DISSERTATION CHAPTER II

"How Biased Do You Think We Are!?" Comparing Actual Versus Estimated Sentiments Toward Younger, Middle-Aged, And Older Adults

Abstract. Public and academic debates on ageism predominantly focus on prejudice against older people, implicitly assuming that age-based stigma increases throughout the lifespan. I put this assumption to the test in a pre-registered study surveying Americans' sentiments toward the young, middle-aged, and old, using a representative sample of the U.S. adult population (N = 967). Findings reveal that: (i) Americans actually exhibit much more favorable attitudes toward older than younger adults; (ii) this pattern holds true across a wide range of participant demographics; and (iii) consistent with the notion that unfavorable attitudes toward the young represent a prejudice more than a benign preference, people high on social dominance orientation (i.e., a key antecedent of prejudices, including racism, sexism, ableism, and homophobia) harbor more negative sentiments toward the young—but not the old—relative to the rest of the sample. In two subsequent pre-registered studies, I find that lay participants (N = 500) were extremely accurate at estimating these findings but social scientists (N = 241) consistently overestimated attitudes toward the young and underestimated attitudes toward the old, an inaccuracy even higher for researchers with expertise in ageism. Academic expertise, therefore, hampered accuracy. In an aging world where younger adults are rapidly becoming a minority, these findings stress the need for public authorities and scientists to reconsider what age-based prejudice looks like and develop theory and policies that ponder discriminations targeting all age groups.

"How Biased Do You Think We Are!?" Comparing Actual Versus Estimated Sentiments Toward Younger, Middle-Aged, And Older Adults

As societies worldwide grapple with an unprecedented aging of the population, social scientists have taken a keen interest in ageism: the stereotyping of—and prejudice and discrimination against—people on the basis of their age. Demographic attributes influence the way individuals and groups are perceived, which in turn, shapes their life experiences (Chae et al., 2010; de Oliveira Laux et al., 2015; Talaska et al., 2008). In this regard, research on ageism has shown that negative views of older adults have detrimental effects on their social lives, economic prospects, subjective wellbeing, and the quality of care they receive (Francioli & North, 2021a; Kornadt & Rothermund, 2011; Kotter-Grühn & Hess, 2012; Lyons et al., 2018; North & Fiske, 2012, 2013; Ramírez & Palacios-Espinosa, 2016). As societies strive to adapt to a rapidly changing age landscape, academic work on ageism helps shape policies, organizational practices, and medical staff's patient engagement, all to reduce negative biases toward the older segment of the population.

Despite a boom in ageism research however, academics have focused primarily on age biases targeting older adults—the proportionally growing segment of the population. In contrast, much less work has examined perceptions of younger adults (i.e., people below 18-35) and their impact on the outcomes of younger generations (Bratt et al., 2018; Bratt et al., 2020; Francioli & North, 2021b). Yet, recent work suggests that younger adults do experience ageism. In multiple exploratory studies, young adults have reported being the target of condescension, stereotyping, and prejudice (Bratt et al., 2018; Chasteen et al., 2021; Duncan & Loretto, 2004). In addition, a growing body of work has shown that aging societies might entertain particularly negative views

of the young (Bratt et al., 2018; Bratt et al., 2020; Francioli & North, 2021b; Francioli et al., *in progress*; Mikton et al., 2021; Protzko & Schooler, 2019; Farkas et al., 1997).

Unfortunately, empirical studies assessing ageism toward all age groups is sparse. Research in the field generally examines how older targets are viewed by younger participants (e.g., children, undergraduates, young professionals, medical personnel in training), but seldom how older adults see younger generations. Studies that do include older participants largely focus on participants' own views of aging, and how these self-perceptions impact their own health and well-being. In contrast, sentiments toward the young are rarely measured. As a result, it is unclear how sentiments—and potential ageism—toward the young compare with those toward the older segment of the population.

The present research aims to contribute to our understanding of ageism in two important ways. First, I address the above-mentioned gap in the literature by assessing Americans' general sentiments toward all age groups in the adult spectrum in a single study-design (Study 1). In doing so, I also examine how social dominance orientation shapes participants' attitudes toward these different age groups. Social dominance orientation (SDO) captures people's disposition to tolerate, justify, and sometimes promote social hierarchies and inequalities (Ho et al., 2015; Pratto et al., 1994). SDO captures people's disposition to tolerate, justify, and even promote social hierarchies and inequalities (Ho et al., 2015; Pratto et al., 1994). A large body of work has shown that SDO represents a powerful predictor of prejudices, including racism, sexism, homophobia, classism, Islamophobia, and ableism (e.g., Bobbio et al., 2010; Bizer et al., 2012; Christopher & Wojda, 2008; Duckitt & Sibley, 2006; Guimond et al., 2013; Levin et al., 2012; Phelan & Basow 2007; Sibley et al., 2007; Sidanus et al., 1994; Whitley Jr, 1999). As such, people high on SDO tend to exhibit more prejudicial attitudes than the rest of the population. I

therefore compare how people with a higher proclivity for prejudices (i.e., high SDO) fare in their attitudes toward younger, middle-aged, and older adults, relative to people with a lower proclivity for prejudices (i.e., low SDO).

Second, I examine people's *assumptions* about society's sentiments toward these different age groups. More specifically, I measure how lay Americans (Study 2a) and social scientists with varying degrees of ageism, and diversity, equity, and inclusion (DEI) expertise (Study 2b) fare at estimating how the representative sample in Study 1 responded. This type of estimation studies has gained in popularity in recent years, particularly among metascientists, who use them to evaluate researchers' understanding of their own field and assess how valuable their expertise is in accurately describing and predicting the real world. For instance, prior estimation studies have tested academics' accuracy at estimating which findings will replicate and which will not (Benjamin et al., 2017; Camerer et al., 2018; DellaVigna & Pope, 2019; Dreber et al., 2015; Landy et al., 2020), the degree of ideological bias in academic publications (Eitan et al., 2018), and the results of behavioral experiments (DellaVigna et al., 2020; DelaVigna & Pope, 2018a, 2018b; Dunaway et al., 2013; Groh et al., 2016; Sanders et al., 2015). In this same spirit, I aim to assess how academics fare in their estimations of Americans sentiment toward younger, middle-aged, and older adults, relative to lay participants, and whether and how expertise in DEI and ageism shapes the accuracy of their estimations.

STUDY 1

Focusing on the United States, I surveyed a large sample representative of the U.S. adult population to gauge American sentiments toward younger, middle-aged, and older adults. To capture impressions reflective of the population as a whole and maximize the ecological validity of my findings, I recruited a sample representative of the U.S. adult population with regards to

age, gender, and race, but also political ideology, a factor known to correlate with age-based attitudes and a source of bias on most crowdsourcing platforms, which are predominantly liberal (Clifford et al., 2015; Levay et al., 2016). I asked participants to share how they felt toward people in their 20s, 30s, 40s, and so on, up to people in their 90s, in an effort to compare sentiments toward all age cohorts in a single study and present a more comprehensive picture of ageism throughout the lifespan.

I surveyed explicit attitudes as my primary outcome measure. Explicit attitudes are widely used across many disciplines of social sciences (e.g., Hereck, 2002; Inbar et al., 2012; Sides & Gross, 2013; Lelkes, 2016; Wilcox et al., 1989; see also American National Election Study), including age-based research (Burnes et al., 2019; Kite et al., 2005; Francioli & North, 2021). According to multiple meta-analyses and reviews, they also constitute a valid predictor of prejudicial beliefs and discriminatory behaviors (Ajzen et al., 2008; Kraus, 1995; Talaska et al. 2008). To capture explicit attitudes, I opted for feeling thermometers, a proven method that facilitates comparisons across target groups (Axt, 2017; see also American National Election Study). However, what feeling thermometers provide in convenience, they lose in depth and nuance. To address this limitation, I also asked participants to share their sentiments toward younger and older adults in two short essays. I used these open-ended questions to develop a complementary measure of attitudes and examine the stereotype content of younger and older adults. Finally, I also measured participants' social dominance orientation (SDO) to compare how the age sentiments of participants with higher prejudicial dispositions (i.e., high SDO) fared relative to those of people with lower dispositions (i.e., low SDO).

To guarantee both the transparency and impartiality of my approach, I preregistered the sample size, study design, variables, and analytical plan, but did not formulate any hypotheses.[1]

Methods

Participants. Per my preregistration form, I aimed to recruit a sample of 1,000 participants representative of the adult U.S. population with regards to age, gender, race, and political ideology. The sample was recruited via the crowdsourcing platform Prolific. Respondents were paid $0.67, for a median completion time of 4.6 minutes. By the end of my preregistered recruiting period, a few slots reserved for conservative minorities were left unfilled, leaving us with a total of 984 complete responses. Seventeen were excluded because of a failed attention check or duplicate IP address. Despite a slightly lower quota of conservative racial minorities, my final sample (N = 967 participants) closely matched the U.S. population on my relevant criteria: 510 women (52.7%); 300 non-White respondents (31.0%); Age: M_{age} = 45.6, SD_{age} = 16.5, min_{age} = 18, max_{age} = 85; political view: 346 conservatives or extremely conservatives (35.8%), 247 moderates (25.5%), and 374 liberals or extremely liberals (38.7%).

Procedure. Participants self-reported their explicit attitudes toward people in their 20s, 30s, 40s, and so on, up to people in their 90s using a series of feeling thermometers with endpoints 0 = *Extremely Negative Feelings* and 10 = *Extremely Positive Feelings*. The order of the target age groups was counterbalanced to reduce risks of anchoring effect. Participants also completed two essay questions. The first encouraged participants to share how they perceive—

[1] The preregistration form for the thermometer tasks is available here. The preregistration for the open-ended questions is available here. The preregistration for the complementary study examining SDO & attitudes toward ethnic groups is available here. Only a subset of the analyses described in the preregistrations are available in this preliminary report. Minor alterations to my initial analytical plans were made to maximize the statistical accuracy of my analyses (e.g., *target age groups* was entered as an ordinal rather than continuous predictor as initially preregistered, to stay as close as possible to the actual data and minimize the use of estimates). These minor changes to my initial analytical plan do not materially alter the findings nor conclusions presented in this report.

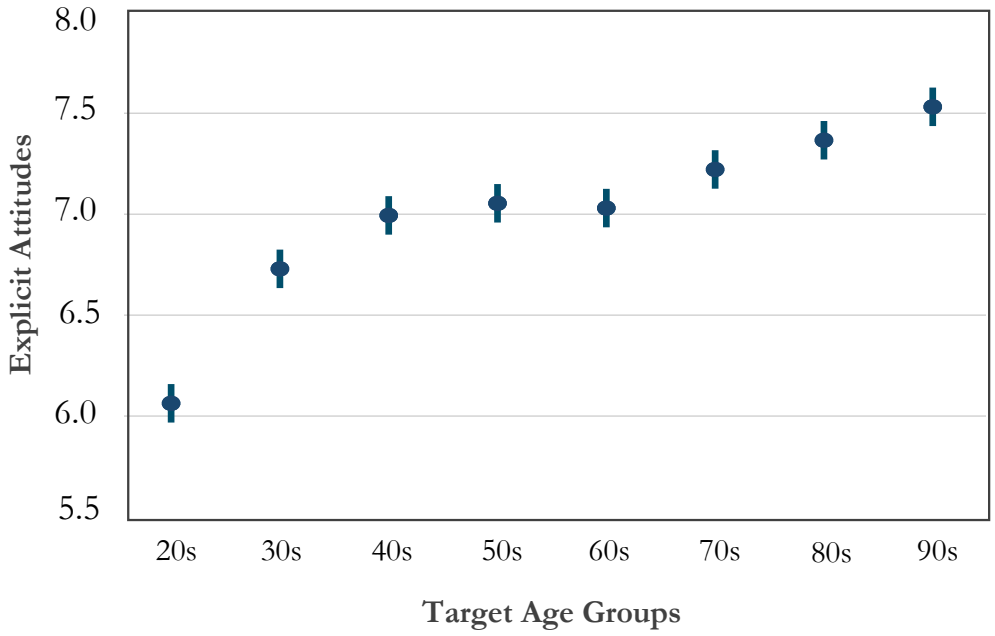
and feel toward—people in their 20s and 30s, the second, how they perceive—and feel toward—people in their 80s and 90s. Participants then completed the short version of SDO_7 on a 7-point scale with endpoints 1 = *Strongly Oppose* and 7 = *Strongly Favor* (Ho et al., 2015; 8 items: e.g., "Some groups of people are simply inferior to other groups", "We should work to give all groups an equal chance to succeed", reverse coded; $\alpha = .90$). A brief demographic questionnaire concluded the study. The data was collected between December 15, 2021, and January 15, 2022. The study was launched under the IRB-FY2018-1358, approved by NYU Institutional Review Board, Office of Research Compliance.

Results

Feeling Thermometers. I ran a repeated measure ANOVA with attitudes as the outcome variable and target cohort age as the repeated independent measure, $F(7, 6{,}762) = 85.88$, $p < .0001$ (Figure 2.1). I followed up with a series of Bonferroni-adjusted pairwise comparisons (*p*s * 7). Respondents harbored the least favorable attitudes toward people in their 20s ($M = 6.06$, $SD = 2.36$), below those toward people in their 30s ($M = 6.73$, $SD = 1.97$), $p < .0001$. Attitudes toward people in their 30s were lower than those toward people in their 40s ($M = 6.99$, $SD = 1.80$), $p < .0008$. Attitudes towards people in their 40s, 50s ($M = 7.05$, $SD = 1.96$), and 60s ($M = 7.03$, $SD = 2.21$), were not significantly different from one another, *p*s = 1.000. Attitudes toward people in their 60s were lower than those toward people in their 70s ($M = 7.22$, $SD = 2.27$), $p = .0378$. Attitudes toward people in their 70s were not significantly lower than those toward people in their 80s ($M = 7.37$, $SD = 2.22$), $p = .2467$, and those toward people in their 80s, not significantly lower than those toward people in their 90s ($M = 7.53$, $SD = 2.25$), $p = .1128$. Despite the last two non-significant comparisons, I generally note an upward trend at the far end of the target age

Figure 2.1

Mean Plot of Explicit Attitudes toward Different Age Groups for a Sample Representative of the U.S. Adult Population



Note. Explicit attitudes toward age groups follow an upward trend with a plateau between 40 and 60. People in their 20s tend to experience the least favorable attitudes, people in their 90s, the most favorable. Full scale of the outcome measure: 0 = *Extremely Negative* to 10 = *Extremely Positive*. Error bars represent 95% confidence intervals.

spectrum, with people in their 60s rated lower than those in their 80s, $p < .0001$, and those in their 70s rated lower than those in their 90s, $p < .0001$ (Bonferroni-adjustment ps * 28).

Overall, I observe an upward trend with a plateau between 40 and 60, so that people in their 20s experience the least favorable attitudes and those in their 90s, the most favorable ones (see Figure 2.1). From an effect size perspective, this trend is not negligible: The highest rated group (i.e., people in their 90s) enjoyed (7.53 - 6.06) / 6.06 = 24.3% more favorable attitudes than the lowest rated group (i.e., people in their 20s). Furthermore, I also note a great deal of consistency among participants: Of the 967 respondents, 392 (40.5%) rated people in their 20s the lowest of all target age groups; in contrast, only 40 (4.1%) rated people in their 60s the

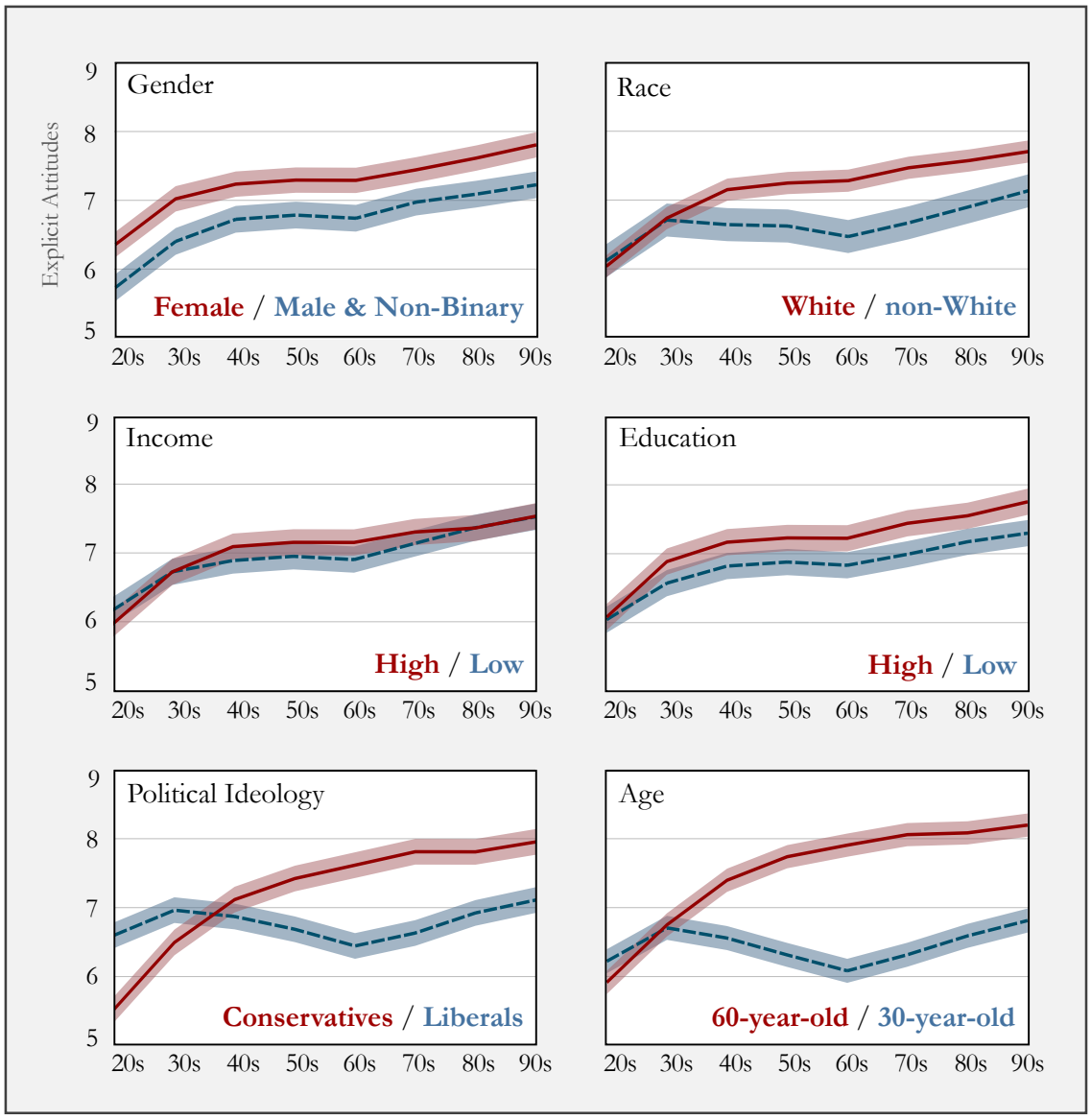
lowest, and none rated people in their 70s, 80s, or 90s the lowest. Taken together, these results suggest that Americans overwhelmingly harbor the least favorable explicit attitudes toward younger adults and most favorable ones toward older adults.

Moderation by participant demographics. I ran a series of multi-level models to test whether participant demographics moderated the general attitudinal pattern reported above. Feeling thermometers served as my outcome measure. Observations were nested within participant. Target cohorts' age was entered as an ordinal predictor. Participant demographics were interacted with target cohorts' age. Each demographic variable was examined in a separate model. I entered those categorical demographic variables as dummy predictors (i.e., gender: 1 = *female participant*, 0 = *male or non-binary participants*; race: 1 = *white participants*, 0 = *non-white participants*). I standardized those that are non-categorical (i.e., yearly income, highest level of education, participant age, political view) and entered them as continuous predictors. Wald tests were computed to assess the significance of each moderation and followed up with simple effect and simple slope analyses.

Gender did not moderate attitudinal preferences, $\chi^2(7) = 2.30$, $p = .9411$. Female participants showed more positive attitudes toward all target age groups in general but exhibited a preference for older over younger adults similar to that of their male and non-binary counterparts (see Figure 2.2). Level of education and income did not greatly moderate attitudinal preferences either, respectively, $\chi^2(7) = 12.84$, $p = .0762$, and $\chi^2(7) = 17.58$, $p = .0140$. On the other hand, race did, $\chi^2(7) = 73.10$, $p < .0001$. White participants showed a stronger preference for older adults than did their non-White counterparts. Of noteworthy mention however, comparisons of main effects for non-White participants showed that the latter still evaluated people in their 60s ($M = 6.47$, $SD = 2.29$) and 90s ($M = 7.14$, $SD = 2.42$) more positively than

Figure 2.2

Mean Plots of Explicit Attitudes toward Different Age Groups for a Sample representative of the U.S. Adult Population, as a function of Participant Demographic Characteristics



Note. Full scale of the outcome measure: 0 = *Extremely Negative* to 10 = *Extremely Positive*. Mean plots for categorical moderators based on actual means. Mean plots for continuous moderators based on mean estimates derived from simple slopes. High/low income = +/- 1 *SD* away from the mean, where *M* = $89.6k, and *SD* = $62.4k. High/low education = +/- 1 *SD* away from the mean, where *M* = 12.2 years of education, and *SD* = 1.8. Political Ideology: Conservatives = 1 *SD* above the mean, and Liberals = 1 *SD* below the mean, where *M* = 3.0 (out of 5.0), and *SD* = 1.2. Age: 60-year-old = 0.94 *SD* above the mean, and 30-year-old = 0.87 *SD* below the mean, where *M* = 45.6 and *SD* = 16.5. Shaded areas represent 95% CI. Gender, level of income, and level of education do not greatly moderate the general pattern of age attitudes. White, conservatives and older participants show an even stronger attitudinal preference for older—over younger—adults. Conversely, racial and ethnic minorities, liberals, and younger participants tend to express more even attitudinal responses across target age groups, but still show modestly more favorable attitudes toward the "very old" than the youngest target age group.

those in their 20s (M = 6.12, SD = 2.37), p = .0259, and p < .0001, respectively (Bonferroni adjustment: ps * 6). Similarly, conservative-leaning participants showed a stronger preference for older adults than did their liberal counterparts, $\chi^2(7) = 534.91$, $p < .0001$. Comparisons of estimated main effects for liberals (i.e., political ideology = -1 SD) revealed that the latter would tend to evaluate people in their 20s (M = 6.60, SE = 0.10) similarly to those in their 60s (M = 6.44, SE = 0.10), p = .5754, and lower than those in their 90s (M = 7.11, SE = 0.10), $p < .0001$ (Bonferroni adjustment: ps * 6).

Predictably, participant age also moderated this general attitudinal pattern, $\chi^2(7) = 624.15$, $p < .0001$, albeit not in quite the way classic intergroup conflict theories would predict. Older participants showed a marked ingroup-outgroup bias. For instance, estimates of main effects for a 60-year-old participant showed that the latter tended to rate people in their 20s (M = 5.92, SE = 0.09) significantly lower than those in their 60s (M = 7.91, SE = 0.09), $p < .0001$, and 90s (M = 8.20, SE = 0.09), $p < .0001$ (Bonferroni adjustment: ps * 6). In contrast, young adults did not seem to exhibit such a bias. For instance, 30-year-old participants tended to rate people in their 20s (M = 6.22, SE = 0.09) similarly to those in their 60s (M = 6.08, SE = 0.09), p = .7420, but lower than those in their 90s (M = 6.81, SE = 0.09), $p < .0001$ (Bonferroni adjustment: ps * 6).

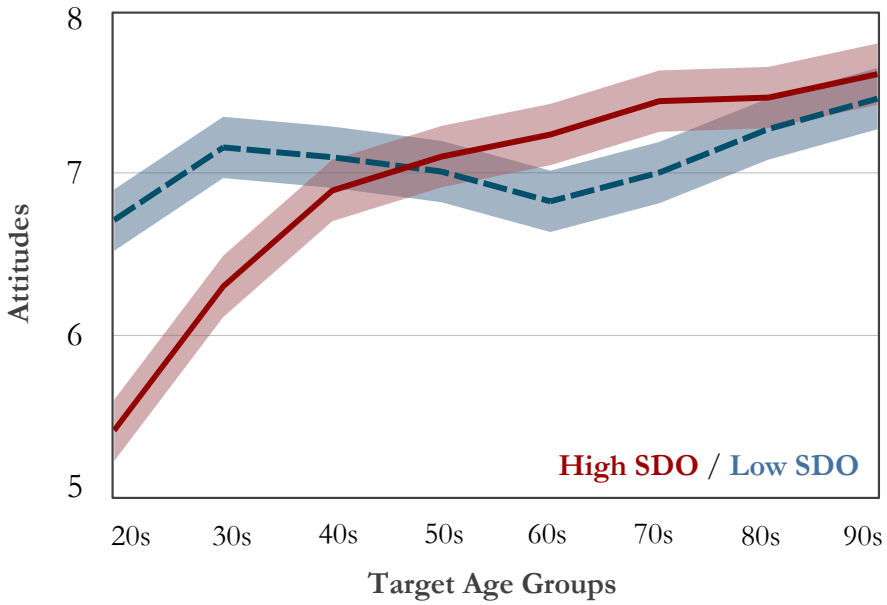
To summarize: Men, women, white people, racial minorities, people of higher social class, people of lower social class, conservatives, liberals, older adults, and even younger adults all expressed an explicit preference for older adults, particularly for the “very old” (e.g., people in their 90s), over younger adults.

Social dominance orientation. SDO moderated attitudes toward my different age cohorts, $\chi^2(7) = 301.84$, $p < .0001$ (Figure 2.3). Based on simple slopes analyses, a participant

high on SDO (i.e., 1 *SD* above the mean) would evaluate people in their 20s ($M = 5.42$, $SE = 0.10$) much less favorably than would a participant low on SDO (i.e., 1 *SD* below the mean; $M = 7.24$, $SE = 0.10$), $p < .0001$ (Bonferroni adjustment: *p*s * 6). In contrast, a participant high on SDO would rate people in their 60s ($M = 7.24$, $SE = 0.10$) more favorably than would a participant low on SDO ($M = 6.82$, $SE = 0.10$), $p < .0001$, and people in their 90s ($M = 7.61$, $SE = 0.10$) similarly to a participant low on SDO ($M = 7.46$, $SE = 0.10$), $p = .8075$.

Figure 2.3

Mean Plot of Explicit Attitudes toward Different Age Groups for a Sample representative of the U.S. Adult Population, as a function of Participant SDO



Note. Full scale of the outcome measure: 0 = *Extremely Negative* to 10 = *Extremely Positive*. Mean based on mean estimates from simple slopes. High/Low SDO = +/- 1 *SD* away from the mean, where $M = 2.66$, and $SD = 1.38$. Shaded areas represent 95% confidence intervals. Consistent with the notion that higher attitudes toward older—relative to younger—adults do not reflect a benign social preference, but rather, a real prejudice toward the young, people with a strong proclivity for prejudice (i.e., people high on SDO) tend to view younger adults less positively than those with no such proclivity (i.e., people low on SDO). Of noteworthy mention, people high on SDO also exhibited more *positive* attitudes toward older adults than did people low on SDO, particularly toward the "young old" (i.e., people in their 60s and 70s).

Correlational analyses also help interpret the magnitude of the prejudice targeting younger adults. I used partial Spearman correlations to examine the relationship between SDO and attitudes toward each target age group, net of participant attitudes toward age groups *in general*.[2] Consistent with the analyses above, SDO correlated negatively with attitudes toward younger adults (e.g., $r = -.29$, $p < .0001$, for "people in their 20s") but positively with attitudes toward older adults, particularly the "young old" (e.g., $r = .25$, $p < .0001$, for "people in their 60s"; see Table 2.1). To get a sense of the magnitude of these effects, I compared them with correlations between SDO and attitudes toward racial groups in the United States. To do so, I ran a separate survey with 198 Prolific participants representative of the U.S. adult population, in which I asked participants to complete the same SDO measure and report their attitudes toward Asian, Black, Latino, and White populations using feeling thermometers similar to those employed in my original age attitude survey.[3] Comparing the results of these two studies, I find that the correlation between SDO and attitudes toward people in their 20s, $r = -.29$, most closely matches that between SDO and attitudes toward Black people, $r = -.25$, $z = 0.41$, $p = .6819$, while the correlation between SDO and attitudes toward people in their 60s, $r = .25$, most closely matches that between SDO and attitudes toward White people, $r = .22$, $z = 0.31$, $p = .7581$ (see Table 2.1).

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[2] Per the terms of my pre-registration form, I used partial--rather than zero order--correlations. To do so, I regressed attitudes toward *each* age group on a composite measure averaging attitudes toward *all* age groups and used the residuals as my updated measures of attitudes. Past work has shown that variations in feeling thermometer responses across individuals are due not only to differences in affect toward the group, but also to differences in individual disposition to rate all groups relatively positively or negatively (Wilcox et al., 1989). Partial correlations allowed us to control for part of the covariance between SDO and feeling thermometers explained by differences in baseline responses to feeling thermometers.

[3] Partial Spearman correlations were used as well. Attitudes toward *each* ethnic group was net of participant attitudes toward races *in general*. Based on G*Power 3.1 (Faul et al., 2009), given my sample size, an $\alpha = .05$, and a power of .80, I was sufficiently equipped to capture a critical $r = [-.141, .141]$ and $|\rho| = .199$.

Table 2.1

Relationship between SDO and Attitudes toward Age Groups, and SDO and Attitudes toward Racial Groups

Age Groups			Ethnicity & Race		
Target Group	*Partial Spearman Correlation*	*Sig.*	*Target Group*	*Partial Spearman Correlation*	*Sig.*
20s	-.29	$p < .0001$	Asian	.06	$p = .4394$
30s	-.23	$p < .0001$	Black	-.25	$p = .0005$
40s	-.03	$p = .3908$	Latino	-.08	$p = .2703$
50s	.13	$p = .0001$	White	.22	$p = .0017$
60s	.25	$p < .0001$			
70s	.25	$p < .0001$			
80s	.15	$p < .0001$			
90s	.11	$p = .0007$			

Note. Matrices of partial Spearman correlations. Attitudes toward each age group are net of participant's attitude toward age groups *in general* (i.e., average attitudes toward people in their 20s-90s). Similarly, attitudes toward each ethnic/racial group are net of participant attitudes toward race *in general* (i.e., average attitudes toward Asian, Black, Latino, and White). Partial correlations with target age groups are based on the same sample reported so far ($N = 967$). Partial correlations with race are based on a separate study ($N = 198$). Per preregistration plan, SDO scores above or below 2.5 *SD* away from the mean were excluded. The correlation between SDO and attitudes toward the young was akin to that of SDO with attitudes toward Black people, and that between SDO and attitudes toward the "young old" akin to that between SDO and attitudes toward White people.

To summarize, consistent with the notion that higher attitudes toward older—relative to younger—adults do not reflect just a benign preference but rather a real prejudice toward the young, people with a strong proclivity for prejudice (i.e., people high on SDO) tend to view younger adults less positively than those with no such proclivity (i.e., people low on SDO). Both the direction and magnitude of this SDO moderation were akin to those observed for SDO and attitudes toward Black people in the United States. In contrast, people high on SDO exhibited more *positive* attitudes toward older adults, particularly toward the "young old" (i.e., people in their 60s and 70s) than did people low on SDO. Both the direction and magnitude of this SDO

moderation were akin to those observed for SDO and attitudes toward White people (i.e., preference for the dominant racial group).

Open-ended Responses. Except for three participants who did not complete the open-ended responses, participants each completed two essays: one about their sentiments toward, and perceptions of, people in their 20s and 30s (i.e., younger adults; $n = 965$), and one about their sentiments toward—and perceptions of—people in their 80s and 90s (i.e., older adults; $n = 964$). Table 2.2 provides a sample of essays displaying favorable and unfavorable opinions of each target.

Attitudinal Responses. Three research assistants independently coded each essay to assess the overall valance of participant's opinion of younger and older adults using a 5-point scale with endpoints -2 = *Extremely negative feelings*, and +2 = *Extremely positive feelings*. I ran a two-way random effects intraclass correlation to assess the inter-rater repeatability, ICC = .92, $CI_{95\%}$ [.911, .924]. The ratings of the three raters were averaged to obtain a measure of explicit attitudes toward younger and older adults. The attitudinal ratings obtained from essays about younger adults correlated strongly with the feeling thermometer for "People in their 20s", $r = .61$, $p < .0001$, and moderately with those for "People in their 30s", $r = .44$, $p < .0001$. The attitudinal ratings obtained from essays about older adults correlated strongly with the feeling thermometers of "People in their 80s", $r = .64$, $p < .0001$, and "People in their 90s", $r = .66$, $p < .0001$.

Consistent with the findings reported via feeling thermometers, the content of essays about young adults was significantly less positively valenced ($M = -0.11$ $SD = 1.02$) than that of essays about older adults ($M = 0.57$, $SD = 0.83$), $t(964) = 14.89$, $p < .0001$ (see Figure 2.4). In fact, the valence of essays about the young scored below the midpoint, $t(965) = 3.27$, $p = .0011$,

Table 2.2

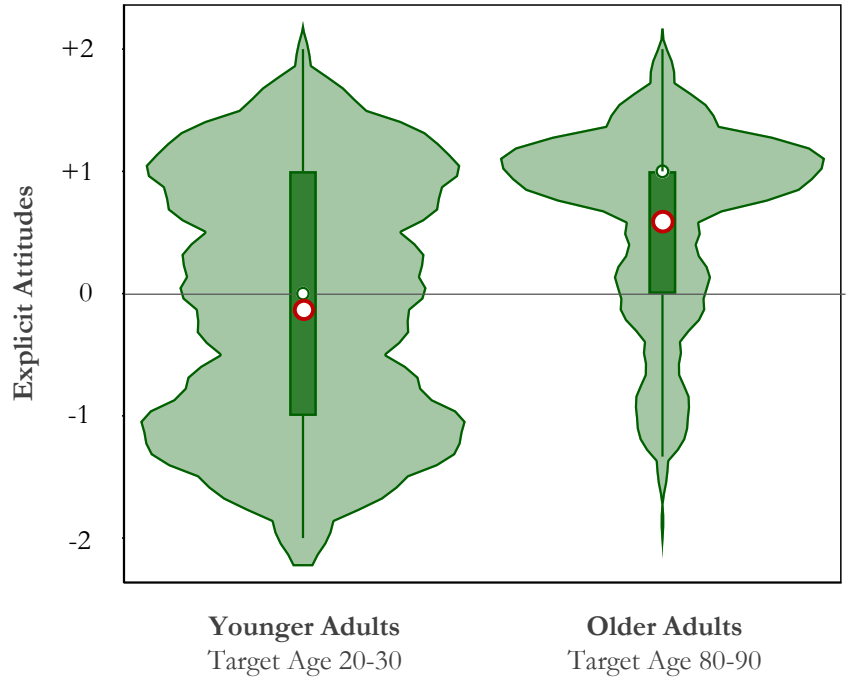
Sample of Favorable and Unfavorable Essays about Younger and Older Adults

Target	Valence	Essay
People in their 20s and 30s	**Favorable Opinion**	These are the most vibrant, creative, intelligent, and capable people in the world. They are shaping our future.
		people in their 20s and 30s are open-minded, accepting of others, they are forward-thinking, and not judgemental of others. they are easier to talk to, easier to relate to, and they are breaking many molds when it comes to prejudices in society. they actively work to make the world a better place.
		I'm very proud of the younger generation. They are getting more involved in issues that are really important and they are leaving the older generations in the dust. I LOVE the younger generation! I am 68 and personally the world will be a better place when my generation dies off.
	Unfavorable Opinion	They are lazy, ignorant, impatient, lack social and interpersonal skills, rude and inconsiderate. They have been babied and pampered so much that the slightest thing offends them. They need to get off their tush and get a job and contribute, and stop complaining so much.
		Spoiled, brainwashed, destructive, ungrateful, Violent ,brainwashed into thinking Marxism is a good thing, Uneducated, entitled, massively destructive generation.
		While they're not as bad as the indoctrinated and brain-washed kids and teenagers, young adults are soft and naive. They are also very, very rude to not only their elders, but everyone. They lack manners and are incredibly superficial and selfish.
People in their 80s and 90s	**Favorable Opinion**	I have so much respect for people in their 80s and 90s. They have lived their lives according to the old ways, the traditional ways. I love to hear stories about their lives. They have worked hard all of their lives and they have so much wisdom and love to share with anyone who will take the time to listen.
		I feel that this generation knows the true meaning of loyalty, respect, commitment and hard work. I've seen the way that they generally behave, with regards to all kinds of issues (socially and politically), and they just seem more grounded and humble, compared to those in their twenties and even those in their thirties.
		They are wise, concerned about others, kind, understanding and supportive
	Unfavorable Opinion	Hoarders of wealth that are actively harming the younger generations with their outdated political views. They are holding the future hostage and are basically nihilistic since they are not going to see the negative consequences of their actions due to death being close. They have no care to the world they leave behind, for they will be dead.
		I view people in their 80s and 90s as super old and as if they are slowing down a lot. I also expect them to be slowing other people down and just relaxing all the time because of how old they are.
		This generation decided collectively that selfishness was the way forward. The economy, homelessness, the environment, and others are problems that they created to further their own interests, and dumped the problems on younger generations as they retired

and those about older adults, significantly above, $t(964) = 21.34$, $p < .0001$. Finally, also corroborating the thermometer findings, social dominance orientation correlated negatively with the valence of essays about the young, $r = -.32$, $p < .0001$, and positively with the valence of essays about older adults, $r = .09$, $p = .0081$.

Figure 2.4

Violin Graphs of Attitudes toward Younger and Older Adults, based on Open-ended Responses of a Sample representative of the U.S. Adult Population



Note. Small green dots represent median attitudinal scores for each target age group. Larger red dots represent the means. On the Y-axis, values above 0 indicate Positive (+1) and Extremely Positive overall attitudes (+2), and values below 0 indicate Negative (-1) and Extremely Negative overall attitudes (-2). Attitudes toward younger adults (i.e., people in their 20s and 30s) were split and trending negatively. In contrast, attitudes toward older adults (i.e., people in their 80s and 90s) were consensual and positive.

Valence of the Stereotype Contents. Four other research assistants extracted all the attributes that respondents associated with younger and older adults in their essays ($N = 3{,}761$ non-unique attributes; e.g., adventurous, arrogant, driven, experienced, grumpy, helpless, inspiring, reckless, stuck up, wise). They then independently coded each attribute as positive, neutral, or negative (Fleiss's $\kappa = .77$, $p < .0001$).[4] Close to two-thirds of the attributes associated

[4] Research assistants were blind to the conditions when coding the attributes. That is, they did not know whether the item was used to describe younger adults, older adults, or both. Coding was completed independently. Disagreements among rater were resolved ulteriorly using the majority rating (e.g., if two raters coded an item as

with older adults were positive (66.1%), and only one quarter were negative (26.1%). In contrast, only one third of those associated with younger adults were positive (35.2%), and more than half were negative (57.5%; see Table 2.3).

Seven of the ten attributes most frequently associated with younger adults were negative and tended to depict the target group as lacking in warmth and communality (e.g., entitled, disrespectful, immature, self-centered, selfish; see Table 2.4). In contrast, eight of the eleven attributes most frequently associated with older adults were positive. Of noteworthy mention, four of them described older adults as competent (i.e., wise, experienced, hard-working, knowledgeable) and none described them as incompetent. The first items depicting older adults as lacking in either competence or agency came in 17th and 22nd position in the frequency

Table 2.3

Breakdown of Attributes associated with Younger and Older Adults in Participant Essays, as a function of Attributes' Valence

	N	Negative	Neutral	Positive
Younger Adults	2,005	57.5%	7.3%	35.2%
Older Adults	1,756	26.1%	7.9%	66.1%

Note. Frequency of negative, neutral, and positive attributes, expressed as a percentage of all attributes associated with the target group. The analysis is based on items extracted and independently rated by research assistants. Non-unique attributes are included (e.g., an attribute mentioned twice was counted twice). Close to two third of the attributes associated with older adults were positive and only a quarter were negative. In contrast, only a third of those associated with younger adults were positive, and more than half were negative. Overall, the stereotype content of older adults was much more positively valenced than that of younger adults.

negative and one coded it as neutral, the item was coded as negative). In rare cases where all raters disagreed (i.e., one rater coded the item as positive, one coded it as neutral, and one coded it as negative), the first author used his own judgment.

Table 2.4

Attributes Most Frequently associated with Younger and Older Adults

Younger Adults				Older Adults			
Rank	**Attribute**	**Valence**	**Freq.**	**Rank**	**Attribute**	**Valence**	**Freq.**
1	entitled	—	89	1	wise	+	156
2	lazy	—	54	2	experienced	+	115
3	positive	+	43	3	respectable	+	113
4	hard-working	+	38	4	hard-working	+	74
5	disrespectful	—	37	5	knowledgeable	+	53
6	immature	—	36	6	positive	+	31
7	self-centered	—	32	7	conservative	/	24
7	young	+	32	7	sweet	+	24
9	selfish	—	29	9	old	/	23
10	know-it-all	—	27	10	set in their ways	—	21
				10	kind	+	21

Note. Valence independently rated by four research assistants: — refers to Negative Attribute, / refers to Neutral Attribute, and + refers to Positive Attribute. Seven of the ten attributes most frequently associated with younger adults were negative and tended to depict them as lacking in warmth and communality (e.g., entitled, disrespectful, immature, self-centered, selfish). In contrast, eight of the eleven attributes most frequently associated with older adults were positive and tended to describe them as both warm (i.e., positive, sweet, kind) and competent (i.e., wise, experienced, hard-working, knowledgeable).

ranking (i.e., “vulnerable” and “slow,” respectively). These results contrast somewhat with findings in the stereotyping literature suggesting that older adults are perceived as incompetent (Cuddy & Fiske, 2002; Cuddy et al., 2005; Fiske et al., 2002).

Discussion

In a large, preregistered survey with a sample representative of the U.S. adult population, I find that Americans overwhelmingly harbor the least favorable sentiments toward the young and the most favorable sentiments toward the old. The sample reported less favorable explicit attitudes toward the young than toward any other age groups in the thermometer task, wrote less

positive essays about younger about older adults, and attributed more undesirable than desirable features to younger adults but more desirable than undesirable features to older adults.

This pattern held across a wide range of participant demographics and was exacerbated by social dominance orientation. That is, people high in SDO—who generally harbor more negative feelings toward targets of prejudice than does the rest of the population—exhibited an even bigger attitudinal gap between younger and older target age groups. The association between SDO and anti-young sentiments was even comparable to that between SDO and anti-black sentiments. Of noteworthy mention, the broad attitudinal patterns reported above are highly consistent with those obtained by Francioli and North using similar thermometer paradigms in the past (e.g., Francioli & North, 2021, Study 2). Taken together, this robust pattern challenges the notion that older adults face the highest level of age-based prejudice and help get a sense of the magnitude of *youngism* (i.e., age-bias targeting younger adults).

STUDY 2A

Americans expressed the least favorable sentiments toward younger adults and most favorable toward older adults. Surprisingly though, age bias targeting younger adults has been largely absent from both public and academic debates. One potential factor explaining the absence of coverage of youngism is that the public and academics alike are unaware that people harbor such negative feelings toward the young. I test this proposition in two follow-up studies in which I examine how accurately lay people and academics fare at estimating Americans' sentiments toward different age groups.

Study 2a focuses on lay estimations. I recruited a new sample representative of the U.S. adult population and asked them to guess how the representative sample in Study 1 responded to the thermometer task and the open-ended essays. To guarantee both the transparency and

impartiality of my approach, I once again preregistered the sample size, study design, variables, and analytical plan but did not formulate any hypothesis. Preregistration form available here.

Methods

Participants. Per my preregistration form, I aimed to recruit 500 participants representative of the U.S. adult population with regards to age and political ideology via the crowdsourcing platform Amazon Mechanical Turk. The criteria for representativity were informed by the findings of Study 1, which showed that age and political ideology were the most influential demographic predictors of age attitudes. Respondents were compensated $0.40, for a median completion time of 3.7 minutes. Five-hundred and eighteen respondents completed the survey. Eighteen were excluded because of a failed attention check or duplicate IP address. The final sample included 500 participants: 256 women (51.2%); 117 non-White respondents (23.4%); Age: M_{age} = 43.2, SD_{age} = 14.8, min_{age} = 19, max_{age} = 80; political view: 145 conservatives or extremely conservatives (29.0%), 169 moderates (33.8%), and 186 liberals or extremely liberals (37.2%).

Procedure. Participants first completed a brief demographic questionnaire to confirm their eligibility for the study. Then, they were informed of the procedure used in Study 1 and instructed to estimate the responses of the sample from Study 1. After submitting their estimates, they shared the extent to which they personally felt that younger, middle-aged, and older adults are targets of prejudice. Two attention checks (e.g., “This is an attention check, answer ‘six’ and move to the next item.”) were inserted among four filler items, which concluded the study. The data was collected between March 7 and March 9, 2022, under the IRB-FY2018-1358, approved by NYU Institutional Review Board, Office of Research Compliance.

Measures. ***Feeling thermometers.*** Participants estimated how the sample from Study 1 felt toward various age groups using the same feeling thermometers used in Study 1 (i.e., attitudes toward people in their 20s, 30s, 40s, and so on, up to people in their 90s, on an 11-point scale with 0 = *Extremely Negative Feelings*, and 10 = *Extremely Positive Feelings.*

Attitudes in open-ended responses. Participants estimated how positive or negative the sample's essays about younger and older adults were, on a 5-point scale, with endpoints -2 = *Extremely Negative*, and +2 = *Extremely Positive*, a scale consistent with the coding performed by my raters in Study 1.

Positivity of the stereotype contents. Participants were also instructed to estimate the percentage of positive—versus negative or neutral—adjectives associated with younger and older adults in these essays, using sliders with endpoints 0 = *0% Positive Adjectives*, and 100 = *100% Positive Adjectives*.

Results

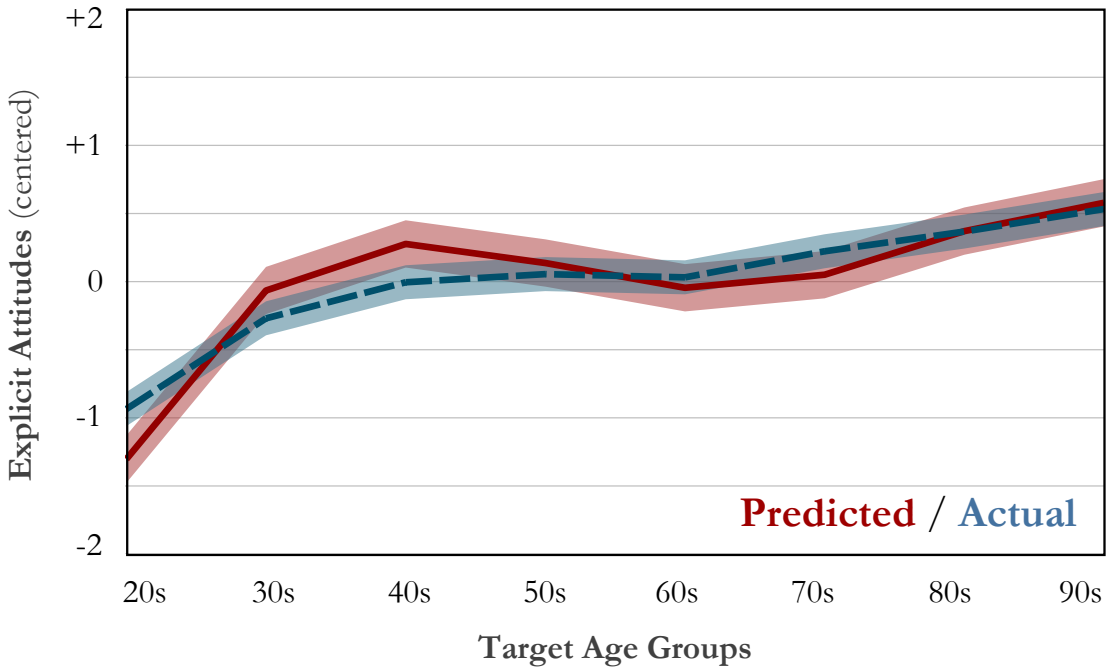
Feeling thermometers. A multi-level model was used to assess participant accuracy at estimating the feeling thermometer responses of Study 1's sample. Explicit attitudes—measured with feeling thermometers—served as my outcome measure. Observations were nested in participant. Target age groups was entered as an ordinal predictor. A dummy variable with 0 = *estimated attitudes*, and 1 = *actual attitudes* was included, along with its interaction with target age groups, to compare actual and estimated responses. Consistent with my preregistered analytical plan, my outcome measure was transformed to facilitate comparisons between actual and estimated data. To assess participants' accuracy at estimating *collective* attitudes toward the target age groups, actual attitudes were centered at their Grand Mean (i.e., mean of all feeling thermometers in Study 1). To assess individual—rather than collective—accuracy of the

participants, estimated attitudes were centered at the Individual Mean (i.e., mean of the estimated attitudes of the participant; Keft et al., 1995).[5]

A Wald test revealed a significant interaction between target age groups and the actual/estimated dummy variable, $\chi^2(7) = 38.88$, $p < .0001$. I followed up with Bonferroni-corrected pairwise comparisons (ps * 8). Estimated attitudes toward people in their 20s were lower than actual attitudes, $\Delta = -0.37$, $p = .0060$, but estimated attitudes toward people in their 30s to 90s were not significantly different from actual attitudes (see Figure 2.5).

Figure 2.5

Mean Plot of Actual versus Lay Predictions of Attitudes toward Different Age Groups



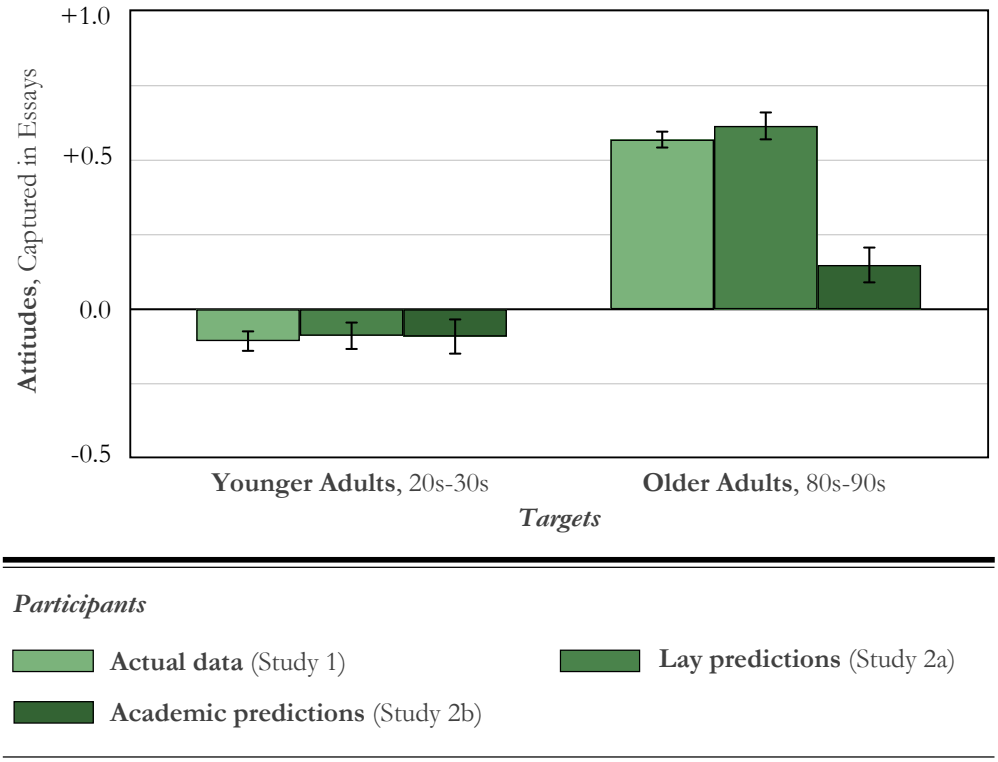
Note. Actual explicit attitudes were centered at their Grand Mean. Predicted explicit attitudes were centered at the Individual Mean. Shaded areas represent 95% confidence intervals. Participants in Study 2a slightly underestimated how positively the representative sample of Study 1 felt toward people in their 20s, 60s, and 70s, and overestimated how they felt toward people in their 30s and 40s. However, they correctly predicted that attitudes toward people in their 20s would be the lowest and those toward people in their 90s, the highest.

[5] Alternative DV transformation strategies were also preregistered. None significantly altered the conclusions presented here.

Attitudes in open-ended responses. To determine how accurate participants were at estimating attitudes toward younger and older adults as measured in Study 1's essays, I ran a multi-level model with positivity of the essays (-2 to +2) as dependent variable, and a dummy variable distinguishing the younger from older target group, a dummy variable distinguishing actual from estimated responses, and the interaction term of the two dummies as predictors, with observations nested within participants. The Wald test for the interaction term was not significant, $\chi^2(1) = 0.14$, $p = .7061$, suggesting that participant estimations were not significantly different from Study 1's actual responses (see Figure 2.6).

Figure 2.6

Actual versus Lay and Academic Predictions of Attitudes toward Younger and Older Adults, based on Open-ended Responses of a Sample representative of the U.S. Adult Population

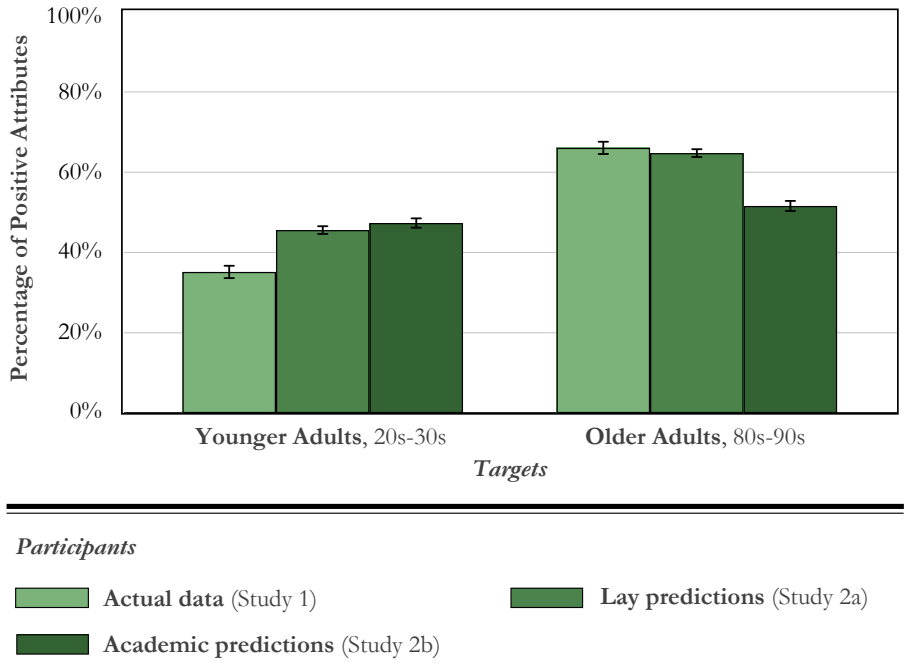


Note. Full scale of the outcome measure: -2 = *Extremely Negative* to +2 = *Extremely Positive*. 0 = *Neither Positive nor Negative*. Error bars represent +/-1 *SE* away from the mean. Although lay people (Study 2a) and academics (Study 2b) both accurately predicted essay-based attitudinal ratings for younger adult targets, academics greatly underestimated attitudinal ratings for older adults, predicting an attitudinal gap between the younger and older target group, $\Delta = 0.24$, much smaller—and less accurate—than that of lay predictors, $\Delta = 0.70$ (i.e., actual gap: $\Delta = 0.68$).

Positivity of the stereotype contents. Two-sided, one-sample t-tests were conducted to compare actual versus estimated percentages of positive adjectives associated with younger and older adults. Participant estimations of the percentage of positive attributes associated with younger adults (M = 45.6, SD = 21.4) were significantly higher than the actual percentage obtained in Study 1's essays (i.e., 35.2%), $t(499) = 10.85$, $p < .0001$. On the other hand, participant estimations of the percentage of positive attributes associated with older adults (M = 64.8, SD = 21.4) was not significantly different from the actual percentage extracted in the essays (i.e., 66.1%), $t(499) = -1.38$, $p = .1683$ (Figure 2.7). Of noteworthy mention, 73.2% of

Figure 2.7

Actual versus Lay and Academic Predictions of the Percentage of Positive Attributes associated with Younger and Older Adults, based on Open-ended Responses of a Sample representative of the U.S. Adult Population



Note. Full scale of the outcome measure: 0% = *0% of Attributes are Positive* to 100% = *100% of Attributes are Positive*. Error bars represent +/-1 *SE* away from the mean. Both lay people (Study 2a) and academics (Study 2b) both overestimated how positive the stereotype content associated with younger adults was, but lay people accurately predicted how positive the stereotype content associated with older adults was, while academics underestimated it by 14.5 percentage points. The actual gap in positive stereotypes in the essays about younger and older targets was $\Delta = 30.9$ percentage points. Lay predictor estimated a gap of $\Delta = 19.2$ percentage points, academics $\Delta = 4.3$ percentage points.

participants accurately estimated that the percentage of positive attributes associated with the young would be lower than that associated with older adults. On average, they estimated that the young would receive 19.2 percentage points fewer positive attributes than would older adults, a significant gap and directionally consistent, $t(998) = -14.03$, $p < .0001$, albeit one third smaller than that measured in Study 1's actual essays (i.e., 30.9 percentage points).

Were participants' estimations a reflection of their own feelings toward these age groups? Taken together, these results suggest that my participants were particularly accurate at estimating how Americans' feel toward younger, middle-aged, and older adults. One alternative explanation, however, is that participants used their own feelings to estimate the results obtained in Study 1. That is, they simply reported their own attitudes toward the target age groups, assuming that Study 1's representative sample shared their views of said target groups. Given that participants in Study 2 were also a sample representative of the U.S. adult population, their compiled responses would likely match those of my original sample too.

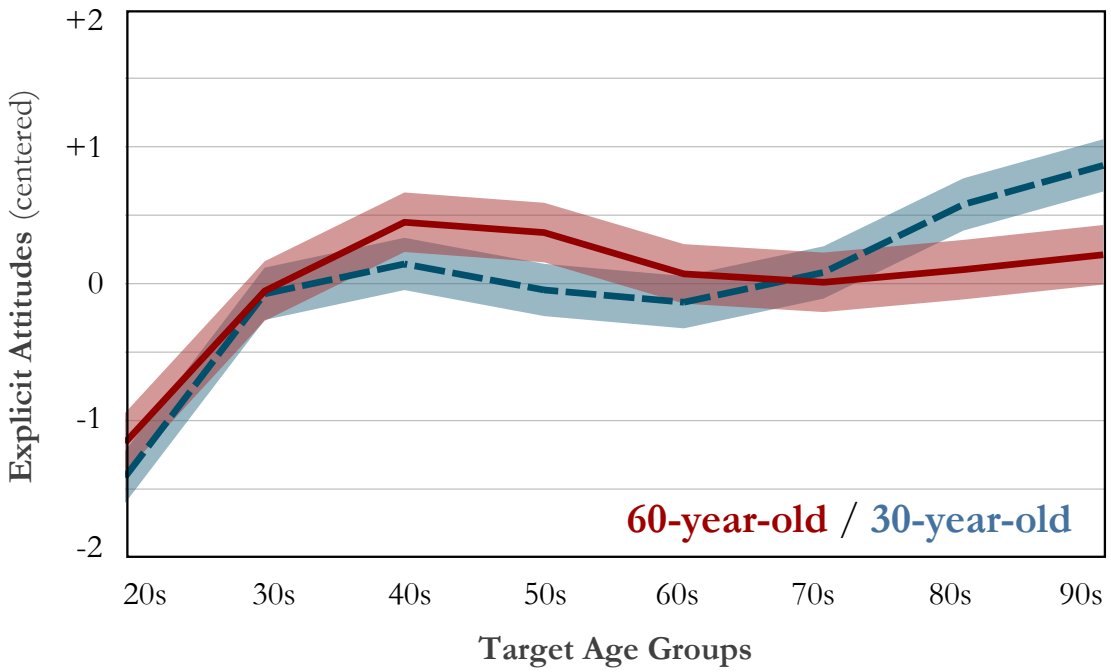
Were this explanation true, it would imply that my participants were not necessarily astute estimators but rather, happened to be correct because their own feelings matched the feelings of most Americans. To rule out this possibility, I focused on the thermometer task and examined how participant age moderated their estimations. Assuming that participants used their own feelings as estimations, I would expect the estimation patterns of younger and older participants to differ greatly, mimicking those observed for younger and older participants in Study 1 (i.e., high ingroup-outgroup bias for older participants, and more even attitudes for younger participants).

To test for this possibility, I ran a multi-level model with estimated attitudes as outcome variable, target age groups (ordinal), participant age (continuous, standardized), and their

interaction term as predictors, with observations nested in participants. Participant age did not significantly moderate participant estimations of attitudes toward people in their 20s through people in their 70s (i.e., younger and older participants made relatively similar estimations for these target groups, in sharp contrast with the results in Study 1; see Figure 2.8). Participant age significantly moderated estimations of attitudes toward people in their 80s and 90s, respectively, B = -0.36, SE = 0.10, p = .0005, and, B = -0.44, SE = 0.10, p = .0001, but once again, the pattern did not match that obtained in Study 1: older participants estimated lower attitudes toward the

Figure 2.8

Mean Plots of Lay Predictions of Attitudes toward Different Age Groups, as a function of Predictors' Age



Note. Predicted explicit attitudes were centered at the Individual Mean. Shaded areas represent 95% confidence intervals. Means based on main effect estimates at age: 60-year-old (1.15 *SD* above the mean) and 30-year-old (0.89 *SD* below the mean), where M = 43.2 and SD = 14.8. Predictions of younger and older participants did not match the actual attitudinal patterns of younger and older participants in Study 1, indicating that participants in Study 2a most likely did not submit predictions that matched their own feelings toward these age groups, but did make a conscious effort to predict how the sample in Study 1 responded.

two oldest target groups than did younger participants. Overall, these results differ greatly from the moderation by participant age observed in Study 1, suggesting that the high accuracy of Study 2's estimations did not reflect a tendency of participants to report their own feelings toward the target groups.

Discussion

Taken together, lay participants were quite accurate at estimating how Americans feel toward and view younger, middle-aged, and older adults. No evidence suggests that participants simply shared their own feelings in place of estimations, further supporting the idea that they held a pretty accurate mental map of Americans' explicit sentiments toward these age groups. In Study 2b, I sought to examine how social scientists with different levels of expertise in issues relevant to DEI and ageism fared at estimating these same sentiments.

STUDY 2B

The goal of Study 2b was threefold: to examine the accuracy of academics' mental map of Americans' sentiments toward different age groups; to compare the accuracy of their estimations with those of lay participants; and to assess whether and how expertise in DEI and ageism influenced the accuracy of academics' estimations. The study was preregistered in much the same way Studies 1 and 2a were (i.e., sample size, study design, variables, and analytical plan were preregistered, but no hypothesis was formulated). Preregistration form available here.

Methods

Recruiting. I sought to recruit social scientists with varying amounts of expertise in ageism research. Specifically, I targeted three populations of researchers: experts in ageism, age perceptions, and/or intergenerational relations; experts in diversity, equity, and inclusion (DEI); and social scientists with neither expertise. Respondents had to be more 18 years or older and

have a PhD or be enrolled in a doctoral program. They were incentivized with an opportunity to join a raffle to win one of eight $100 Amazon Gift Cards.

Three recruiting strategies were employed to enroll researchers in my study. First, I sent emails to ageism and DEI experts in and outside of the United States, inviting them to complete my survey. The emails contained a brief description of the task (i.e., to estimate how a sample representative of the U.S. adult population felt toward younger, middle-aged, and older adults) and a hyperlink redirecting them to my survey. Out of the 1,074 ageism and/or DEI experts contacted by email, 158 (i.e., 14.7% response rate) completed the survey.

Second, I relied on snowball sampling. Experts who completed my survey were encouraged to share the contact details of up to eight researchers whom they thought might be interested in joining my study. Referees who were not already included in my initial reach out effort were contacted by email. Eighty-one researchers were referred to us. Eleven (13.6% response rate) completed my survey. Third, an invitation to join the survey was posted on the open forum of the *Society of Personality and Social Psychology*, a forum dedicated to researchers in psychological sciences that includes 7,285 members—primarily researchers. Ninety-five participants were recruited this way (1.3% response rate).

Participants. In total, 242 social scientists from all career stages and a wide range of disciplines joined my survey (65.3% were recruited by targeted email, 4.5% by snowball sampling, and 30.2% via the SPSP open forum). My sample included 86 PhD students or post-doctoral researchers (35.5% of the sample), 47 assistant professors (19.4%), 42 associate professors (17.4%), 52 full professors (21.3%), and 15 lecturers, emeritus professors, or researchers in the corporate world (6.2%). They reported associating with a wide range of social science disciplines, including Social Psychology (57.9%), Management (16.9%), Gerontology

(14.5%), and Developmental Psychology (12.0%), but also Sociology (7.4%), Medicine (2.9%), Social Work (2.5%), and Economics (2.1%; see Table 2.5 for a full list). Seventy-two participants self-identified as ageism experts (29.8% of the sample), 91 as DEI experts (37.6%), and 79 as neither (32.6%).[6] The sample included: 154 women (63.6%); 65 non-White respondents (23.4%); 174 U.S. residents (71.9%); Age: M_{age} = 40.3, SD_{age} = 13.2, min_{age} = 20, max_{age} = 79.

Table 2.5

Academic Disciplines of the Academic Sample

Discipline	Freq	Percent
Social Psychology	140	57.9 %
Management, OB, or I/O Psychology	41	16.9 %
Gerontology	35	14.5 %
Developmental Psychology	29	12.0 %
Cognitive Psychology	19	7.9 %
Personality Psychology	19	7.9 %
Sociology	18	7.4 %
Clinical and Counseling Psychology	10	4.1 %
Political Psychology	8	3.3 %
Education	7	2.9 %
Social Work	7	2.9 %
Medicine	6	2.5 %
Economics	5	2.1 %
Health Psychology, Public Health, & Policy	5	2.1 %
Other	13	5.4 %

Note. Respondents could select multiple disciplines. Percentages represent the frequency of response as a function of the total number of participants (N = 242). More than half of our sample self-identified as Social Psychologists. Overall, our sample covered a wide range of discipline: developmental psychology, gerontology, management, sociology, medicine, social work, and economics, etc.

[6] Participants who self-identified as both ageism and DEI experts were categorized as ageism experts, the highest level of expertise relevant to the topic of my study.

Procedure. The procedure was similar to that of Study 2, with a few notable exceptions. First, participants completed the general demographic questionnaire at the end of the survey. Second, they provided a few additional estimations and information about their academic expertise. Specifically, after providing their estimations of the feeling thermometer task, participants also estimated the relationship between SDO and attitudes toward the target age groups. After submitting their estimations about the content of Study 1's essays, participants self-reported their degree of academic expertise in DEI and ageism issues. Participants who identified ageism as one of their primary areas of academic expertise also reported the extent to which they studied ageism targeting younger, middle-aged, and older adults. All participants also reported the extent to which they *personally* felt that younger, middle-aged, and older adults were targets of prejudice. A brief demographic questionnaire concluded the survey. The data was collected between December 15, 2021, and January 15, 2022, under the IRB-FY2021-5734, approved by NYU Institutional Review Board, Office of Research Compliance.

Measures. The measures for the feeling thermometers, and attitudes and valence of stereotype contents captured in Study 1's essays are the same as those used in Study 2a. Below are the additional measures collected only for Study 2b.

SDO partial correlations. Participants read a brief introduction to SDO and were instructed to estimate how strongly SDO correlated with attitudes toward the different age groups (see material in Appendix 1). To help them get a sense of the potential magnitude of these correlations, I provided the partial Spearman correlations between SDO and attitudes toward racial groups (i.e., Asian, Black, Latino, White) reported in Study 1. They estimated how strongly SDO correlated with attitudes toward people in their 20s, 30s, 40s, and so on, up to

people in their 90s using sliders with endpoints -1 = *Perfectly negative relationship*, and +1 = *Perfectly positive relationship*.

DEI expertise. To self-report their degree of academic expertise in DEI issues, participants answered three questions: "Inequality, diversity, stigma, stereotyping, prejudice, discrimination, and/or intergroup conflict (e.g., age, gender, race, religion, disability, social class) are…" "literatures I'm familiar with", "literatures I often cite", "topics central to my research identity" rated on a 7-point scale with endpoints 1 = *Not at all true,* and 7 = *Extremely true* (α = .93).

Ageism expertise. Participants self-reported their level of expertise in issues relevant to ageism, age diversity, age stigma, age stereotyping, age prejudice, age discrimination, and/or intergenerational conflicts using three items and scales similar to those used for DEI expertise (α = .97).

Results

Per my preregistered analytical plan, I structure my analyses in three sections. First, I compare academics' estimations against the actual data collected in Study 1 to assess their accuracy. Second, I compare academics' estimations against those made by lay participants in Study 2a. Finally, I examine whether and how expertise in DEI and ageism influenced the accuracy of academics' estimations.

Academics' accuracy. I first ran a series of analyses to assess academics' accuracy at estimating how the representative sample in Study 1 viewed younger, middle-aged, and older adults.

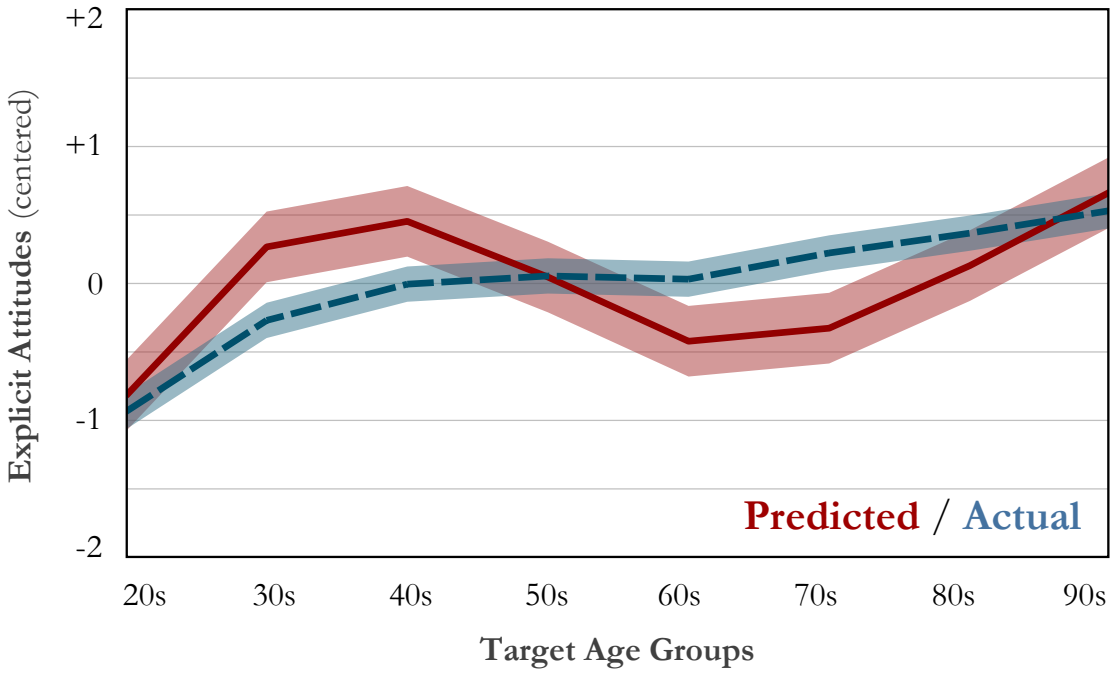
Feeling thermometers. I ran a multi-level model similar to that used in Study 2 to assess academics' accuracy at estimating the thermometer responses of the sample in Study 1. The

interaction between target age groups and the actual/estimated dummy variable was significant, $\chi^2(7) = 87.13$, $p < .0001$ (see Figure 2.9). I followed up with Bonferroni-corrected pairwise comparisons (*p*s * 8). Predicted and actual attitudes toward people in their 20s, 50s, 80s, and 90s were not significantly different, *p*s = 1.000. However, estimations were higher than actual attitudes for people in their 30s, $\Delta = 0.54$, $p = .0021$, and 40s, $\Delta = 0.46$, $p = .0146$, and lower than actual for people in their 60s, $\Delta = -0.45$, $p = .0166$, and 70s, $\Delta = -0.55$, $p = .0015$.

Attitudes in open-ended responses. I ran a similar model to determine academics' accuracy at estimating attitudes toward younger and older adults as measured in Study 1's

Figure 2.9

Mean Plots of Actual versus Academic Predictions of Attitudes toward Different Age Groups



Note. Actual explicit attitudes were centered at their Grand Mean. Predicted explicit attitudes were centered at the Individual Mean. Shaded areas represent 95% confidence intervals. Academic participants accurately predicted attitudes toward people in their 20s and 90s but tended to overestimate attitudes toward people in their 30s and 40s, and underestimate attitudes toward people in their 60s and 70s.

essays. The Wald test for the interaction term between target (younger/older adult) andparticipant (actual/estimated) was significant, $\chi^2(1) = 21.65$, $p < .0001$. Although academics' estimations of the valence of the essays about younger adults ($M = -0.09$, $SD = 0.89$) did not differ significantly from the actual valence of the essays ($M = -0.11$, $SD = 1.02$), $\Delta = 0.02$, $p = 1.000$, their estimations of the valence of the essays for older adults ($M = 0.15$, $SD = 0.91$) was below the valence captured in the essay of Study 1 ($M = 0.57$, $SD = 0.83$), $\Delta = -0.42$, $p < .0001$ (Bonferroni correction: ps * 2; see Figure 2.6).

Valence of the stereotype contents. Two-sided, one-sample tests were conducted to compare actual versus estimated percentages of positive attributes associated with younger and older adults. Academics' estimations for the percentage of positive attributes associated with younger adults ($M = 47.3$, $SD = 18.1$) was significantly above the actual percentage extracted in the essays (i.e., 35.2%), $t(240) = 10.41$, $p < .0001$. Conversely, their estimation for the percentage of positive attributes associated with older adults ($M = 51.6$, $SD = 19.5$) was significantly below the actual percentage (i.e., 66.1%), $t(240) = -11.55$, $p < .0001$ (Figure 2.7). Of noteworthy mention, 53.5% of participants accurately estimated that the percentage of positive attributes associated with the young would be lower than that associated with older adults. On average, they estimated that the young would receive 4.2 percentage points fewer positive attributes than would older adults, $t(240) = -2.48$, $p = .0133$, significantly less than lay estimators (i.e., 19.2 percentage points) and far less than the actual valence gap (i.e., 30.9 percentage points).

Relationships between SDO and age attitudes. I ran a series of two-sided, one-sample t-tests to assess how accurate academics were at estimating partial Spearman correlations between SDO and attitudes toward each age groups (see Table 2.6). Overall, participants greatly

Table 2.6

Table of Actual versus Academic Predictions of Partial Correlations between SDO and attitudes toward Different Age groups

	Predicted Relationships		Actual Relationships		One-sample T-tests	
Target Group	*r*	$CI_{95\%}$	*r*	$CI_{95\%}$	Δ	*sig.*
People in their 20s	**-.08**	[-.12 , -.04]	**-.29**	[-.34 , -.23]	**-.21**	$p > .0001$
People in their 30s	**.02**	[-.01 , .05]	**-.23**	[-.29 , -.17]	**-.25**	$p > .0001$
People in their 40s	**.07**	[.04 , .10]	**-.03**	[-.09 , .04]	**-.10**	$p > .0001$
People in their 50s	**.07**	[.05 , .10]	**.13**	[.06 , .19]	**.06**	$p = .0001$
People in their 60s	**.05**	[.02 , .08]	**.25**	[.19 , .31]	**.20**	$p > .0001$
People in their 70s	**.02**	[-.02 , .05]	**.25**	[.19 , .31]	**.23**	$p > .0001$
People in their 80s	**.00**	[-.03 , .04]	**.15**	[.08 , .21]	**.15**	$p > .0001$
People in their 90s	**.02**	[-.02 , .06]	**.11**	[.05 , .17]	**.09**	$p > .0001$

Note. Actual data taken from Study 1 (i.e., Spearman parti-correlations between SDO and attitudes toward *each* age group, controlling for attitudes toward all *age* groups. Predicted correlations are mean predictions from academic participants. Significance based on two-sided, simple t-tests, testing whether predicted values differed from the actual correlations (e.g., the mean prediction for the correlation between SDO and attitudes toward people in their 20s was significantly lower than -0.29: $t(240) = 10.73$, $p < .0001$). Of noteworthy mention, these p-values were not Bonferroni-corrected. Taken together, academic participants greatly underestimated how negative the correlations were between SDO and attitudes toward younger target groups, and how positive they were between SDO and attitudes toward older target groups.

underestimated the magnitude of the correlation between SDO and age attitudes. The range of estimated partial correlations [-.08, .07] was much narrower than the actual range [-.29, .25]. Since the partial correlations between SDO and race were provided in the instructions (i.e., range: [-.25, .22], this suggests that academics expected SDO to be a weaker estimator of age attitudes than of race attitudes.

Overall, they greatly underestimated how negative the correlations between SDO and attitudes toward younger target groups are (e.g., people in their 20s, $\Delta_r = -.21$, $t(240) = -10.73$, $p < .0001$), and how positive they are between SDO and attitudes toward older target groups (e.g., people in their 60s, $\Delta_r = .20$, $t(240) = 12.17$, $p < .0001$).

Academic versus lay estimations. Next, I ran a series of analyses to compare how accurate academics were, relative to lay participants (data collected in Study 2a).

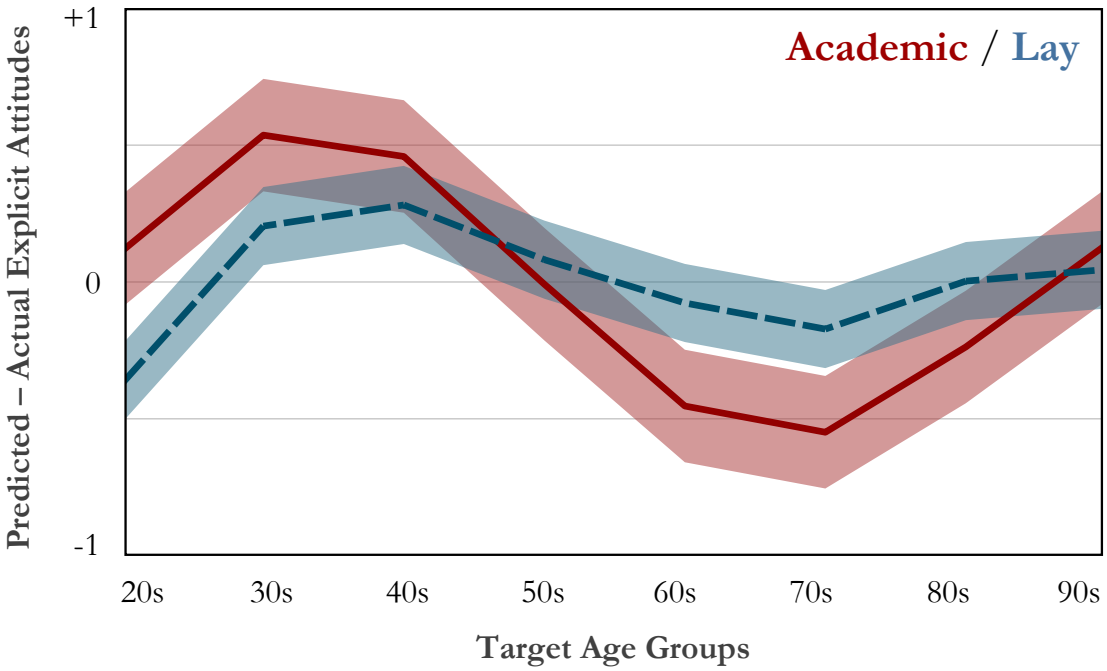
Feeling thermometers. I ran a multi-level model with feeling thermometers as the outcome variable, target age groups (ordinal), lay versus academic participants (dummy), and their interaction as predictors, and observations nested in participant. I transformed the outcome variable into a measure of accuracy by subtracting actual attitudes (centered at group mean) from estimated attitudes (centered at individual mean). While this transformation does not alter the statistical significance of the model, it eases the interpretation of the results: Values above 0 indicate an overestimation of positive attitudes (i.e., estimated > actual), and values below 0, an underestimation (i.e., estimated < actual).

A Wald test revealed a significant interaction term, $\chi^2(7) = 44.96$, $p < .0001$, suggesting that lay and academic estimations differed significantly from each other (see Figure 2.10). Bonferroni-corrected pairwise comparisons (*p*s * 8) suggests that academics and lay participants differed in their estimations of attitudes toward people in their 20s, $\Delta = 0.48$, $p = .0012$, so that the former overestimated them and the latter underestimated them. Academics also underestimated attitudes toward people in their 60s and 70s more than did lay participants, respectively, $\Delta = -0.38$, $p = .0256$, and, $\Delta = 0.38$, $p = .0253$.

Attitudes in open-ended responses. I ran a similar multi-level model with attitudes as the outcome variable, target age groups (dummy: 0 = younger adults, and 1 = older adults), participants (dummy: 0 = academics, and 1 = lay participants), and their interaction as predictors, and observations nested in participant. The outcome measure was also transformed into a measure of accuracy by subtracting actual from estimated attitudes. A Wald test revealed a significant interaction, $\chi^2(1) = 18.75$, $p < .0001$, such that lay and academic estimations about

Figure 2.10

Variations of Lay versus Academic Predictions away from Actual Attitudes toward Different Age Groups



Note. Actual attitudes were subtracted from predicted attitudes: Value = 0 means that the prediction matches the actual data; values > 0 reflect overestimations; values < 0 reflect underestimations. Academic predictions tended to be less accurate than the predictions of lay participants.

attitudes toward the young did not differ, $\Delta = 0.002$, $p = 1.000$ (and were accurate), but academics significantly underestimated attitudes toward older adults, relative to lay participants' (accurate) estimation, $\Delta = -0.47$, $p < .0001$ (Bonferroni correction: *p*s * 2; see Figure 2.6).

Valence of the stereotype contents. I ran a similar model to compare lay and academic estimations of the percentage of positive stereotypes. A Wald test revealed a significant interaction, $\chi^2(1) = 18.75$, $p < .0001$, such that lay and academic estimations about the percentage of positive attributes associated with the young did not differ, $\Delta = -1.75$, $p = .5621$), but academics significantly underestimated the percentage of positive attributes associated with

older adults, to a greater extent than did lay participants, $\Delta = 13.16$, $p < .0001$ (Bonferroni correction: *p*s * 2; see Figure 2.7).

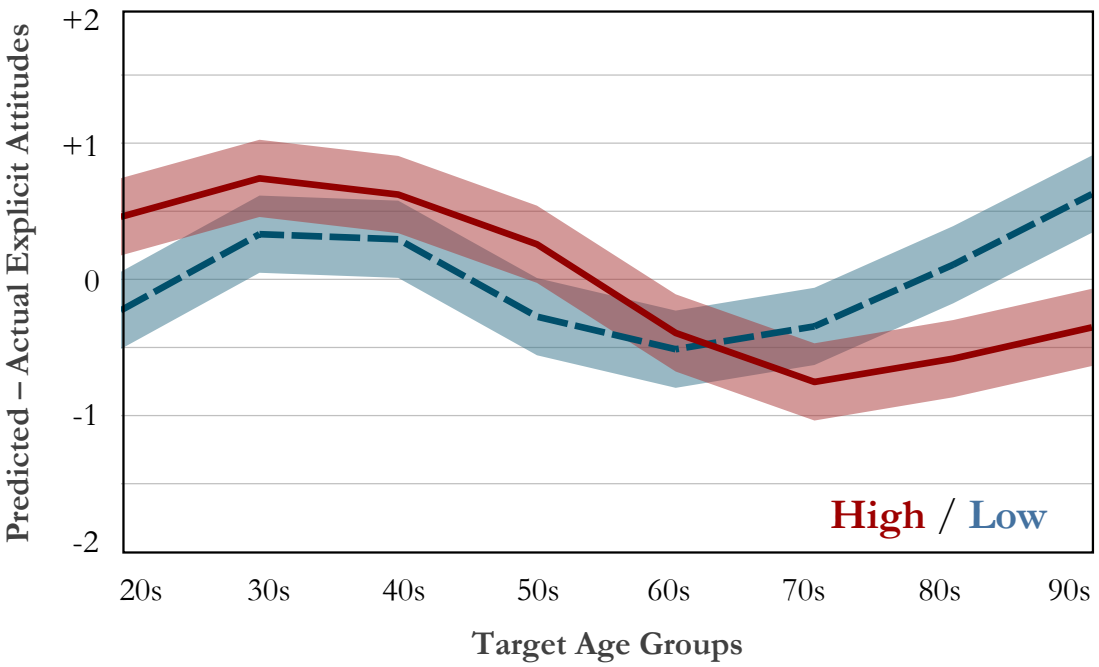
DEI and ageism expertise. Finally, I conducted a series of analyses to assess whether and how expertise in DEI and ageism influenced the accuracy of academics' estimations.

Feeling thermometers. To examine whether expertise moderated participants' accuracy, I ran a multi-level model with feeling thermometers as outcome variable, target age group (ordinal) as predictor, DEI (or ageism) expertise (continuous, standardized) as moderator, and observations nested in participant. The outcome variable was transformed into a measure of accuracy by subtracting actual attitudes (centered at group mean) from estimated attitudes, as in my analyses comparing lay and academic thermometer estimations.

A Wald test revealed a non-significant interaction between target age group and DEI expertise, $\chi^2(7) = 4.08$, $p = .7710$. However, the model for ageism expertise showed a significant interaction between target age group and expertise, $\chi^2(7) = 63.14$, $p < .0001$ (see Figure 2.11). I followed up on the latter with a series of simple slope analyses to test the significance of the moderation for each target age group. Ageism expertise significantly moderated the estimations of attitudes toward people in their 20s, $B = 0.34$, $SE = .10$, $p = .001$, 30s, $B = 0.32$ $SE = .10$, $p = .045$, and 50s, $B = 0.27$, $SE = .10$, $p = .009$, so that more expertise led to higher estimations. Conversely, ageism expertise significantly moderated the estimations of attitudes toward people in their 70s, $B = -0.20$, $SE = .10$, $p = .046$, 80s, $B = -0.34$ $SE = .10$, $p = .001$, and 90s, $B = -0.49$, $SE = .10$, $p < .001$, so that more expertise led to lower estimations. A comparison of simple effects at +/-1 *SD* in ageism expertise suggests that participants with expertise in ageism tended to overestimate how positively the representative sample felt toward the younger age groups and underestimated how positively the representative sample felt toward the older age groups. In

Figure 2.11

Variations of Academic Predictions away from Actual Attitudes toward Different Age Groups, as a function of Expertise in Ageism



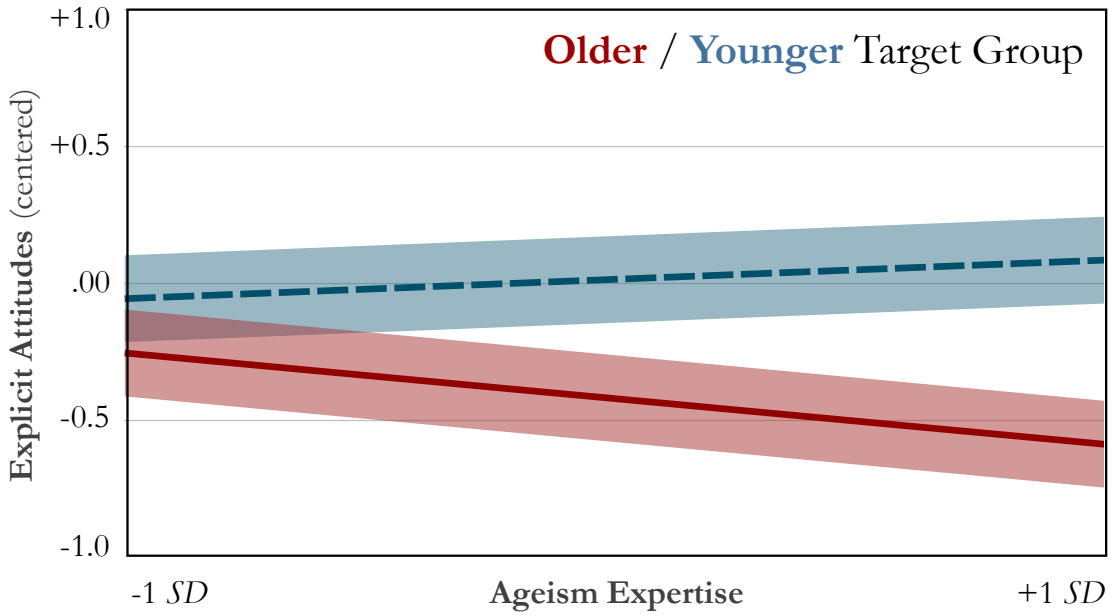
Note. Actual attitudes were subtracted from predicted attitudes: Value = 0 means that the prediction matches the actual data; values > 0 reflect overestimations; values < 0 reflect underestimations. Means based on main effect estimates at +/-1SD away from the mean, where $M = 3.33$ and $SD = 2.07$. Overall, expertise in ageism led to higher (overestimated) predictions of attitudes toward younger age groups, and lower (and underestimated) predictions of attitudes toward older age groups.

contrast, participants with little ageism expertise tended to be more accurate in their estimations of younger target age groups but overestimated how positively the representative sample felt toward people in their 80s and 90s.

Attitudes in open-ended responses. I ran a similar moderation model to examine whether DEI and ageism expertise moderated participants' accuracy at estimating attitudes toward younger and older adults, as conveyed in Study 1 essays. DEI expertise was not a significant moderator of academics' estimations, $\chi^2(1) = 0.07$, $p = .7918$, but ageism expertise was, $\chi^2(1) = 8.65$, $p = .0033$ (see Figure 2.12). Simple slope analyses revealed that ageism expertise did not

Figure 2.12

Variations of Academic Predictions away from Actual Attitudes toward Younger and Older Adults, as a function of Expertise in Ageism



Note. Explicit attitudes centered at Grand Mean. Simple slopes for ageism expertise at +/-1 *SD* away from the mean. Ageism expertise did not significantly influence predictions of attitudes toward younger adults. However, expertise led to greater underestimations of attitudes toward older adults.

significantly moderate the estimations of attitudes toward younger adults, $B = 0.07$, $SE = .06$, $p = .216$, but did moderate those of attitudes toward older adults, $B = -0.17$, $SE = .06$, $p = .003$, so that more ageism expertise led to greater underestimations of attitudes toward older adults.

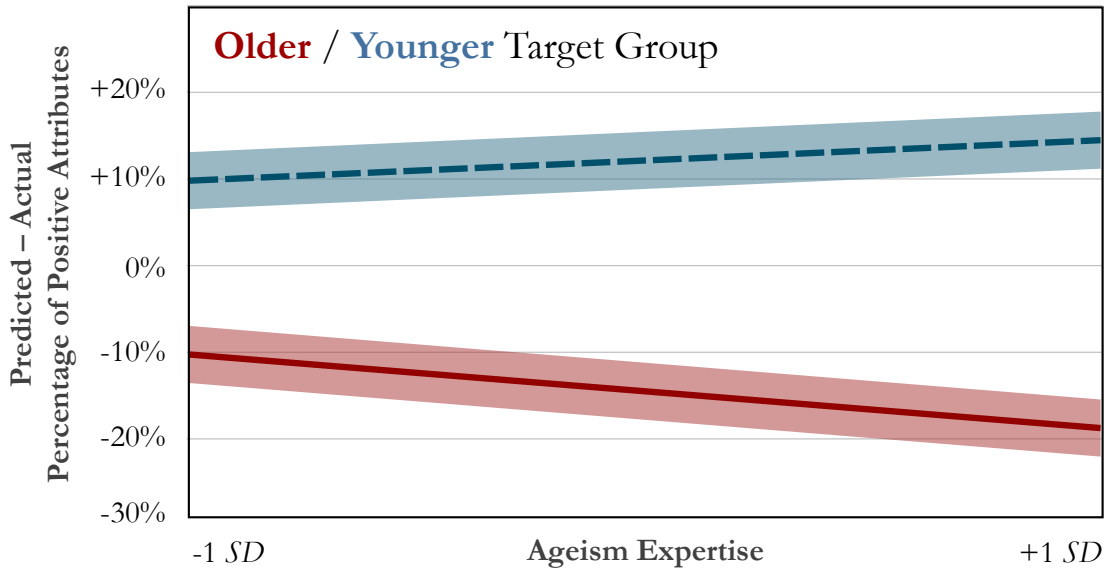
Positivity of the stereotype contents. I ran a similar moderation model to examine whether DEI and ageism expertise moderated participants' accuracy at estimating the valence of the stereotype contents of younger and older adults extracted from the essays of Study 1. DEI expertise only marginally moderated participant estimations, $\chi^2(1) = 2.93$, $p = .0869$, and simple slope analyses revealed no significant slope for either target. In contrast, ageism expertise did moderate participant estimations, $\chi^2(1) = 15.30$, $p = .0001$, so that more ageism expertise led to greater overestimations of the percentage of positive attributes associated with younger adults, *B*

= 2.34, *SE* = 1.19, *p* = .049, and greater underestimations of the percentage of positive attributes associated with older adults, *B* = -4.24, *SE* = 1.19, *p* = .001 (see Figure 2.13).

Relationships between SDO and age attitudes. Finally, I ran two models to examine whether DEI and ageism expertise moderated participants' accuracy at estimating the relationships between SDO and attitudes toward each target age group DEI expertise only marginally moderated participant estimations, $\chi^2(7) = 12.19$, $p = .0944$, and simple slope analyses revealed no significant slope for any target age groups. In contrast, ageism expertise significantly moderated participant estimations, $\chi^2(1) = 105.32$, $p < .0001$. Simple slope analyses suggests that higher expertise in ageism led participants to underestimate the negative

Figure 2.13

Variations of Academic Predictions away from Actual Percentage of Positive Attributes associated with Younger and Older Adults, as a function of Expertise in Ageism



Note. Explicit attitudes centered at Grand Mean. Simple slopes for ageism expertise at +/-1 *SD* away from the mean. Ageism expertise leads to greater *over*estimations of the percentage of positive stereotypes associated with younger adults and greater *under*estimations of the percentage of stereotypes associated with older adults, making academics with expertise less accurate than those without.

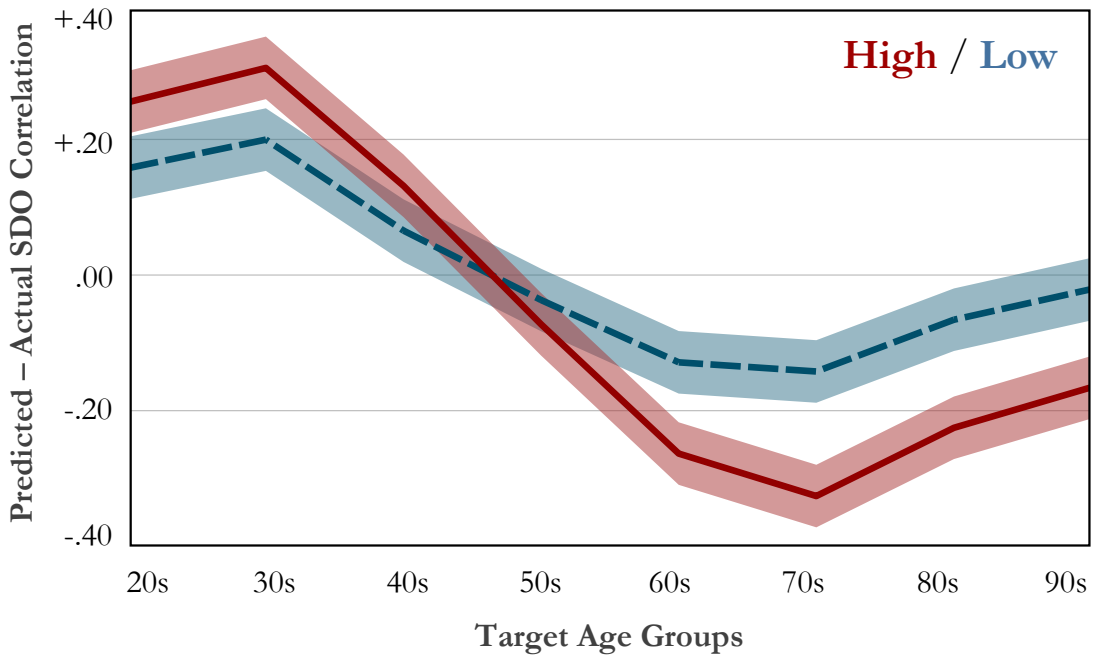
relationship between SDO and attitudes toward younger target groups (e.g., *people in their 20s*: $B = 0.05$, $SE = 0.02$ $p = .003$) and underestimate the positive relationship between SDO and attitudes toward older target groups (e.g., *people in their 60s*: $B = -0.07$, $SE = 0.02$ $p < .001$; see Figure 2.14).

Discussion

Taken together, academics were less accurate than lay participants at estimating how Americans feel toward these various age cohorts. They tended to underestimate how positively people felt toward older adults, and in some cases, underestimate how negatively they felt toward

Figure 2.14

Variations of Academic Predictions away from Actual Partial Correlations between SDO and Attitudes toward Different Age Groups, as a function of Expertise in Ageism



Note. Actual partial Spearman correlations were subtracted from predicted ones: values = 0 means that the prediction matches the actual data; values > 0 reflect overestimations; values < 0 reflect underestimations. Means based on main effect estimates at +/-1SD away from the mean, where $M = 3.33$ and $SD = 2.07$. Overall, expertise in ageism led to higher (overestimated) predictions of positive correlations between SDO and attitudes toward younger age groups, and lower (and more underestimated) predictions of correlations between SDO and attitudes toward older age groups.

younger adults. This estimation pattern was exacerbated by ageism—but not DEI—expertise, such that social scientists with higher expertise in ageism were more prone to this inaccuracy bias. Of noteworthy mention, academics also greatly underestimated the extent to which SDO predicted attitudes toward age groups in general, and ageism experts tended to estimate positive relationships between SDO and attitudes toward younger cohorts, and negative relationships between SDO and attitudes toward older cohorts, the opposite of the actual data captured in Study 1.

GENERAL DISCUSSION

As populations around the world are aging, the age landscape of modern societies is rapidly changing. In exploring the implications of this major demographic transformation, social scientists have largely focused on the experience and wellbeing of the older segment of the population—the proportionally growing one. In particular, ageism researchers have examined how age perceptions shape the everyday life and long-term outcome of older adults, with the tacit assumption that ageism increases throughout the lifespan, such that younger adults experience it the least, and older adults experience it the most. Contrasting with this view, a large preregistered, exploratory survey polling a sample representative of the U.S. adult population shows that Americans harbor the least favorable sentiments toward the young and most favorable toward the old (Study 1). This bias in favor of older adults was large and robust, and held across a wide range of participant demographics. Furthermore, supporting the notion that this pattern does not reflect a benign preference for older adults but constitutes a form of prejudice toward the young, participants high on SDO—who tend to harbor more racist, sexist, homophobic, classist, xenophobic, and ableist beliefs than the rest of the population—tended to report even larger attitudinal gaps between younger and older adults, similar to the attitudinal gap they

exhibit between black people (i.e., a prejudiced group) and white people (i.e., a privileged group).

Lay people (Study 2a) were quite accurate at predicting this bias (Study 2a), academics, less so, an effect exacerbated by expertise in ageism (Study 2b). In the remainder of this discussion, I expand upon these findings in four ways. First, given the strong anti-young bias captured in Study 1, and its counterintuitive nature considering the current state of the ageism literature, I offer a few explanations as to why people might be prejudiced against the young. Second, I discuss the need to urgently raise public awareness on issues of ani-young ageism and build a stronger understanding of the phenomenon in the academic sphere. Third, I discuss the implications of the relative accuracy of lay participants at estimating anti-young biases, and lack thereof of academics. Finally, I point out some of the limitations of this work, offering additional opportunities for future research on youngism.

Why do people feel so negatively toward the young? Although the present research did not aim to explore the mechanisms underlying social biases against a specific age group, the strength of the anti-young ageism captured in Study 1 begs the question of why people might feel so negatively toward the young. After all, young adults epitomize one of the most celebrated attributes of human existence: youthfulness. Youthfulness is universally associated with beauty, physical fit, and mental acuity, and often synonym of a relative social freedom to have fun and explore one's social environment and identity (e.g., Cattell, 1963; Craik & Salthouse, 2011; Cross & Cross, 1971; Crook et al., 1986; Franzoi & Koehler, 1998; Horn, 1982; Horn & Cattell, 1967; Zelazo et al., 2004). In contrast, older age and the process of aging is often associated with illness, mental and physical decline, mortality, and social isolation (Nelson, 2004; North & Fiske, 2012). It is no surprise, therefore, that people around the world want to see themselves as

younger than they actually are (Barak & Stern, 1986; Chopik et al., 2018; Goldsmith & Heiens, 1992; Montepare & Lachman, 1989; Öberg & Tornstam, 2001; Ota et al., 2000; Uotinen, 1998; Westerhof et al., 2003) and expand a lot of efforts, time, and money to look young (American Society of Plastic Surgeons, 2020). In such a light, it may seem counterintuitive that people might be biased against the young.

Recent work, however, helps shed light on the nature of the stigma targeting younger adults. Contrary to ageism targeting older adults, which tends to focus on the fear and discomfort with the process of aging, recent evidence suggests that ageism targeting the young manifests itself as a form of generational scolding (Francioli & North, 2021, Protzko & Schooler, 2019). That is, people claim to like the young *in general*, but to dislike *today*'s young in particular (Francioli & North 2021), what some have labelled the "kids these days" effect (Protzko & Schooler, 2019). This negative generational bias is reflected in the stereotype content of young adults. Francioli and North (2021) found that people tend to associate the positive attributes of youthfulness (e.g., bright, hip, driven) to both past and present generations of young adults, but see the negative attributes (e.g., spoiled, entitled, disrespectful, naïve, politically radical) as unique to contemporary generations of young. These negative stereotypes might in turn taint the way people construe young adults' contribution to society more broadly. Consistent with this assertion, a series of studies exploring the nature of intergenerational conflicts shows that older adults tend to see younger generations as a symbolic threat, beholders of values and worldviews both different from theirs and dangerous for the future of society (Francioli et al., *in progress*). Taken together, this early evidence suggests that people seem to see today's young as unpromising, troublesome, and undeserving, relative to previous generations at the same age.

It is worth noting, however, that this generational disparagement is likely not new. Although academic evidence to support this assertion is still limited, plethora of anecdotes documented throughout history helps bolster the claim that older generations have always scolded younger generations, judging them as more disrespectful, shallow, and entitled than previous generations at the same age (Ruggeri, 2017; Seder, 2013; Standage, 2006). For instance, back in Ancient Greece, the poet Hesiod (800 BC) is quoted as having said: "*I see no hope for the future of our people if they are dependent on the frivolous youth of today* […]. *When I was a boy, we were taught to be discrete and respectful of elders, but the present youth are exceedingly wise and impatient of restraint*." While the Greek empire actually flourished economically, politically, and culturally in subsequent decades—and centuries—Socrates was quoted as making very similar comments 400 years later: "*The children now love luxury; they have bad manners, contempt for authority; they show disrespect for elders and love chatter in place of exercise.* […]. *They contradict their parents, gobble up dainties at the table, cross their legs, and tyrannize their teachers*." Similarly, the older cohorts who depicts today's young as entitled, politically radical, and disrespectful of authority are often part of the very same generation that, in the 1970s, was depicted in much the same way for protesting the Vietnam war and promoting social change. It seems, therefore, that *youngism* has been around for a long time, and that the victims of youngism become its main perpetrators, few decades later. Future work may offer academic support for the contention that youngism has always existed. Recent large longitudinal text analyses have helped understand how ageism targeting older adults has evolved over time (Ng & Indran, 2022; Ng et al., 2015); a similar effort focusing on biases targeting the young may help test whether the disparagement of younger generations has always existed, and whether it has immutably revolved around critic of entitlement, naivety, and disobedience.

Finally, young adults also tend to epitomize social, cultural, political, and technological change (Gilleard, 2004; Mannheim, 1928/1952; Pilcher, 1994; Ryder, 1965; Schuman & Scott, 1989) and often seem to become the targets of the societal fears and frustrations this change engenders. For instance, in the late 18th century, religious intellectuals feared that the advent of novels and plays would steer young adults away from faith and tilt their moral compass (Ruggeri, 2017). In the 19th century, the popularization of chess was seen as a threat to youth's physical development (Seder, 2013). At the turn of the 20th century, the bike was believed to weaken young people's mind (Jarry, 2020). Modern days have witnessed similar concerns about the young and their habits: TV in the 80s, video games in the 90s, the internet in the 2000s, social media in the 2010s… It seems, therefore, that younger adults personify change, and become the recipients of the animosity these changes spawn. In this regard, future qualitative work may be particularly valuable to dive into these historical patterns and identify underlying mechanisms of youngism via social change.

Why does youngism matter? Arguably, the primary criterion to determine whether youngism is deserving of more public and academic attention is whether it has real world consequences. Because the present work does not measure discrimination, its results provide limited direct information as to whether young adults do suffer the consequences of the negative stereotyping and unfavorable attitudes they are subject to. That said, prior work allows for informed conjectures. First, historically, stereotyping and prejudice have been shown to predict discriminations toward a wide range of social groups (Ajzen et al., 2018; Kraus, 1995; Talaska et al. 2008). In this regard, Francioli and North (2021) found that endorsement of stereotypes about the young predicted people's willingness to fund a charity aiming at alleviating student debt.

Second, people high on SDO are particularly prone to behaving discriminatorily toward the groups they dislike (Kteily et al., 2011). It is therefore reasonable to surmise that the unfavorable attitudes people high on SDO exhibited toward the young in Study 1 would translate behaviorally as well. Finally, young adults have reported being the target of discriminations, particularly at the workplace (Bratt et al., 2018; Chasteen et al., 2021; Duncan & Loretto, 2004). It is worth noting however that age-based anti-discrimination laws and reporting tools focus almost exclusively on discrimination targeting older adults. For instance, although the U.S. Equal Employment Opportunity Commission has the competence to track and handle age discrimination complaints at the workplace, it does so under the Age Discrimination in Employment Act (ADEA), which protects job applicants and employees aged 40 years and older but not younger workers. As a result, workplace discriminations against younger workers likely go unnoticed. Additional work by both academics and public authorities is needed, therefore, to determine the degree of discrimination targeting younger adults.

One additional question is not *whether*, but *how* discrimination against the young might manifest itself. To answer this question, it is worth examining the current and future life conditions of today's young. Saddled by two of the worst economic crises of the century, lower income, rising costs of housing and education, and the projected insolvency of publicly funded programs accompanying older age, today's young face the largest intergenerational wealth gap in modern history (Censky, 2011; PK, 2021; Rappeport & Sanger-Katz, 2021). A longstanding pillar of the American dream, homeownership is becoming less and less accessible to today's young Americans than it was to prior generations (Hoffower & Kiersz, 2021). Beyond their unprecedented economic struggles, today's younger generations will also be the first to bear the

steep ecological consequences of years of unrestrained consumption and economic booms that have largely benefited their predecessors (IPCC, 2022).

In a context where the young face both stringent economic and ecological predicaments, their ability to address these major issues is limited. Demographically, the young are progressively becoming a numerical minority as the proportion of older adults keeps increasing—there will be twice more Americans aged 65 and above by 2040 than there were in 2000 (Administration for Community Living, 2021). Politically, they have seen their influence in the democratic process decline as the number of older—more conservative—voters keep growing and the average age of elected officials keeps rising (e.g., US Congressmen and Senators averaged 60 this year; Library of Congress, 2022). This lower power in the voting booth and age-disconnect with elected officials likely make their political interests less well represented. Finally, most societies compel people to show respect, admiration, and deference for their elders (Berger et al., 1972; Elder, 1975). This seniority-based status distinction may help normalize condescension toward the young, a common sign of paternalistic authority that leads people to further denigrate the voice, concerns, and opinions of disadvantaged groups (Eckes, 2002; Glick & Fiske, 2001).

Addressing the colossal challenges faced by today's young requires the support of older generations, who possess both the economic and political power necessary to take actions. In this context, the view that society—and older generations in particular—has of the young will shape younger generations' future. Negative sentiments toward the young may reduce older generations' willingness to address the grim economic and ecological prospects of today's young. Therefore, although youngism has likely always existed, the rapid aging of the population

and the impending ecological cliff faced by today's young makes the present a particularly crucial time to acknowledge, understand, and address anti-young biases.

Why has youngism received so little attentions in public and academic debates? If youngism is so pervasive and consequential, it is worth considering why it has received so little attention in public and academic debates. In Study 2a and 2b, I explore whether this relative lack of attention for age biases targeting the young reflect a lack of awareness of the negative feelings that the general population harbors toward the young.

Counter to this proposition, Study 2a shows that lay participants are quite accurate at estimating how Americans feel toward younger, middle-aged, and older adults. These results suggest that Americans are probably aware of society's feelings toward the young. The absence of youngism in public debate may instead reflect the impression that negative feelings toward the young do not constitute a form of prejudice. That is, it is still condoned by society. Historically, people have expressed negative feelings toward women, racial minorities, and the LGBTQ community much more openly, before society begins to see these blatant disparagements as morally unacceptable (Gilbert, 1951; Karlins et al., 1969; Kats & Braly, 1933). It may be, therefore, that youngism has not reached this stage. Future work may explore whether and why people feel comfortable harboring prejudiced beliefs about the young.

Contrasting with the results of Study 2a, the results of Study 2b suggest that academics may hold an inaccurate map of Americans' sentiments toward younger, middle-aged, and older adults, particularly academics with expertise in ageism. Ageism experts tended to overestimate negative sentiments toward the old and underestimate negative sentiments toward the young. More specifically, they reported lower attitudinal estimations for people in their 60s and 70s than

people in their 20s and 30s, and believed SDO correlated positively with attitudes toward the young and negatively with attitudes toward the old.

Two factors may help explain this relative inaccuracy. First, implicit age attitudes may have incorrectly influenced academics' responses, those of ageism experts especially. Analyses of large samples of participants who completed the age Implicit Association Test has shown that people exhibit a strong *implicit* preference for the young over the old, an effect even more pronounced for older participants (Charlesworth, & Banaji, 2019; Chopik & Giasson, 2017; Nosek et al., 2002). Familiarity with this implicit attitudinal pattern may have incorrectly influenced academics'—but not lay people's—estimations of explicit age attitudes and stereotyping.

A second explanation is that academics may have fallen prey to availability bias. Availability bias occurs when people rely disproportionately upon the most readily available data when assessing the probability that an event occurs (Kahneman & Tversky, 1974). For instance, Mamede and colleagues (2010) found that medicine residents were prone to diagnostic errors because they overly relied on their most recent diagnostics. Similarly, the prevalence of research on old-age bias and the paucity of work on young-age bias may have erroneously influenced the estimations of academics in Study 2b.

Regardless of the reason, these results help explain why youngism has received so little attention from researchers. Academics—age experts in particular—hold an inaccurate map of age perceptions, underestimating how negatively people view young adults and positively they view older adults. Historically, DEI research has put a particular emphasis on understanding the experience of prejudiced groups and the mechanisms through which their disadvantaged standing is perpetuated. In this regard, a belief that young adults are viewed more positively than older

ones might influence the type of research projects ageism experts pursue, the hypotheses they test, the study they design, the participants they recruit, and the findings they deem publishable. In a rapidly aging world where younger adults constitute a disadvantaged group, these findings stress the urgent need for academics to reconsider what age-based prejudice looks like and develop a better understanding of anti-young ageism, its causes, and its consequences.

Limitations and additional opportunities for future research. The paradigm employed in Study 1 advances our understanding of ageism by providing a sense of American sentiments toward each age group in a single study design. The use of a representative sample increases the ecological validity of the findings. The essay questions help capture participants' unconstrained opinions of younger and older adults and allowed us to corroborate the findings of the more general thermometer measures, adding convergent validity to my findings. Finally, the preregistration of the methods, measures, and analytical plans increases the transparency of my methods, and the exploratory nature of the study reduced the likelihood of researcher-driven confirmation bias. These methodological strides helped improve the validity of my findings. That said, I also acknowledge several limitations with Study 1 that provide opportunities for future research.

First, my exploratory survey focused exclusively on U.S. participants. Since age attitudes are known to vary across cultures (North & Fiske, 2013; Weiss & Zhang, 2020), future work should investigate whether, how, and why specific cultural features moderate the attitudinal preference for older over younger adults identified in the present research.

Second, Study 1 focuses on broad, decontextualized perceptions of age groups. Studying broad perceptions is commonplace across a wide range of disciplines in social sciences. It has also proven useful in advancing understanding of societal opinions as well as predicting policy

support, collective behaviors, and individual-level discrimination (e.g., Cuddy et al., 2002; Hereck, 2002; Kalkan et al., 2009; Leckles, 2016; Ofosu et al., 2020; Reny & Baretto, 2022; Sawyer & Gampa, 2018; Sides & Gross, 2013; Tessler, 2012; see also Ajzen et al., 2018 and Talaska et al. 2008), including in the ageism literature (Burnes et al., 2019; Kite et al., 2005; Francioli & North, 2021; Ng et al., 2021; North & Fiske, 2015). That said, social evaluations are often shaped by the context in which the target group or individual is evaluated (Kornadt et al., 2013). For instance, although Americans do seem to feel positively toward "people in their 80s" in general, they may feel very differently toward "workers in their 80s" or "healthcare patients in their 80s." Future work should further explore how contexts shape the attitudinal patterns observed in this study. Relatedly, perceptions of individual targets differ from those of group targets and often result from complex socio-cognitive processes that account for the multiple social categories the individual target belongs to (e.g., age, gender, race; Purdie-Vaughns & Eibach, 2008). For instance, prior research has shown that older women may be perceived differently from older men (Duncan & Loretto, 2004; Francioli & North, 2021b; Kite et al., 2005; Kornadt et al., 2013; Laditka et al., 2004; Martin et al., 2019; Narayan, 2008). Future work may expand upon the current findings to examine how age-based perceptions interact with gender, race, and social class perceptions, and how the latter may moderate the general pattern of age-based attitudes identified in this study.

Third, Study 1 does not account for potential social desirability effects. Prior work has shown that survey respondents tend to under-report negative sentiments toward targets of prejudice, out of self-presentation concerns (Krumpal, 2013; Krysan, 1998). The particularly positive sentiments toward older adults captured in my survey might reflect in part a tendency of participants to respond to sensitive questions in a socially desirable way. With the rapid aging of

the population and the advent of large interest groups advocating for the older fringe of the population, "old" ageism has gained a lot of public attention in recent years (AARP, 2010; Charlesworth, & Banaji, 2019; Nelson, 2004; Officer & de la Fuente-Núñez, 2018). It is legally sanctioned and likely less socially condoned than youngism. It is also ubiquitous and socially tolerated, as illustrated by the flourish of news articles and popular books castigating today's young (e.g., "*The Dumbest Generation*", Bauerlein, 2008; "*What's Wrong with Millennials?*", Brown, 2013; and or "*Generation Me*" Twenge, 2014; see also Bratt et al., 2020; Francioli & North, 2021; Protzko & Schooler, 2019; and Westman, 1991). Therefore, participants may have felt more comfortable sharing their contempt for the young than they did their contempt for older adults. Although self-administered methods tend to significantly reduce risks of social desirability (Krumpal, 2013; Tourangeau & Yan, 2007) and although recent evidence casts doubt on the influence of social desirability on the accuracy of group attitudes reporting altogether (Axt, 2017), researchers may want to explore whether and how social desirability might shape people's willingness to truthfully report their feelings toward younger versus older adults.

Finally, my investigation focused on explicit stereotyping and prejudice. A couple of limitations derive from this methodological choice. First, analyses of large samples of participants who completed the age Implicit Association Test has shown that implicit and explicit age attitudes follow different patterns (Charlesworth, & Banaji, 2019; Chopik & Giasson, 2017; Nosek et al., 2002). People tend to exhibit an *implicit* preference for the young, an effect even more pronounced for older participants. To build a more comprehensive picture of ageism throughout the lifespan, future work should attempt to clarify both empirically and theoretically the nature and unique consequences of implicit and explicit age attitudes, considering not only "old" ageism, but also youngism. Second, future work should examine

whether and how explicit preferences for older adults shape real-world outcomes for the young. Francioli and North (2021) found that endorsement of negative stereotypes about the young reduced both intentions to support a political candidate openly acknowledging younger generations' economic struggles (behavioral intentions; Study 4) and likelihood to fund a student-debt relief program (actual behavior; Study 5). However, more work is needed to understand to what extent negative views of the young influence aging societies' willingness to address problems faced by younger generations (e.g., youth unemployment, rising housing costs, curbed opportunities at wealth accumulation, future insolvency of social welfare, climate change, diminishing influence over the democratic process, etc.)? More than ever before, youngism constitutes a promising field of academic inquiry.

CONCLUSION

Since its inception more than 60 years ago, ageism research has focused almost exclusively on the age-stigma plaguing the older segment of the population. Stressing the urgent need to advance our understanding of ageism targeting the young, my findings show that Americans harbor the most unfavorable explicit sentiments toward younger—not older—adults, a bias that follows attitudinal patterns akin to those of other forms of prejudice (e.g., racism). In a rapidly aging world where young adults are numerically, economically, and politically disadvantaged relative to their older counterparts, studying how youngism shapes the outcomes and life prospects of younger generation is a matter of intergenerational equity.

APPENDIX

Appendix 2.1. Study Material preceding SDO estimations, Chapter 2, Study 2b

Great, thanks for your responses so far!
Important: Please read these instructions carefully.

In this study, **we also measured participants' level of social dominance orientation**. Social dominance orientation (SDO) captures people's disposition to tolerate, justify, and sometimes promote social hierarchies and inequalities.

People high on SDO tend to exhibit more prejudicial attitudes toward commonly stigmatized groups than does the rest of the population. For instance, past work has shown that SDO is a powerful predictor of various forms of prejudices, including racism, sexism, homophobia, prejudices against the poor, and prejudices against people with mental illness.

We would now like you to guess how SDO correlates with attitudes toward each of our target age groups.*

Once you read these instructions carefully, press ">>" to continue.

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* ***Methodological notes (optional read):*** *(i) Per the terms of our pre-registration form, we used partial rather than zero order correlations. We examined the relationship between SDO and attitudes toward a given age group, after controlling for participant attitudes toward "age groups in general". This allowed us to control for part of the covariance explained by differences in baseline responses to feeling thermometers rather than group specific affect. (ii) Per the terms of our pre-registration form, we excluded participants whose SDO score was +/-2.5SD away from the mean. Results of analyses re-including these participants were materially similar. (iii) we also used spearman (partial) correlations.*

Please, try to **guess how SDO correlates with attitudes toward each of the target age group** in our representative sample of US adults. In making your prediction, keep in mind that:

1. ***Magnitude***. The relationship goes from -1.00 to +1.00. The more negative the relationship between SDO and attitudes toward a social group, the more people high on SDO have *negative* feelings toward that group, relative to people low on SDO. The more positive the relationship, the more people high on SDO have *positive* feelings toward that social group, relative to people low on SDO.
2. ***For reference***, a similar study with a US-representative sample and attitudes toward different ethnic groups in America gave the following results: *

    - Relationship between SDO and attitudes toward Asians: ***r* = +0.06**
    - Relationship between SDO and attitudes toward Blacks: ***r* = - 0.25**
    - Relationship between SDO and attitudes toward Latinos: ***r* = - 0.08**
    - Relationship between SDO and attitudes toward Whites: ***r* = +0.22**

REFERENCES

Ajzen, I., & Cote, N. G. (2008). Attitudes and the prediction of behavior. Attitudes and attitude change, 13.

Axt, J. R. (2018). The best way to measure explicit racial attitudes is to ask about them. Social Psychological and Personality Science, 9(8), 896-906.

Barak, B., & Stern, B. (1986). Subjective age correlates: A research note. The gerontologist, 26(5), 571-578.

Bauerlein, M. (2008). The dumbest generation: How the digital age stupefies young Americans and jeopardizes our future. Tarcher/Penguin Group.

Benjamin, D., Mandel, D. R., & Kimmelman, J. (2017). Can cancer researchers accurately judge whether preclinical reports will reproduce?. PLoS biology, 15(6), e2002212.

Berger, J., Cohen, B. P., & Zelditch Jr, M. (1972). Status characteristics and social interaction. American Sociological Review, 241-255.

Bizer, G. Y., Hart, J., & Jekogian, A. M. (2012). Belief in a just world and social dominance orientation: Evidence for a mediational pathway predicting negative attitudes and discrimination against individuals with mental illness. Personality and individual differences, 52(3), 428-432.

Bobbio, A., Canova, L., & Manganelli, A. M. (2010). Conservative ideology, economic conservatism, and causal attributions for poverty and wealth. Current Psychology, 29(3), 222-234.

Bratt, C., Abrams, D., & Swift, H. J. (2020). Supporting the old but neglecting the young? The two faces of ageism. Developmental psychology, 56(5), 1029.

Bratt, C., Abrams, D., Swift, H. J., Vauclair, C. M., & Marques, S. (2018). Perceived age discrimination across age in Europe: From an ageing society to a society for all ages. Developmental psychology, 54(1), 167.

Brown, S. (2013). What's wrong with millennials? 50 things you need to know about the entitled generation. Empire Publishing.

Burnes, D., Sheppard, C., Henderson Jr, C. R., Wassel, M., Cope, R., Barber, C., & Pillemer, K. (2019). Interventions to reduce ageism against older adults: A systematic review and meta-analysis. American Journal of Public Health, 109(8), e1-e9.

Camerer, C. F., Dreber, A., Holzmeister, F., Ho, T. H., Huber, J., Johannesson, M., ... & Wu, H. (2018). Evaluating the replicability of social science experiments in Nature and Science between 2010 and 2015. Nature Human Behaviour, 2(9), 637-644.

Cattell, R. B. (1963). Theory of fluid and crystallized intelligence: A critical experiment. Journal of educational psychology, 54(1), 1.

Censky, A. (2011, November 28). Older Americans are 47 times richer than young. CNN Money. Retrieved from: https://money.cnn.com/2011/11/07/news/economy/wealth_gap_age/index.htm

Chae, D. H., Lincoln, K. D., Adler, N. E., & Syme, S. L. (2010). Do experiences of racial discrimination predict cardiovascular disease among African American men? The moderating role of internalized negative racial group attitudes. Social science & medicine, 71(6), 1182-1188.

Charlesworth, T. E., & Banaji, M. R. (2019). Patterns of implicit and explicit attitudes: I. Long-term change and stability from 2007 to 2016. Psychological science, 30(2), 174-192.

Chasteen, A. L., Horhota, M., & Crumley-Branyon, J. J. (2021). Overlooked and underestimated: experiences of ageism in young, middle-aged, and older adults. The Journals of Gerontology: Series B, 76(7), 1323-1328.

Chasteen, A. L., Schwarz, N., & Park, D. C. (2002). The activation of aging stereotypes in younger and older adults. The Journals of Gerontology Series B: Psychological Sciences and Social Sciences, 57(6), P540-P547.

Chopik, W. J., & Giasson, H. L. (2017). Age differences in explicit and implicit age attitudes across the life span. The Gerontologist, 57(suppl_2), S169-S177.

Chopik, W. J., Bremner, R. H., Johnson, D. J., & Giasson, H. L. (2018). Age differences in age perceptions and developmental transitions. Frontiers in psychology, 67.

Christopher, A. N., & Wojda, M. R. (2008). Social dominance orientation, right-wing authoritarianism, sexism, and prejudice toward women in the workforce. Psychology of Women Quarterly, 32(1), 65-73.

Clifford, S., Jewell, R. M., & Waggoner, P. D. (2015). Are samples drawn from Mechanical Turk valid for research on political ideology?. Research & Politics, 2(4), 2053168015622072.

Craik, F. I., & Salthouse, T. A. (Eds.). (2011). The handbook of aging and cognition. Psychology press.

Crook, T., Bartus, R. T., Ferris, S. H., Whitehouse, P., Cohen, G. D., & Gershon, S. (1986). Age-associated memory impairment: Proposed diagnostic criteria and measures of clinical change—report of a national institute of mental health work group.

Cross, J. F., & Cross, J. (1971). Age, sex, race, and the perception of facial beauty. Developmental Psychology, 5(3), 433.

Cuddy, A. J., & Fiske, S. T. (2002). Doddering but dear: Process, content, and function in stereotyping of older persons. Ageism: Stereotyping and prejudice against older persons, 3(1), 26.

Cuddy, A. J., Norton, M. I., & Fiske, S. T. (2005). This old stereotype: The pervasiveness and persistence of the elderly stereotype. Journal of social issues, 61(2), 267-285.

de Oliveira Laux, S. H., Ksenofontov, I., & Becker, J. C. (2015). Explicit but not implicit sexist beliefs predict benevolent and hostile sexist behavior. European Journal of Social Psychology, 45(6), 702-715.

DellaVigna, S., & Pope, D. (2018). Predicting experimental results: who knows what?. Journal of Political Economy, 126(6), 2410-2456.

DellaVigna, S., & Pope, D. (2018). What motivates effort? Evidence and expert forecasts. The Review of Economic Studies, 85(2), 1029-1069.

DellaVigna, S., & Pope, D. (2019). Stability of Experimental results: Forecasts and evidence (No. w25858). National Bureau of Economic Research.

DellaVigna, S., Otis, N., & Vivalt, E. (2020, May). Forecasting the results of experiments: Piloting an elicitation strategy. In AEA Papers and Proceedings (Vol. 110, pp. 75-79).

Dreber, A., Pfeiffer, T., Almenberg, J., Isaksson, S., Wilson, B., Chen, Y., ... & Johannesson, M. (2015). Using prediction markets to estimate the reproducibility of scientific research. Proceedings of the National Academy of Sciences, 112(50), 15343-15347.

Duckitt, J., & Sibley, C. G. (2007). Right wing authoritarianism, social dominance orientation and the dimensions of generalized prejudice. European Journal of Personality: Published for the European Association of Personality Psychology, 21(2), 113-130.

Duncan, C., & Loretto, W. (2004). Never the right age? Gender and age-based discrimination in employment. Gender, Work & Organization, 11(1), 95-115.

Eckes, T. (2002). Paternalistic and envious gender stereotypes: Testing predictions from the stereotype content model. Sex Roles, 47(3), 99-114.

Eitan, O., Viganola, D., Inbar, Y., Dreber, A., Johannesson, M., Pfeiffer, T., ... & Uhlmann, E. L. (2018). Is research in social psychology politically biased? Systematic empirical tests and a forecasting survey to address the controversy. Journal of Experimental Social Psychology, 79, 188-199.

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G* Power 3.1: Tests for correlation and regression analyses. Behavior research methods, 41(4), 1149-1160.

Fiske, S. T., Cuddy, A. J., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: competence and warmth respectively follow from perceived status and competition. Journal of personality and social psychology, 82(6), 878.

Francioli, S. P., & North, M. S. (2021a). The older worker: gender and age discrimination in the workplace. In Handbook of the Psychology of Aging (pp. 215-235). Academic Press.

Francioli, S. P., & North, M. S. (2021b). Youngism: The content, causes, and consequences of prejudices toward younger adults. Journal of Experimental Psychology: General, 150(12), 2591.

Franzoi, S. L., & Koehler, V. (1998). Age and gender differences in body attitudes: A comparison of young and elderly adults. The International Journal of Aging and Human Development, 47(1), 1-10.

Gilbert, G. M. (1951). Stereotype persistence and change among college students. The Journal of Abnormal and Social Psychology, 46(2), 245.

Gilleard, C. (2004). Cohorts and generations in the study of social change. Social Theory & Health, 2(1), 106-119.

Glick, P., & Fiske, S. T. (2001). An ambivalent alliance: Hostile and benevolent sexism as complementary justifications for gender inequality. American psychologist, 56(2), 109.

Goldsmith, R. E., & Heiens, R. A. (1992). Subjective age: A test of five hypotheses. The gerontologist, 32(3), 312-317.

Guimond, S., Crisp, R. J., De Oliveira, P., Kamiejski, R., Kteily, N., Kuepper, B., ... & Zick, A. (2013). Diversity policy, social dominance, and intergroup relations: Predicting prejudice in changing social and political contexts. Journal of Personality and Social Psychology, 104(6), 941.

Herek, G. M. (2002). Heterosexuals' attitudes toward bisexual men and women in the United States. Journal of sex research, 39(4), 264-274.

Ho, A. K., Sidanius, J., Kteily, N., Sheehy-Skeffington, J., Pratto, F., Henkel, K. E., ... & Stewart, A. L. (2015). The nature of social dominance orientation: Theorizing and measuring preferences for intergroup inequality using the new SDO_7 scale. Journal of Personality and Social Psychology, 109(6), 1003.

Hoffower, H., & Kiersz, A. (2021, October 16). Baby boomers and millennials are in a heated housing war. Business Insider. Retrieved from: https://www.businessinsider.com/boomers-versus-millennials-housing-war-competition-buying-home-2021-10

Horn, J. L. (1982). The theory of fluid and crystallized intelligence in relation to concepts of cognitive psychology and aging in adulthood. In Aging and cognitive processes (pp. 237-278). Springer, Boston, MA.

Horn, J. L., & Cattell, R. B. (1967). Age differences in fluid and crystallized intelligence. Acta psychologica, 26, 107-129.

Inbar, Y., Pizarro, D. A., & Bloom, P. (2012). Disgusting smells cause decreased liking of gay men. Emotion, 12(1), 23.

IPCC (2022). Climate Change 2022: Impacts, Adaptation and Vulnerability. Ipcc.ch. Retrieved from: https://www.ipcc.ch/report/ar6/wg2/

Kalkan, K. O., Layman, G. C., & Uslaner, E. M. (2009). “Bands of others”? Attitudes toward Muslims in contemporary American society. The Journal of Politics, 71(3), 847-862.

Karlins, M., Coffman, T. L., & Walters, G. (1969). On the fading of social stereotypes: studies in three generations of college students. Journal of personality and social psychology, 13(1), 1.

Katz, D., & Braly, K. (1933). Racial stereotypes of one hundred college students. The Journal of Abnormal and Social Psychology, 28(3), 280.

Kite, M. E., Stockdale, G. D., Whitley Jr, B. E., & Johnson, B. T. (2005). Attitudes toward younger and older adults: An updated meta-analytic review. Journal of social issues, 61(2), 241-266.

Kornadt, A. E., & Rothermund, K. (2011). Contexts of aging: Assessing evaluative age stereotypes in different life domains. Journals of Gerontology Series B: Psychological Sciences and Social Sciences, 66(5), 547-556.

Kraus, S. J. (1995). Attitudes and the prediction of behavior: A meta-analysis of the empirical literature. Personality and social psychology bulletin, 21(1), 58-75.

Krumpal, I. (2013). Determinants of social desirability bias in sensitive surveys: a literature review. Quality & quantity, 47(4), 2025-2047.

Krysan, M. (1998). Privacy and the expression of white racial attitudes: A comparison across three contexts. Public Opinion Quarterly, 506-544.

Kteily, N. S., Sidanius, J., & Levin, S. (2011). Social dominance orientation: Cause or 'mere effect'?: Evidence for SDO as a causal predictor of prejudice and discrimination against ethnic and racial outgroups. Journal of Experimental Social Psychology, 47(1), 208-214.

Kulik, C. T., Ryan, S., Harper, S., & George, G. (2014). Aging populations and management

Laditka, S. B., Fischer, M., Laditka, J. N., & Segal, D. R. (2004). Attitudes about aging and gender among young, middle age, and older college-based students. Educational Gerontology, 30(5), 403-421.

Landy, J. F., Jia, M. L., Ding, I. L., Viganola, D., Tierney, W., Dreber, A., ... & Crowdsourcing Hypothesis Tests Collaboration. (2020). Crowdsourcing hypothesis tests: Making transparent how design choices shape research results. Psychological Bulletin, 146(5), 451.

Lelkes, Y. (2016). Mass polarization: Manifestations and measurements. Public Opinion Quarterly, 80(S1), 392-410.

Levay, K. E., Freese, J., & Druckman, J. N. (2016). The demographic and political composition of Mechanical Turk samples. Sage Open, 6(1), 2158244016636433.

Levin, S., Matthews, M., Guimond, S., Sidanius, J., Pratto, F., Kteily, N., ... & Dover, T. (2012). Assimilation, multiculturalism, and colorblindness: Mediated and moderated relationships between social dominance orientation and prejudice. Journal of Experimental Social Psychology, 48(1), 207-212.

Library of Congress (2022). 116th United States Congress: A Survey of Books Written by Members. guides.loc.gov. Retrieved from: https://guides.loc.gov/116th-congress-book-list

Mamede, S., van Gog, T., van den Berge, K., Rikers, R. M., van Saase, J. L., van Guldener, C., & Schmidt, H. G. (2010). Effect of availability bias and reflective reasoning on diagnostic accuracy among internal medicine residents. Jama, 304(11), 1198-1203.

Mannheim, K. (1952). 'The Problem of a Sociology of Knowledge (pp. 134-90).

Mikton, C., de la Fuente-Núñez, V., Officer, A., & Krug, E. (2021). Ageism: a social determinant of health that has come of age. *The Lancet*, *397*(10282), 1333-1334.

Montepare, J. M., & Lachman, M. E. (1989). " You're only as old as you feel": self-perceptions of age, fears of aging, and life satisfaction from adolescence to old age. Psychology and aging, 4(1), 73.

Narayan, C. (2008). Is there a double standard of aging?: Older men and women and ageism. Educational Gerontology, 34(9), 782-787.

Nelson, T. D. (Ed.). (2004). Ageism: Stereotyping and prejudice against older persons. MIT press.

Ng, E. S., & Sears, G. J. (2012). CEO leadership styles and the implementation of organizational diversity practices: Moderating effects of social values and age. Journal of Business Ethics, 105, 41-52.

Ng, R., & Indran, N. (2022). Role-based framing of older adults linked to decreased ageism over 210 years: Evidence from a 600-million-word historical corpus. The Gerontologist, 62(4), 589-597.

Ng, R., Allore, H. G., Trentalange, M., Monin, J. K., & Levy, B. R. (2015). Increasing negativity of age stereotypes across 200 years: Evidence from a database of 400 million words. PloS one, 10(2), e0117086.

North, M. S. (2019). A GATE to understanding "older" workers: Generation, age, tenure, experience. Academy of Management Annals, 13(2), 414-443.

North, M. S., & Fiske, S. T. (2012). An inconvenienced youth? Ageism and its potential intergenerational roots. Psychological bulletin, 138(5), 982.

North, M. S., & Fiske, S. T. (2013). Act your (old) age: Prescriptive, ageist biases over succession, consumption, and identity. Personality and Social Psychology Bulletin, 39(6), 720-734.

North, M. S., & Fiske, S. T. (2015). Modern attitudes toward older adults in the aging world: A cross-cultural meta-analysis. Psychological bulletin, 141(5), 993.

Nosek, B. A., Banaji, M. R., & Greenwald, A. G. (2002). Harvesting implicit group attitudes and beliefs from a demonstration web site. Group Dynamics: Theory, Research, and Practice, 6(1), 101.

Öberg, P., & Tornstam, L. (2001). Youthfulness and fitness—Identity ideals for all ages?. Journal of Aging and Identity, 6(1), 15-29.

Officer, A., & de la Fuente-Núñez, V. (2018). A global campaign to combat ageism. Bulletin of the World Health Organization, 96(4), 295.

Ota, H., Harwood, J., Williams, A., & Takai, J. (2000). A cross-cultural analysis of age identity in Japan and the United States. Journal of Multilingual and Multicultural Development, 21(1), 33-41.

Phelan, J. E., & Basow, S. A. (2007). College students' attitudes toward mental illness: An examination of the stigma process 1. Journal of Applied Social Psychology, 37(12), 2877-2902.

Pilcher, J. (1994). Mannheim's sociology of generations: an undervalued legacy. British Journal of Sociology, 481-495.

Prato, M., Kypraios, E., Ertug, G., & Lee, Y. G. (2019). Middle-status conformity revisited: The interplay between achieved and ascribed status. Academy of Management Journal, 62(4), 1003-1027.

Pratto, F., Sidanius, J., Stallworth, L. M., & Malle, B. F. (1994). Social dominance orientation: A personality variable predicting social and political attitudes. Journal of personality and social psychology, 67(4), 741.

Protzko, J., & Schooler, J. W. (2019). Kids these days: Why the youth of today seem lacking. Science advances, 5(10), eaav5916.

Purdie-Vaughns, V., & Eibach, R. P. (2008). Intersectional invisibility: The distinctive advantages and disadvantages of multiple subordinate-group identities. Sex roles, 59(5), 377-391.

Ramírez, L., & Palacios-Espinosa, X. (2016). Stereotypes about old age, social support, aging anxiety and evaluations of one's own health. Journal of Social Issues, 72(1), 47-68.

Rappeport, A., & Sanger-Katz, M. (2021). Social Security is projected to be insolvent a year earlier than previously forecast. New York Times. Retrieved from: https://www.nytimes.com/2021/08/31/business/economy/social-security-funding.html

Ruggeri, A. (2017, October 13). People have always whinged about young adults. Here's proof. BBC. http://www.bbc.com/capital/story/20171003-proof-that-people-have-always-complained-about-young-adults

Ryder, N. B. (1965). The cohort as a concept in the study of social change. American Sociological Review, 30, 843–861.

Sawyer, J., & Gampa, A. (2018). Implicit and explicit racial attitudes changed during Black Lives Matter. Personality and Social Psychology Bulletin, 44(7), 1039-1059.

Schuman, H., & Scott, J. (1989). Generations and collective memories. American sociological review, 359-381.

Seder, J. (2013, August 15) 15 historical complaints about young people ruining everything. Mental Floss. http://mentalfloss.com/article/52209/15-historical-complaints-about-young-people-ruining-everything

Sidanius, J., & Pratto, F. (2003). Social dominance theory and the dynamics of inequality: A reply to Schmitt, Branscombe, & Kappen and Wilson & Liu. The British journal of social psychology, 42, 207.

Sides, J., & Gross, K. (2013). Stereotypes of Muslims and Support for the War on Terror. The Journal of Politics, 75(3), 583-598.

Standage, T. (2006, April 1) The culture war. Wired. https://www.wired.com/2006/04/war/

Talaska, C. A., Fiske, S. T., & Chaiken, S. (2008). Legitimating racial discrimination: Emotions, not beliefs, best predict discrimination in a meta-analysis. Social justice research, 21(3), 263-296.

Tourangeau, R., & Yan, T. (2007). Sensitive questions in surveys. Psychological bulletin, 133(5), 859.

Tversky, A., & Kahneman, D. (1974). Judgment under Uncertainty: Heuristics and Biases: Biases in judgments reveal some heuristics of thinking under uncertainty. science, 185(4157), 1124-1131.

Twenge, J. M. (2014). Generation me-revised and updated: Why today's young Americans are more confident, assertive, entitled--and more miserable than ever before. Simon and Schuster.

Uotinen, V. (1998). Age identification: A comparison between Finnish and North-American cultures. The International Journal of Aging and Human Development, 46(2), 109-124.

Weiss, D., & Zhang, X. (2020). Multiple sources of aging attitudes: Perceptions of age groups and generations from adolescence to old age across China, Germany, and the United States. Journal of Cross-Cultural Psychology, 51(6), 407-423.

Westerhof, G. J., Barrett, A. E., & Steverink, N. (2003). Forever young? A comparison of age identities in the United States and Germany. Research on Aging, 25(4), 366-383.

Westman, J. C. (1991). Juvenile ageism: Unrecognized prejudice and discrimination against the young. Child Psychiatry and Human Development, 21(4), 237-256.

Whitley Jr, B. E. (1999). Right-wing authoritarianism, social dominance orientation, and prejudice. Journal of personality and social psychology, 77(1), 126.

Wilcox, C., Sigelman, L., & Cook, E. (1989). Some like it hot: Individual differences in responses to group feeling thermometers. Public Opinion Quarterly, 53(2), 246-257.

Zelazo, P. D., Craik, F. I., & Booth, L. (2004). Executive function across the life span. Acta psychologica, 115(2-3), 167-183.