Inducing age-related disgust increases negative attitudes towards the elderly

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Participants

All participants were recruited through the online research platform Prolific Academic (Prolific Academic Ltd, London). The experiment was conducted with eligibility limited to participants with a UK nationality, as previous cross-cultural studies have shown that different parts of the world have different values, such as the focus on filial piety, which can influence attitudes towards older people (North & Fiske, 2015). Participants between the ages of 18 and 50 were selected to minimize the effect of in-group biases (Martens et al., 2005). Additionally, all participants were required to have English as their first language as the study involved reading vignettes, which aimed to reduce the risk of misinterpretation and misunderstanding.

An a priori power analysis using G\*Power (version 3.1; Faul et al., 2009) for an ANCOVA with three independent groups and four covariates, with a = 0.05, power = 0.8, and an effect size of = 0.25, recommended a minimum sample size of n = 269. An extra 20% was added to the minimum sample size to account for potential incomplete and/or bad data (Galesic, 2006), bringing the required sample size to n = 324. Ultimately, n = 324 participants completed the study with 49.7% identifying as female and 50% as male and 0.3% identifying as other. The mean (M) age of the participants was 34.79 (standard deviation, [SD] = 7.40) years. In terms of ethnicity, 91.7% of the participants identified as White, 2.2% as Asian or Asian British, 1.5% as Black, Black British, Caribbean, or African, 0.9% as Arab and 3.7% as Mixed or multiple ethnic groups. Participants were compensated £1.50 for the 10-min duration of the study, in line with guidance from Prolific Academic. The study was approved by the institutional Research Ethics Committee (053946).

Materials

Vignettes

Twenty-four vignettes were created, with 8 focused on inducing three different intensities of disgust across three conditions: ‘neutral’, ‘moderate disgust’, and ‘extreme disgust’. All of the vignettes were designed to be similar in length, with approximately 50 words +/- 10, following examples used in previous works that utilized vignettes to elicit disgust (Oaten et al., 2018; Wingenbach et al., 2019). The vignettes focused on various aspects related to ageing, such as wrinkling skin, bad teeth, and actions brought on by dementia. The vignettes in the three conditions were chosen from an initial set of 48 (16 for each condition) piloted in a convenience sample of 21 individuals (47.6% female and 52.4% male; mean age 33.10 years (SD = 7.74 years), 81% White, 4.8% Asian or Asian British, and 14.3% mixed or multiple ethnic groups). The vignettes were standardized to present similar scenarios across each of the three conditions, with the same names and ages, balanced by gender. The vignettes were presented in random order using the Qualtrics XL platform (Qualtrics International Inc., USA). For each vignette (displayed for 20s), the intensity of emotions experienced (happiness, sadness, anger, fear, surprise, and disgust) upon reading the vignette was measured using a 100-point Visual Analogue Scale (VAS). Those that elicited the highest scores above the overall mean for disgust (M = 20.94, SD = 17.50) were used for the extreme disgust condition (M = 48.75, SD = 8.40), while those closer to mean were used for moderate disgust (M = 20.02, SD = 2.20) and those with lowest scores for disgust were used for the neutral condition (M = 1.19, SD = .47). Example vignettes from each condition are presented in Table 1. A full list of the vignettes used in the study can be found in Supplementary Table 1.

Measures

In addition to the main outcome variables of state ageism, we also measured state disgust (a possible mediator between disgust-inducing vignettes and attitudes towards older people and the ageing process), and trait disgust and trait ageism (possible confounding variables which we included as covariates in our analysis).

State Disgust

State disgust was measured using a 100-point VAS. Participants were asked to rate their level of disgust by answering the question, ‘To what extent do you feel disgusted by the vignettes?’ They indicated their response by sliding a marker across the scale, which ranged from 0 to 100.

State Ageism

Similarly, state attitudes towards older adults and the ageing process were measured using Older Adult and Ageing-VASs (At-O-A; Ligon et al., 2014). Participants were asked to ‘rate your attitude towards older adults’ and ‘rate your attitude towards your own ageing process’ using a 100-point VAS slider. Higher scores, closer to 100, were interpreted as indicating a positive attitude, whereas lower scores, closer to 0, were interpreted as indicating a negative attitude.

Trait disgust

Trait disgust was evaluated using the Disgust Scale-Revised (DS-R; Olatunji et al., 2007). The DS-R is a 25-item self-report scale assessing an individual's general propensity to experience disgust in everyday life. The survey comprises two sections. Section one consists of 14 questions that assess the extent to which an individual agrees with statements like, ‘I never let any part of my body touch the toilet seat in public restrooms.’ Respondents rate their agreement on a Likert scale ranging from ‘0= strongly disagree’ to ‘4= strongly agree.’ Section two evaluates how disgusting individuals would find various experiences, such as ‘You see a man with his intestines exposed after an accident.’ Participants rate the level of disgust on a scale ranging from ‘0= not disgusting at all’ to ‘4= extremely disgusting.’ The total scores on the DS-R range from 0 to 108, with higher scores indicating higher levels of disgust propensity. The measure assesses three different domains of disgust: animal-reminder disgust, core disgust, and contamination-based disgust (Olatunji et al., 2007). The Cronbach's alpha for the current study was α = .79.

Trait ageism

Trait ageism was assessed using the Fraboni Scale of Ageism (FSA; Fraboni et al., 1990), which is a 29-item self-report measure. The scale measures three subscales of prejudice: discrimination, antilocution, and avoidance, aiming to assess individuals’ attitudes and beliefs regarding ageing and older adults. For instance, an example item is ‘Feeling depressed around old people is probably a common feeling.’ Participants rate their agreement on a Likert scale ranging from ‘1= strongly disagree’ to ‘4= strongly agree’, with seven reversed items. The total scores range from 29 to 116, with higher scores indicating greater levels of ageist attitudes and beliefs (Fraboni et al., 1990). The Cronbach's alpha coefficient in the current study was α = .89.

Procedure

In a between-subject design, participants were randomly allocated to one of the three conditions using Qualtrics XL platform (Qualtrics International Inc., USA): ‘neutral’, ‘moderate disgust’, and ‘extreme disgust’. Prior to participation, participants were asked to read an information sheet and sign a consent form. Participation was voluntary, and participants’ responses were guaranteed anonymity. Each group were presented with 8 vignettes to read for 15s (reduced from 20s in the development phase of the vignettes, based on participant feedback). Once all 8 vignettes has been read, participants were asked to rate their level of state disgust. Participants then answered the two questions that measured their state attitudes towards older people and their own ageing process (Ligon et al., 2014). Subsequently, participants were asked to complete the FSA (Fraboni et al., 1990) and DS-R (Olatunji et al., 2007) to measure their trait attitudes and disgust. After completing the questionnaires, participants were debriefed and thanked for their time.

Attention Checks

Participants were asked to respond to two different questions to measure their attention. The first was an Instructional Manipulation Check (IMC), where participants were explicitly told ‘This is an attention check - select carrot from the following vegetables’. Four options were provided. The second was a nonsensical question. Participants were told ‘I can run to the moon and back within a day’. Participants were asked to rate their level of agreement on a strongly disagree to strongly agree Likert Scale and participants that chose strongly disagree or disagree passed the attention check.