (Caney, 2014). Moreover, the climate change movement is largely characterized as a bottom-up movement led by youth activists (Park et al., 2021). The limited involvement and visibility of older people in the climate change movement could be partially attributed to invisible social boundaries which dictate that the climate change movement is led and inspired by the global youth.

The Present Study

The present study evaluated the relationship between ageism and climate change worries and willingness to act. Given the temporal dimensions associated with climate change, it is possible that people who hold more prescriptive ageist

attitudes towards older people also are more likely to report concerns about climate change and attribute these concerns to the role of older generations in exacerbating climate change. To explore this possibility further, we conducted an online survey in Australia, a country undergoing severe climate change events in recent times. We expected negative ageist attitudes about older people to predict greater concerns about the effects of climate change on oneself and on younger people. We also expected an interaction between age and negative ageist attitudes, so that the effects of negative ageist attitudes are particularly strong in the case of younger people. However, given the exploratory nature of this study and the absence of previous research on the topic, we examined bi-directional associations, referring to the proposed study aims as research questions, rather than as concrete hypotheses.

Methods

Sample and Procedure

The study received the ethical approval of the PI's university. Prior to completing the online survey, respondents signed an informed consent. The survey was administered through a survey agency, which sent a link of the survey to potential respondents to be completed online. The survey agency sampled quotas based on sex (an equal representation) and age groups (e.g., 18–30, 31–60, 61+). Respondents were directly compensated for their time via the survey agency. The sample consisted of 250 Australians over the age of 18. The average age of the participants was 46.20 (SD = 18.68; 19–82), 52.4% were women, and 45.6% had an undergraduate degree.

Measures

Climate change worries and willingness to act. Respondents were asked the following four questions about climate change: (1) "I feel fearful when I think about the impact of climate change on my life"; (2) "I worry about the impact of climate change on younger members (under 18) of my family"; (3) "I worry about the impact of climate change on older members (over 60) of my family"; and (4) "I am willing to pay higher taxes to fight against climate change." These items were ranked on a seven-point scale, ranging between "strongly disagree" and "strongly agree."

Ageism. Respondents were asked to complete the Succession, Identity, and Consumption (SIC) measure, which is focused on prescriptive beliefs concerning intergenerational conflicts related to the expectations surrounding older people's succession from envied positions/resources, limited consumption/unfair depletion of shared resources, and the maintenance of an "old" identity, which does not cross over to the younger people's domain (North & Fiske, 2013).

This questionnaire is composed of 20 items, ranging on a scale between 1 = strongly disagree and 6 = strongly agree, which measure prescriptive Succession (N = 7 items; "It is unfair that older people get to vote on issues that will impact younger people much more"), Identity (N = 5 items; "Older people probably shouldn't use Facebook"), and Consumption (N = 8 items; "Older people don't really need to get the best seats on buses and trains"). A higher score represents more negative ageist attitudes. In the present study, Cronbach's Alpha was 0.91. As already noted, this questionnaire was selected because it represents prescriptive norms that might be of relevance in the context of climate change.

Demographic Information. Age, gender, and education-related data were gathered based on self-report.

Analysis

We conducted four regression analyses with the climate change items as the outcome variables and the SIC scale as a predictor, representing ageism towards older people. Age, gender, and education were included as covariates. We also examined the potential interaction between age and the SIC scale.

Results

Table 1 presents descriptive characteristics and correlations between the study variables. Older age was negatively correlated with education, SIC scores, fear about the impact of climate change on one's life, worries about the impact of climate change on older family members, and willingness to pay higher taxes to fight against climate change. Women were more likely to report fear about the impact of climate change on themselves, as well as on younger and older members of their family, and were more willing to pay higher taxes to fight climate change. Higher levels of education were associated with more worries about climate change and with greater willingness to pay taxes. In addition, higher SIC scores (more negative prescriptive ageist attitudes towards older people) were associated with greater fears about the impact of climate change on oneself and on older members of the family and with willingness to pay higher taxes to fight against climate change. The four climate change items also were positively correlated.

Table 2 presents the results of the regression analyses. We examined the role of negative ageist attitudes towards older people (SIC) in predicting the four attitudinal climate change items. A higher SIC score was predictive of fears about the impact of climate change on one's life, worries about the impact of climate change on older members of the family, and willingness to pay higher taxes. In addition, younger age was associated with greater fears about the

Table 1. Descriptive Characteristics and Correlations between Study Variables (N = 250).

	M (SD)/N (%)	1	2	3	4	5	6	7
1. Age	46.20 (18.68)							
2. Women (men-reference group)	132 (52.4%)	-0.12						
3. Education (1-7)	4.67 (1.20)	-0.14*	-0.01					
4. SIC (1-6)	6.83 (4.69)	-0.29**	-0.01	0.01				
5. Fearful about the impact of climate change on my life (1-7)	4.61 (1.74)	-0.26**	0.24**	0.10	0.22**			
6. Worry about the impact of climate change on younger members (1-7)	4.99 (1.87)	-0.11	0.24**	0.08	0.11	0.79**		
7. Worry about the impact of climate change on older members (1-7)	4.31 (1.88)	-0.17*	0.17**	0.17**	0.16*	0.73**	0.73**	
8. Willingness to pay higher taxes (1-7)	4.02 (1.86)	-0.20**	0.15*	0.18**	0.20**	0.65**	0.65**	0.58**

SIC stands for Succession, Identity, and Consumption; * $p < .05$; ** $p < .01$.

Table 2. Regression Analyses to Predict Worries About Climate Change and Willingness to Act.

	b	SE	Beta
Fearful about the impact of climate change on my life $R^2 = 0.14$			
Age	-0.02**	0.01	-0.17
Gender	0.80**	0.21	0.23
Education	0.11	0.09	0.08
SIC	0.09**	0.03	0.17
Worry about the impact of climate change on younger members $R^2 = 0.08$			
Age	-0.01	0.01	-0.04
Gender	0.89**	0.23	0.24
Education	0.12	0.10	0.08
SIC	0.06	0.04	0.10
Worry about the impact of climate change on older members $R^2 = 0.10$			
Age	-0.01	0.01	-0.09
Gender	0.64**	0.23	0.17
Education	0.05**	0.10	0.16
SIC	0.08**	0.04	0.14
Willing to pay higher taxes against climate change $R^2 = 0.09$			
Age	-0.01	0.01	-0.11
Gender	0.55**	0.23	0.15
Education	0.25**	0.10	0.16
SIC	0.09**	0.03	0.16

SIC stands for Succession, Identity, and Consumption; * $p < .05$; ** $p < .01$.

impact of climate change on oneself. Being a woman was associated with greater concerns about the effects of climate change and more willingness to pay taxes to fight against climate change. Higher levels of education were associated with more worries about climate change effects on older people and greater willingness to pay taxes to fight against climate change. Additional analyses examined the SIC score in interaction with age. However, none of the interactions was significant.

Discussion

Climate change has a substantial impact on all aspects of our life and is considered a major barrier to human rights. The temporal aspects associated with climate change effects, including mitigation and adaptation efforts, are well-acknowledged (Summers & Smith, 2014). It is the past and present generations which are responsible for greenhouse gas emissions and exploitation of natural resources, but the effects of climate change will intensify in the future, thus impacting mainly future generations, including those who are not yet born. Nonetheless, it is current generations that are expected to engage in mitigation efforts, and it is also the present generations, younger and older people, who are currently most susceptible to the effects of climate change. Therefore, it is important to gauge the views and attitudes of current generations about climate change impact and mitigation, while considering the temporal aspects associated with climate change.

Employing a temporal perspective, the present study examined the role of negative ageist attitudes towards older people as a predictor of worries about climate change and willingness to act. Our findings show that more negative ageist attitudes towards older people are associated both with fears about the impact of climate change on one's own life as well as with worries about the impact of climate change on older family members. More negative ageist attitudes also were associated with a greater willingness to pay taxes to fight against climate change. These findings suggest that negative ageist attitudes towards older people possibly instigate concerns, but also interest in the unfolding impacts of climate change. Much of the recent rhetoric by younger climate change activists has addressed the role of older people in the current climate situation (Ayalon, 2020). The present findings suggest that indeed, holding more negative views towards older people can serve as an incentive to act and at the same time carries an emotional negative valence associated with concerns and worries about the impact of climate change. The fact that more negative ageist attitudes were associated with

concerns about the impact of climate change on older family members, but not on younger family members possibly attests to the view of older people as vulnerable members of society. This view likely was strengthened during the current pandemic (Cohn-Schwartz & Ayalon, 2021), yet, represents a long lasting view of older people as “doddering but dear” (Cuddy & Fiske, 2002). Possibly blaming others (e.g., holding prescriptive ageist views towards older people) serves as an incentive to take climate change action. Concerns about social and environmental injustice, the impacts of which are already being felt across the globe, may further motivate people to take notice of climate change. Unexpectedly, there was no interaction between the age of the respondent and ageism in predicting concerns or willingness to act in relation to climate change. This possibly attests to the tendency to distance from old age, so that old age is viewed in others, rather than in ourselves (Pinquart & Wahl, 2021). This “othering” may also help to solidify the stance of younger generations towards the irresponsibility of older generations.

Gender was a consistent predictor of climate change concerns, with women being more worried about the varied impacts of climate change as well as more willing to pay taxes to support the fight against climate change. Climate change has well-known gendered characteristics (Pearse, 2017). Compared with men, women are substantially more vulnerable to the effects of climate change. This has been attributed to their poorer financial status as well as to their dependence on natural resources, especially in developing countries (Arora-Jonsson, 2011). Women also are less likely to impact climate change mitigation and adaptation efforts, given their exclusion from political power. Men, on the other hand, tend to contribute more to greenhouse gas emission. Similar to the present study, research has shown that women are more likely than men to report concerns about climate change (McCright, 2010).

Finally, education was positively related with concerns about the effects of climate change on older people and with willingness to pay more taxes to fight climate change. This is consistent with past research which has found that higher levels of education are associated with greater concerns about climate change (Echavarren et al., 2019). In addition, younger people reported greater concerns about the impact of climate change on their own life. This could possibly explain the greater involvement of younger people in the climate change movement (Cloughton, 2021), which is possibly fueled by concerns about the impact of climate change on one’s own life as well as those of unborn generations, thereby highlighting the need for social and intergenerational justice.

Despite its innovative perspective, this study has several limitations that should be addressed. First, this is a cross-sectional study, based on a non-representative sample. Results do not allude to cause-and-effect relationships and do not represent the entire Australian population. Future research will benefit from examining the role of ageism in the discourse produced by climate change activists. Research also

will benefit from developing designated scales that specifically assess ageism towards older people in the context of climate change, given the fact that ageism is always context dependent (Voss et al., 2017).

Nevertheless, the findings provide insights concerning the role of ageism in climate change concerns and willingness to act. The findings also highlight several demographic characteristics that should be considered in the context of climate change. Although willingness to act and concerns about climate change are positive and important to lead further mitigation efforts, it is important to ensure that they are not tied to ageism. It is our duty to ensure that the fight against climate change is not fueled by negative ageist views towards older people. This is because by possibly working towards the solution of one global problem, namely, climate change, we might increase the risk for another one, namely, ageism, and its well-known negative impact on older people.

There is plenty of research to show the positive impact of volunteering as part of the climate change movement on older people’s mental health and sense of purpose (Pillemer et al., 2009, 2017). In fact, older adults across countries have mobilized to advocate for climate action. In addition to joining climate protests, older adult-led organizations like Climate Legacy, Elders Climate Action, Grandparents Climate Action, and the International Council of Grandmothers are fighting for a livable future for their children and grandchildren. Older people also can serve as the bearers of knowledge of traditional practices transmitted to the younger generations (Ayalon et al., 2022). Hence, we should strive to encourage solidarity between the generations, rather than division, in further mitigation efforts towards a healthy climate for healthy aging and healthy longevity (World Health Organization, 2022).

According to the World Health Organization (WHO) Global Report on Ageism, there are several effective strategies that can be used to possibly reduce ageism (World Health Organization, 2021). Both education and intergenerational contact have shown to reduce negative attitudes towards older people (Burnes et al., 2019). Hence educating the public about the negative effects of ageism on older people in the context of climate change and fostering intergenerational contact and solidarity as part of the climate change movement are warranted. Legislation and policy also have the potential to reduce age-based discrimination. In the case of climate change, specific legislation that acknowledges older people’s susceptibility to severe climate change events is warranted (United Nations High Commissioner for Human Rights, 2022).

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Ethical Approval

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