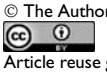
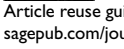
*Article*

Social Psychological and Personality Science
1–13



DOI: 10.1177/19485506251377502
journals.sagepub.com/home/spp


# How do Adults Think, Feel, and Behave Toward Teenagers? Measuring and Understanding Adults' Attitudes Toward Teenagers

**Lukas J. Wolf[1], Vlad Costin[2,3], Marina Iosifyan[1,4], Alexander Nolan[2], Elizah-Marie Hurst[2], Sara Ascensão[5], Colin Foad[2], Geoffrey Haddock[2], and Gregory R. Maio[1]**

## Abstract

Despite the pervasiveness of adult–teenager relations, research has largely neglected adults' attitudes toward teenagers. Eight studies ($N$ = 3,517) examined the content of adults' attitudes toward teenagers and developed a 14-item measure that assesses three factors: openness intentions, negative beliefs, and positive emotions regarding teenagers. *Openness intentions* involve empathic orientations and predict more contact with teenagers and more donations to a charity benefiting teenagers. *Negative beliefs* involve self-oriented and conservative orientations and predict desires to control teenagers (e.g., social dominance orientation, opposing voting rights for 16–17 year olds). *Positive emotions* involve higher personal well-being and predict more forgiving evaluations and decisions regarding norm-defying teenagers (e.g., teenage suspects). These factors were invariant across the United Kingdom, the United States, and South Africa. Together, the findings offer fundamental new insights about adults' attitudes toward teenagers and enable future research into how these attitudes influence adult–teenager relations and teenager well-being.

## Keywords

teenagers, adolescents, attitudes, stereotypes, ageism

Adults control vital outcomes in teenagers' lives across a variety of contexts (e.g., education, employment, legal systems). Consequently, any prevailing tendencies in adults' attitudes and behaviors toward teenagers may have far-reaching impacts on adult–teenager relationships and teenagers' well-being. However, research has largely overlooked teenagers as an attitude object. The present research sheds new light on this matter by examining the content of adults' attitudes toward teenagers, developing a scale that assesses this content, and exploring how adults' attitudes predict outcomes that have real consequences for teenagers.

The general neglect of teenagers as an attitude object stands out in light of the long-standing emphasis in psychology on understanding attitudes toward low-power social groups (e.g., ethnic and religious minorities, non-heterosexuality). At its core, such research has demonstrated that high-power groups often express prejudice and discrimination against low-power groups, which adversely impacts low-power groups (Dovidio et al., 2010; Richeson & Shelton, 2007). While age is not a new category in the intergroup attitudes literature, the vast majority of studies have focused on the elderly (Kogan, 1961; Nelson, 2005; North & Fiske, 2015). More recent research has criticized this focus and examined "youngism," defining it as primarily generational prejudice against contemporaneous young adults (i.e., 18–27 years; Francioli & North, 2021). While important, this definition of youngism overlooks attitudes toward younger groups like teenagers. Teenagers are an interesting social category to study because, unlike most groups, the high-power group (i.e., adults) was once the low-power group (i.e., teenagers); this distinctive position may elicit complex perceptions that are worth examining. Moreover, teenagers are still dependent on adult caregivers in political, legal, and other societal decision-making,

[1]University of Bath, UK
[2]Cardiff University, UK
[3]University of Sussex, UK
[4]University of St Andrews, UK
[5]University of Manchester, UK

**Corresponding Author:**
Lukas J. Wolf, Department of Psychology, University of Bath, Claverton Down, BA2 7AY, Bath, England, UK.
Email: L.Wolf@bath.ac.uk

making it vital to better understand how adults' attitudes toward teenagers influence adults' treatment of them.

Existing research on attitudes toward teenagers has concentrated on beliefs about them (e.g., Buchanan & Holmbeck, 1998) or about adult–teenager conflict (e.g., Holmbeck & Hill, 1988), with common characterizations of teenagers as impulsive, rebellious, undisciplined, moody, and criminal (Bolin et al., 2021; Chan et al., 2012; Gross & Hardin, 2007). Such beliefs can have important consequences, with views of teenagers as disrespectful predicting support for harsher sentencing of teenage suspects (Bolin et al., 2021; Garland et al., 2012). Nevertheless, this focus on beliefs means that other components of attitudes toward teenagers have been overlooked. As with attitudes in general (Eagly & Chaiken, 2007), attitudes toward social categories are not only shaped by beliefs about their attributes (i.e., stereotypes) but also by the emotions elicited by the group as well as behavioral experiences and intentions regarding the group (e.g., Haddock & Maio, 2019; Zanna & Rempel, 1988). As such, a more complete understanding of adults' attitudes toward teenagers requires examining a broader spectrum of relevant beliefs, emotions, and behavioral experiences.

The present research has three aims. First, we seek to identify the content of adults' attitudes toward teenagers by assessing adults' spontaneous descriptions of them. Using these descriptions, we develop a scale that comprehensively assesses this attitude content, the Attitudes Toward Teenagers scale (ATT). Second, we study the nature of this content through its connections with target variables, including variables providing insight into adults' underlying motivations (e.g., human values, intergroup ideology) and variables speaking to the implications for adult–teenager relationships and teenagers' well-being (e.g., donations to a charity benefiting young people, sentencing decisions for teenaged crime suspects). Third, we test the cross-cultural validity of the scale by assessing measurement invariance across the United Kingdom, the United States, and South Africa. Through these steps, we seek to facilitate further research into this understudied topic.

## Transparency and Openness

All studies were granted ethical approval by the University of Bath's research ethics committee. The data (including explanations and syntax) and study materials are openly available under https://doi.org/10.17605/OSF.IO/8WYNK.[1] The study designs and analyses were not pre-registered. Table 1 shows the sample characteristics of all eight studies.

## Aim 1: Identifying the Content of Attitudes Toward Teenagers

The present research connects to work by Wolf et al. (2024), who identified teenagers as having an age range of 12 to 18 years (cf. Chan et al., 2012). After finding that adults' attitude content toward teenagers substantively differs from attitudes toward children (i.e., babies, toddlers, school-age children), Wolf et al. (2024) concentrated on the younger age groups and identified two factors: *affection* toward children and *stress* elicited by them.

Here, we advance this line of work by focusing on teenagers.[2] Four studies using non-student samples examined adults' spontaneous descriptions of teenagers and developed a scale assessing this content (see Supplement A for further detail on study methods and results). In Study 1, 30 adult participants described the beliefs, emotions, and behaviors they associate with teenagers in open-ended responses. This study hence used a *bottom-up* approach, where participants generated the items, rather than imposing the researchers' own preconceptions of attitude content toward teenagers. Two independent raters thematically analyzed the responses, producing 75 unique items.[3]

Study 2 asked adult participants to indicate their agreement with these 75 items on a 7-point scale ($-3$ = *strongly disagree*; $+3$ = *strongly agree*). We removed three items with extreme endorsements ($M > \pm 2.00$) or low variability ($SD < 1$) and conducted an exploratory factor analysis (EFA), using principal-axis factoring (PFA) extraction with oblique, direct oblimin rotation (delta = 0). We removed items with low factor loadings ($\lambda < .50$) and cross-loadings ($\Delta\lambda < .30$; Costello & Osborne, 2005), retaining 31 items (see Supplemental Table S1). The EFA favored three factors. One factor captured intentions signaling interest in teenagers, which we termed *openness intentions* (e.g., "I am willing to interact with teenagers"). The second factor concerned negative conceptualizations of teenagers' attributes, which we labeled *negative beliefs* (e.g., "Teenagers are selfish"). The third factor described positive feelings elicited by teenagers, which we called *positive emotions* (e.g., "Teenagers make me feel optimistic").

Study 3 tested whether these factors replicated in a new sample while seeking to reduce the number of items per factor. Using the same item exclusion criteria as in Study 2, we retained five openness intentions items, 13 negative beliefs items, and four positive emotion items. We next conducted item response theory analyses (Baker, 2001) using graded response models (GRMs; Samejima, 2016) to select the best items, resulting in four items per factor. A confirmatory factor analysis (CFA) showed that the data did not significantly deviate from the proposed three-factor structure, $\chi^2(51) = 68.26$, $p = .054$, and all fit indices met conventional thresholds for good model fit: comparative fit index (CFI) = .987; root mean square error of approximation (RMSEA) = .040 (90% confidence interval [CI] = [.00, .06]; standardized root mean square residual [SRMR] = .036; Hu & Bentler, 1999; see Supplemental Table S8 for items and loadings). The CFA hence supported the expected three-factor structure.

Study 4 introduced reverse-phrased items to control for acquiescence bias (Welkenhuysen-Gybels et al., 2003). For

**Table 1.** *Sample Characteristics of all Studies*

| Study | Sample size | $M_{age}$ (range) | Gender | | | Parents | Country | Source | Power considerations |
|---|---|---|---|---|---|---|---|---|---|
| | | | Women | Men | Other | | | | |
| Study 1 | 30 | 49.2[a] (-) | 22[a] | 8[a] | 0[a] | - | - | MTurk | N/A (qualitative analysis) |
| Study 2 | 155 | 35[a] (-) | 79[a] | 60[a] | 16[a] | - | - | MTurk[b] | Meets recommended 100–200 participants for factor analysis (MacCallum et al., 1999) |
| Study 3 | 205 | 37.43 (20-70) | 147 | 58 | 0 | - | The United Kingdom | Prolific | Meets recommended 100–200 participants for factor analysis (MacCallum et al., 1999) |
| Study 4 | 241 | 38.94 (18-85) | 177 | 64 | 0 | - | The United Kingdom | Prolific | Meets recommended sample size for factor analysis (MacCallum et al., 1999). 95% power to detect β = .23 or higher |
| Study 5 | 878 | 40.93 (19-87) | 431 | 442 | 5 | 440 | The United Kingdom | Prolific | 95% power to detect β = .12 or higher |
| Study 6 | 479 | 39.80 (18-82) | 252 | 223 | 4 | 227 | The United Kingdom | Prolific | 95% power to detect β = .17 or higher |
| Study 7 | 351 | 40.55 (25-87) | 176 | 174 | 1 | 201 | The United Kingdom | Prolific | 95% power to detect β = .19 or higher |
| Study 8 | 1178 | 34.40 (21-89) | 639 | 520 | 19 | 500 | The United Kingdom, The United States, South Africa | Prolific | Meets recommended 150 participants for invariance tests (Cheung & Rensvold, 2002) |

*Note.* Reported sample sizes after exclusions. Sensitivity analyses were based on two-tailed regression analyses, conducted in G*power (Faul et al., 2007). Parenthood was not assessed in Studies 1–4. See supplement for further detail of study methods.

[a]We are unable to report the exact participant age, gender, and country of residence in Studies 1 and 2. Both data sets were part of larger studies (where participants in other between-subjects conditions evaluated other child age groups) for which we retained aggregated demographic information but not the demographic data per participant. The demographics reported here are the expected equivalent data, assuming that the random assignment to between-subject groups spread the demographics evenly across conditions. [b] In Study 2, 138 participants (89%) were recruited via MTurk. The remaining participants were recruited via the Social Psychology Network and Online Psychology Research.

each factor, we added two similarly phrased items (e.g., I try to engage with teenagers) that were conceptually as close as possible to existing items. We also introduced four reverse-phrased items, two using direct negation (e.g., I *don't* try to understand teenagers) and two using antonyms (e.g., I am *uninterested* in teenagers) of existing items (see Supplemental Table S9). We sequentially removed items based on: (a) loading below .50 on their respective factor, (b) cross-loading higher than .30, and (c) substantially lower loading on the respective factor than other items. We sought to retain at least four items per factor and a balanced mix of positive and negative items. We retained six openness intention items, four negative belief items, and four positive emotion items.[4] We conducted a CFA that partialed out shared variance among items due to common response tendencies (Welkenhuysen-Gybels et al., 2003). The chi-square test was significant, $\chi^2(73) = 107.77$, $p = .005$, indicating some deviation from perfect model fit. However, because the chi-square test is highly sensitive to sample size, it has been recommended to give greater weight to goodness-of-fit indices in interpretations (Hu & Bentler, 1999; Schermelleh-Engel et al., 2003). These indices met the criteria for good model fit: CFI = .983; RMSEA = .045 (90% CI = [.025, .062]); SRMR = .036. Moreover, all items loaded strongly onto their respective latent factor (βs $\geqslant .72$, $p < .001$; see Table 2; see Supplemental Table S10 for EFA loadings). The CFA hence supports the scale's three-factor structure. We refer to this scale as the *ATT* scale. Study 4 additionally included a first test of the ATT scale's associations with target variables, which we describe in the following section.

## Aim 2: Understanding the Content of Attitudes Toward Teenagers

Four studies (Studies 4–7) addressed our second aim: understanding the nature and implications of openness intentions, negative beliefs, and positive emotions in adults' attitudes toward teenagers. These studies were guided by one overarching question: Do the three factors relate to distinct motivations and teenager-relevant outcomes that have real-life implications for teenagers' well-being? Below, we first describe Study 5, which examined broad

**Table 2.** *CFA Factor Loadings, Reliabilities, and Descriptive Statistics of the Attitudes Toward Teenagers Scale*

| Factors and Items | *M* | *SD* | Range | Composite reliability[a] | Factor loadings |
|---|---|---|---|---|---|
| Openness intentions | 1.08 | 1.17 | −3 to + 3 | .90 | |
| I try to understand teenagers | | | | | .79 |
| I am encouraging toward teenagers | | | | | .78 |
| I try to engage with teenagers | | | | | .86 |
| *I am uninterested in teenagers* | | | | | -.74 |
| *I don't try to understand teenagers* | | | | | -.75 |
| *I am not willing to interact with teenagers* | | | | | -.80 |
| Negative beliefs | 0.24 | 1.11 | −3 to + 3 | .84 | |
| Teenagers show a lack of respect | | | | | .76 |
| Teenagers are selfish | | | | | .74 |
| *Teenagers are respectful* | | | | | -.83 |
| *Teenagers are not self-centered* | | | | | -.72 |
| Positive emotions | 0.31 | 1.09 | 3 to + 2.75 | .87 | |
| Teenagers make me feel positive | | | | | .85 |
| Teenagers make me feel optimistic | | | | | .81 |
| *Teenagers don't make me feel hopeful* | | | | | -.77 |
| *Teenagers don't make me feel happy* | | | | | -.79 |

*Note*. All items are assessed on a 7-point scale from −3 (*strongly disagree*) to + 3 (*strongly agree*). Italic items are reverse-scored. CFA = Confirmatory Factor Analysis.

[a]Based on Raykov's (1997) formula calculated using the Colwell (2016) composite reliability calculator.

motivations that previous work has linked to prejudice. We then turn to the teenager-relevant outcomes assessed across Studies 4–7.

Study 5 measured personal values, defined as life-guiding principles that are commonly organized along two dimensions (Schwartz, 1992). *Self-transcendence* values promote the welfare of others (e.g., equality) and contrast with *self-enhancement* values, which protect the self (e.g., power). *Openness* values promote intellectual and emotional interests (e.g., curiosity) and contrast with *conservation* values, which protect the status quo (e.g., security). Study 5 also included measures of empathic concern (Davis, 1983), political orientation, social dominance orientation (SDO; Pratto et al., 1994), which captures a preference that some societal groups should dominate others, and right-wing authoritarianism (RWA; Altemeyer, 1981), which reflects an adherence to social order and punishment for transgressions. Past work has found that individuals express more prejudice when they endorse conservation values more (e.g., Davidov et al., 2008; Vecchione et al., 2012), show higher SDO and RWA (Duckitt & Sibley, 2010; Sibley & Duckitt, 2008), and have a more conservative political orientation (Webster et al., 2014). We expected that these individual differences will similarly relate to more negative attitudes toward teenagers. The negative beliefs factor may capture this conservative orientation, because items such as "Teenagers are selfish/disrespectful" may reflect concerns about norm-defiance among individuals seeking to uphold the status quo.

Conversely, past work has shown that prejudice is lower when individuals value self-transcendence more (e.g., Davidov et al., 2008; Vecchione et al., 2012; Wolf et al., 2019) and show greater empathic concern (Levin et al., 2016). We expected that these individual differences will predict more positive attitudes toward teenagers. The openness intentions factor may relate most strongly to this concern for others' welfare, because items such as "I try to understand/interact with teenagers" reflect a desire to empathize with them. We further included indicators of adults' optimism and general well-being (e.g., life satisfaction, anxiety, depression), which we expected to uniquely relate to the positive emotions factor, given its affective component.

We also assessed a range of teenager-relevant outcomes. Study 4 examined adults' overall favorability toward teenagers, contrasted with favorability toward adults, to test whether the ATT scale is distinctly relevant to evaluating teenagers. Study 4 additionally measured perceptions of teenagers' warmth, competence, and innocence (Wolf et al., 2024). Studies 5–7 assessed adults' quantity of contact with teenagers, and Study 5 examined adults' perceived quality of contact (Voci & Hewstone, 2003). Study 5 further assessed real donations to a charity benefiting young people, support for granting 16- to17-year-olds voting rights, and liking of Greta Thunberg (a then-teenaged environmental activist). Studies 6 and 7 focused on a context where decisions regarding teenagers are particularly consequential—judgments about teenaged crime suspects. These studies presented fictitious police reports of teenaged suspects and examined adults' evaluations of the suspects and their recommended sentencing. Studies 4–7 further assessed participant age, gender, and parenthood to

explore how attitudes toward teenagers vary across these characteristics.

Given the behavioral components of the openness intentions factors (e.g., "I try," "I am not willing"), we expected it to predict having more contact with teenagers and donating to a charity benefiting young people. The negative beliefs factor may be primarily concerned with teenagers defying societal norms (e.g., "Teenagers show a lack of respect") and hence may predict lower liking of Greta Thunberg and harsher evaluations and sentencing of teenage suspects. Finally, the positive emotions factor might predict greater support for granting voting rights to teenagers due to the forward-looking and optimistic connotation of its items (e.g., "Teenagers make me feel optimistic").

## Method

*Participants.* Across Studies 4–7, 1,949 adult participants took part (see Table 1 for sample characteristics). See Supplements B and C for additional information on samples, procedure, materials, and results.

## Study 4 Materials

*ATT.* The ATT scale measured openness intentions, negative beliefs, and positive emotions (see Table 2 for reliabilities).

*Overall Favorability.* Participants completed the evaluation thermometer for teenagers and adults, providing a number between 0° (*extremely unfavorable*) and 100° (*extremely favorable*) to evaluate each group (Haddock & Zanna, 1999).

*Stereotype Content.* We assessed perceived warmth (e.g., affectionate; six items; $\alpha = .74$) and competence (e.g., skillful; eight items; $\alpha = .69$) of teenagers. Participants rated the extent to which each attribute was characteristic of teenagers (1 = *very uncharacteristic;* 7 = *very characteristic)*. Five items measured perceived innocence of teenagers (1 = *not at all;* 7 = *very much*; $\alpha = .69$; Supplement C) (Wolf et al., 2024).

## Study 5 Materials

*ATT.* The ATT scale measured openness intentions ($\alpha = .92$), negative beliefs ($\alpha = .83$), and positive emotions ($\alpha = .91$).

*Personal Values.* Values were measured using a 21-item version of the Schwartz Value Survey (Schwartz, 1992). Participants indicated value importance on a 7-point scale (−1 = *opposed to my views*, 5 = *most important*). Participants responded to five self-transcendence values ($\alpha = .73$), four self-enhancement values ($\alpha = .75$), six openness values ($\alpha = .84$), and six conservation values ($\alpha = .83$) (Wolf & Hanel, 2024).

*Empathic Concern.* Participants completed the empathic concern subscale of the interpersonal reactivity index. The scale includes 14 items (e.g., "I am often quite touched by things that I see happen") assessed on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*, $\alpha = .92$) (Davis, 1983).

*SDO.* We used the $SDO_5$ measure. Participants responded to 14 statements (e.g., "Some groups of people are simply inferior to other groups") using a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*). A single-factor structure best suited our data ($\alpha = .93$), consistent with recent work (Berry, 2023; Pratto et al., 1994).

*RWA.* RWA was measured using the Very Short Authoritarianism scale. Participants indicated their agreement with six statements (e.g., "Our society does NOT need tougher government and stricter laws") on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*; $\alpha = .80$) (Bizumic & Duckitt, 2018).

*Optimism.* Optimism was measured using the Brief Interactive Optimism Scale-G scale. Participants indicated their agreement with four statements (e.g., "Life is beautiful") on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*; $\alpha = .76$) (Garcia-Cadena et al., 2021).

*Anxiety and Depression.* Participants completed the 4-item Patient Health Questionnaire. Two items measured depression ($r = .77$), and two items measured anxiety ($r = .80$). Participants indicated on a 5-point scale (1 = *never*, 5 = *always*) how often they felt this way over the last 2 weeks (Kroenke et al., 2009).

*Life Satisfaction.* Participants answered a single item "All things considered, how happy are you with your life at the moment?" on a 7-point scale (1 = *not at all*, 7 = *very much*).

*Greta Thunberg.* Participants indicated how much they like "Greta Thunberg, the teenage environmental activist" on a 5-point scale (1 = *not at all*, 5 = *very much*).

*Support for Voting Rights.* Participants indicated their support for granting voting rights to young people in local and national elections, using a 7-point scale (1 = *strongly oppose*, 7 = *strongly support*).

*Donations.* Participants gave real donations to Young Minds, a charity benefiting young people. Participants were offered a £1 pound bonus to allocate freely between themselves and the charity. Responses ranged between 0 (*Keep £1*) and 100 (*Donate £1*).

*Quantity and Quality of Contact.* For quantity of contact, participants indicated how much time they spend with teenagers (1 = *no time at all*, 5 = *a lot of time*) and how often they interact with them (1 = *never*, 5 = *very often; r* = .91). For quality of contact, participants indicated how pleasant, cooperative, and superficial (reverse-scored) their contact with teenagers is on a 5-point scale (1 = *not at all*, 5 = *extremely*; α = .93) (Voci & Hewstone, 2003).

*Political Orientation.* Participants indicated their political orientation on an 11-point scale (0 = *left*, 5 = *center*, 10 = *right*).

## Study 6 Materials

*ATT.* The ATT scale measured openness intentions (α = .90), negative beliefs (α = .80), and positive emotions (α = .87).

*Police Reports.* Participants read two fictitious police reports that described 14-year-old teenagers (Supplement C). The reports described either two teenage boys or teenage girls, who were either of White British or Nigerian ethnicity. The first report described a minor offense (e.g., car keying), and the second a major offense (e.g., arson; reports adapted from Goff et al., 2014). Suspects were described as having no prior record, and the cause of the crime was ambiguous to allow for greater variance in responses.

*Suspect Evaluation.* Eighteen items assessed overall evaluations of the suspect, covering perceptions of the suspect's guilt, perceived threat, and trust (see Supplement C). An EFA across both reports favored a single-factor solution reflecting overall positivity toward teenage suspects (α = .96). Moderation analyses showed no interactions between the ATT factors and target gender or ethnicity on suspect evaluation.

*Sentence.* Participants were asked to imagine themselves as a jury member. Participants chose among four outcomes: (a) consider the suspect innocent and let them go; (b) give warning and add allegation to suspect's record; (c) convict on minor charges with community service; and (d) convict on major charges with custodial sentence. We averaged across minor and major offenses ($r$ = .49). Moderation analyses showed no interactions between the ATT factors and target gender or ethnicity on suspect sentencing.

*Quantity of Contact.* Quantity of contact was measured as in Study 5 ($r$ = .94).

## Study 7 Materials

*ATT.* The ATT scale measured openness intentions (α = .92), negative beliefs (α = .83), and positive emotions (α = .91).

*Police Reports.* Two fictitious police reports described 18-year-old teenagers. Apart from this change, the reports were the same as in Study 6.

*Suspect Evaluation and Sentencing.* Suspect evaluation and sentencing were measured as in Study 6. An EFA again favored a single-factor solution for suspect evaluation (α = .96). For sentencing, we again averaged across minor and major offenses ($r$ = .53). Moderation analyses showed no interactions between the ATT factors and target gender or ethnicity on suspect evaluation and sentencing.

*Quantity of Contact.* Quantity of contact was measured as in Study 5 ($r$ = .97).

## Results and Discussion

*Relations Among ATT Factors.* Across Studies 4–7, the ATT factors were highly correlated but not redundant (see Supplemental Table S12 for correlations). Openness intentions correlated with negative beliefs ($r$s from −.41 to −.53) and positive emotions ($r$s from .67 to .76). Negative beliefs correlated with positive emotions ($r$s from -.62 to -.71, all $p$s < .001). These correlations reflect moderate overlap ranging between 17% and 58%, suggesting room for each factor's unique patterns of associations with target variables.

*ATT Factors and Demographic Characteristics.* As shown in Table 3, women reported higher openness intentions, more positive emotions, and less negative beliefs regarding teenagers. Parents and older individuals reported higher openness intentions and more positive emotions toward teenagers, but neither parenthood nor age was linked with differences in negative beliefs.

*Associations Between ATT Factors and Target Variables.* Tables 4 to 6 show the relations between the ATT factors and target variables in simultaneous regression analyses, with zero-order correlations in Table 7. Our interpretation focuses on significant regression coefficients where the respective zero-order correlation was significant and pointed in the same direction. We first discuss how the ATT factors relate to favorability of teenagers and adults before turning to each ATT factor's associations with the target variables.

**Table 3.** *Associations Between Demographic Variables and ATT Factors in Studies 4–7*

| | Gender | | | Being a parent | | | Age | |
|---|---|---|---|---|---|---|---|---|
| ATT Factors | $M_{women}$ (*SD*) | $M_{men}$ (*SD*) | *p* | $M_{Yes}$ (*SD*) | $M_{No}$ (*SD*) | *p* | *r* | *p* |
| ***Study 4*** | | | | | | | | |
| Openness Intentions | 4.80 (1.07) | 4.47 (1.01) | .033 | - | - | - | .25 | <.001 |
| Negative Beliefs | 4.20 (1.12) | 4.37 (1.08) | 284 | - | - | - | .05 | .475 |
| Positive Emotions | 4.36 (1.12) | 4.17 (.99) | .202 | - | - | - | .21 | .001 |
| ***Study 5*** | | | | | | | | |
| Openness Intentions | 5.14 (1.26) | 4.38 (1.38) | <.001 | 5.17 (1.29) | 4.34 (1.33) | <.001 | .09 | .008 |
| Negative Beliefs | 3.90 (1.03) | 4.21 (1.07) | <.001 | 4.08 (1.05) | 4.04 (1.08) | 617 | .06 | .074 |
| Positive Emotions | 4.43 (1.18) | 3.93 (1.16) | <.001 | 4.38 (1.21) | 3.97 (1.15) | <.001 | .07 | .036 |
| ***Study 6*** | | | | | | | | |
| Openness Intentions | 4.84 (1.24) | 4.45 (1.18) | <.001 | 5.03 (1.16) | 4.31 (1.19) | <.001 | .18 | <.001 |
| Negative Beliefs | 4.16 (.99) | 4.37 (.97) | .012 | 4.16 (.95) | 4.32 (1.04) | .071 | .05 | .318 |
| Positive Emotions | 4.35 (1.16) | 4.14 (1.08) | .045 | 4.46 (1.10) | 4.07 (1.13) | <.001 | .12 | .007 |
| ***Study 7*** | | | | | | | | |
| Openness Intentions | 4.92 (1.13) | 4.44 (1.26) | <.001 | 5.01 (1.09) | 4.25 (1.24) | <.001 | .23 | <.001 |
| Negative Beliefs | 4.06 (.95) | 4.35 (1.09) | .008 | 4.06 (1.03) | 4.40 (.99) | .002 | .01 | .857 |
| Positive Emotions | 4.35 (1.10) | 4.09 (1.16) | .005 | 4.44 (1.12) | 3.83 (1.08) | <.001 | 14 | .008 |
| ***Analysis across Studies 4–7*** | | | | | | | | |
| | $M_{women}$ (*SD*) | $M_{men}$ (*SD*) | *p*(*d*) | $M_{Yes}$(*SD*) | $M_{No}$(*SD*) | *p*(*d*) | *r* | |
| *N* = | 1057 | 918 | | 852 | 880 | | 1986 | |
| Openness Intentions | 4.99 (1.22) | 4.40 (1.26) | <.001 (.48) | 5.11 (1.22) | 4.34 (1.25) | <.001 (.63) | .17 | <.001 |
| Negative Beliefs | 4.03 (1.05) | 4.29 (1.06) | <.001 (-.25) | 4.10 (1.04) | 4.17 (1.07) | .139 (-.07) | .02 | .425 |
| Positive Emotions | 4.41 (1.18) | 3.98 (1.13) | <.001 (.37) | 4.42 (1.18) | 3.99 (1.15) | <.001 (.37) | .13 | <.001 |

*Note.* *d* = Cohen's *d*. Parenthood was not assessed in Study 4.

**Table 4.** *ATT Relations With Teenager Versus Adult Favorability in Study 4*

| | Teenager favorability | | Adult favorability | | β Comparison | |
|---|---|---|---|---|---|---|
| ATT Factors | β [95% CI] | *p* | β [95% CI] | *p* | *z* | *p* |
| Openness Intentions | .75 [.64, .85] | <.001 | -.06 [-.17, .04] | 221 | 10.69 | <.001 |
| Negative Beliefs | -.62 [-.74, -.50] | <.001 | .12 [.00, .24] | .058 | -8.55 | <.001 |
| Positive Emotions | .72 [.61, .83] | <.001 | -.09 [-.19, .02] | .108 | 10.44 | <.001 |

*Note.* Regressions regressed each ATT factor separately onto teenager and adult favorability as simultaneous predictors.

*ATT Factors and Favorability.* Each of the three factors explained a unique part of overall favorability toward teenagers, but not adults (Table 4). The regression weights were significantly higher for teenager favorability compared to adult favorability, indicating the factors are distinctly relevant to perceptions of teenagers.

*Openness Intentions.* Openness intentions regarding teenagers are uniquely related to openness values (e.g., curiosity). As expected, openness intentions are also linked to greater empathic concern and self-transcendence values (e.g., equality). Consistent with this focus, openness intentions uniquely and strongly predicted teenagers' perceived innocence. Openness intentions were also strong predictors of quantity and quality of contact with teenagers and predicted more donations to a charity benefiting young people. Finally, openness intentions appear to be more relevant to group (i.e., favorability, innocence) rather than individual-level evaluations (e.g., Greta Thunberg, individual teenage suspect) (see Table 5).

*Negative Beliefs.* Adults who reported more negative beliefs regarding teenagers endorsed self-enhancement values (e.g., achievement) and conservation values (e.g., security) more. As expected, this orientation was also evident in links with higher SDO, RWA, and a more conservative political orientation. These associations suggest that negative beliefs toward teenagers reflect a perception of them as

**Table 5.** *ATT Predicting Teenager-Relevant Outcomes in Studies 4–7*

| | Openness intentions | | Negative beliefs | | Positive emotions | |
|---|---|---|---|---|---|---|
| Outcomes | β [95%CI] | *p* | β [95%CI] | *p* | β [95%CI] | *p* |
| **Study 4** | | | | | | |
| Teenager innocence | .42 [.27, .58] | <.001 | .04 [-.10, .19] | .548 | .11 [-.07, .29] | .233 |
| Teenager warmth | .24 [.09, .38] | .001 | -.27 [-.41, -.14] | <.001 | .19 [.02, .35] | .028 |
| Teenager competence | .15 [-.01, .30] | .060 | -.34 [-.48, -.20] | <.001 | .13 [-.05, .30] | .156 |
| Teenager favorability | .48 [.36, .59] | <.001 | -.22 [-.32, -.11] | <.001 | .21 [.08, .34] | .002 |
| **Study 5** | | | | | | |
| Quality of contact | .32 [.25, .38] | <.001 | -.24 [-.30, -.18] | <.001 | .25 [.17, .33] | <.001 |
| Donation behavior | .15 [.06, .24] | <.001 | -.02 [-.10, .06] | .597 | .09 [-.01, .19] | .086 |
| Voting rights | -.07 [-.15, .02] | .115 | -.25 [-.33, -.17] | <.001 | .15 [.05, .25] | .003 |
| Liking Greta Thunberg | -.04 [-.13, .05] | .338 | -.16 [-.24, -.08] | <.001 | .22 [.11, .32] | <.001 |
| **Studies 6–7** | | | | | | |
| Suspect evaluation | -.05 [-.15, .05] | .305 | -.12 [-.21, -.03] | .010 | .26 [.14, .37] | <.001 |
| Sentencing | .04 [-.06, .14] | .383 | .12 [.03, .15] | .009 | -.16 [-.27, -.04] | .009 |
| **Studies 5–7** | | | | | | |
| Quantity of contact | .53 [.47, .59] | <.001 | .06 [.00, .11] | .035 | .03 [-.04, .09] | .435 |

*Note*. Regressions included all three ATT factors as simultaneous predictors.

**Table 6.** *ATT Predicting Individual Differences in Study 5*

| | Openness intentions | | Negative beliefs | | Positive emotions | |
|---|---|---|---|---|---|---|
| Outcomes | β [95%CI] | *p* | β [95%CI] | *p* | β [95%CI] | *p* |
| Values—Self-transcendence | .26 [.18, .34] | <.001 | .00[-.08, .08] | .926 | .15 [.05, .25] | .003 |
| Values—Self-enhancement | .16 [.07, .25] | <.001 | .14 [.06, .22] | .001 | -.04[-.14, .07] | .462 |
| Values—Openness | .12 [.03, .21] | .008 | .06[-.03, .14] | .202 | .06 [-.04, .17] | .229 |
| Values—Conservation | .29 [.21, .38] | <.001 | .28 [.20, .36] | <.001 | .03 [-.07, .13] | .612 |
| Empathic concern | .35 [.27, .43] | <.001 | .02[-.06, .09] | .689 | .10 [.01, .20] | .032 |
| Optimism | .11 [.02, .19] | .014 | -.01[-.09,.07] | .807 | .26 [.16, .36] | <.001 |
| Life satisfaction | .13 [.04, .21] | .005 | .10 [.01, .18] | .022 | .18 [.08, .28] | <.001 |
| Anxiety | .06[-.03, .15] | .225 | -.06[-.14,.02] | .164 | -.17[-.28,.07] | .001 |
| Depression | -.03[-.09,.04] | .572 | .08 [.16,.001] | .048 | -.18[-.24, .06] | <.001 |
| SDO | -.03[-.11, .06] | .561 | .17 [.09, .25] | <.001 | -.15[-.25,-.05] | .003 |
| RWA | .19 [.10, .27] | <.001 | .31 [.23, .39] | <.001 | -.10 [-.20, .00] | .045 |
| Political orientation (left-right) | .10 [.01, .18] | .032 | .23 [.14, .31] | <.001 | -.10 [-.20, .00] | .058 |

*Note*. SDO = Social Dominance Orientation; RWA = Right-Wing Authoritarianism. Regressions included all three ATT factors as simultaneous predictors.

a threat to the self and society, and that this threat should be contained by keeping teenagers in a low-power position and exacting punishment for transgressions. Consistent with this reasoning, adults who indicated more negative beliefs perceived teenagers to be less competent, opposed granting voting rights to 16- to 17-year-olds, evaluated teenagers who transgress society's norms and rules more negatively (i.e., teenage suspects, Greta Thunberg), and supported harsher sentences for them (cf. Bolin et al., 2021; Garland et al., 2012).

*Positive Emotions.* Individuals reporting more positive emotions toward teenagers expressed higher optimism, higher life satisfaction, and lower anxiety and depression. Positive emotions are also related to more egalitarian preferences (lower SDO, lower RWA, higher self-transcendence values) and more lenient evaluations and decisions regarding norm-violating teenagers (i.e., Greta Thunberg, teenage crime suspects), in line with the generally positive and forward-looking aspect of this factor (see Table 6).

## Aim 3: Examining the Cross-Cultural Validity of the ATT Scale

Study 8 examined the cross-cultural validity of the ATT factors among 389 U.K. participants, 390 U.S. participants, and 399 South African participants. We tested the

**Table 7.** *Zero-Order Correlations Between ATT and Target Variables in Studies 4–7*

| | Openness intentions | | Negative beliefs | | Positive emotions | |
|---|---|---|---|---|---|---|
| Outcomes | *r* | *p* | *r* | *p* | *r* | *p* |
| **Study 4** | | | | | | |
| Teenager innocence | .48 | <.001 | -.21 | <.001 | .38 | <.001 |
| Teenager warmth | .49 | <.001 | -.50 | <.001 | .53 | <.001 |
| Teenager competence | .38 | <.001 | -.48 | <.001 | .44 | <.001 |
| Teenager favorability | .72 | <.001 | -.56 | <.001 | .68 | <.001 |
| Adult favorability | .32 | <.001 | -.20 | .002 | .28 | <.001 |
| **Study 5** | | | | | | |
| Quality of contact | .59 | <.001 | -.53 | <.001 | .61 | <.001 |
| Donation behavior | .22 | <.001 | -.14 | <.001 | .20 | <.001 |
| Voting rights | .14 | <.001 | -.32 | <.001 | .26 | <.001 |
| Liking Greta Thunberg | .17 | <.001 | -.28 | <.001 | .29 | <.001 |
| Values—Self-transcendence | .36 | <.001 | -.20 | <.001 | .32 | <.001 |
| Values—Self-enhancement | .08 | .023 | .10 | .004 | -.02 | .608 |
| Values—Openness | .14 | <.001 | -.04 | .299 | .11 | <.001 |
| Values—Conservation | .19 | <.001 | .14 | <.001 | .05 | .157 |
| Empathic concern | .41 | <.001 | -.19 | <.001 | .33 | <.001 |
| Optimism | .28 | <.001 | -.21 | <.001 | .33 | <.001 |
| Life satisfaction | .21 | <.001 | -.07 | .050 | .20 | <.001 |
| Anxiety | -.04 | .266 | .03 | .444 | -.10 | .003 |
| Depression | -.11 | <.001 | .04 | .252 | -.15 | <.001 |
| SDO | -.20 | <.001 | .26 | <.001 | -.27 | <.001 |
| RWA | -.01 | .787 | .27 | <.001 | -.17 | <.001 |
| Political orientation (left-right) | -.06 | .059 | .15 | <.001 | -.17 | <.001 |
| **Across Studies 6 and 7** | | | | | | |
| Suspect evaluation | .21 | <.001 | -.27 | <.001 | .30 | <.001 |
| Sentencing | -.14 | <.001 | .21 | <.001 | -.21 | <.001 |
| **Across Studies 5–7** | | | | | | |
| Quantity of contact | .53 | <.001 | -.21 | <.001 | .37 | <.001 |

*Note.* SDO = Social Dominance Orientation; RWA = Right-Wing Authoritarianism.

**Table 8.** *Tests of Measurement Invariance of the ATT Across U.K., U.S., and South African Samples in Study 8*

| Model | CFI | RMSEA [90% CI] | SRMR | Model comparison | ΔCFI | ΔRMSEA | ΔSRMR | Decision |
|---|---|---|---|---|---|---|---|---|
| M1: Configural Invariance | .928 | .088 [.082, .094] | .047 | - | - | - | - | - |
| M2: Metric Invariance | .925 | .085 [.080, .091] | .058 | M1 | .003 | .003 | .011 | Accept |
| M3: Scalar Invariance | .908 | .090 [.085, .096] | .064 | M2 | .017 | .005 | .006 | Mixed |

*Note.* $N$ = 1178; The United Kingdom $n$ = 389, The United States $n$ = 390, South Africa $n$ = 399.

scale's configural (same factor structure), metric (equal factor loadings), and scalar (equal intercepts) invariance across the countries. Invariance was tested with increasing model constraints, where the fit of each model was compared to the previous model. We used the following criteria: $|\Delta CFI| \leqslant .010$ (in each model comparison), $|\Delta RMSEA| \leqslant .015$ or $|\Delta SRMR| \leqslant .030$ (for metric invariance), and $|\Delta RMSEA| \leqslant .015$ or $|\Delta SRMR| \leqslant .015$ (for scalar invariance; Chen, 2007). The ATT scale met the criteria for configural and metric invariance, suggesting that the items contribute to factors in similar ways, thus allowing for similar item aggregation across countries (see Table 8). The criteria for scalar invariance met the criteria for RMSEA and SRMR but not for the CFI index. This suggests that caution should be applied when comparing mean factor scores across countries (see Table 9). In sum, the ATT scale showed cross-cultural validity across the United Kingdom, the United States, and South Africa in structure, but mean comparisons should be interpreted with caution. Correlations among ATT factors by country are shown in Supplemental Table S13.

## General Discussion

Research has largely failed to study teenagers as a distinct social category, despite the enormous impacts that adults

**Table 9.** *Means and Standard Deviations on the ATT Factors for the U.K., U.S., and South African Samples in Study 8*

| | Openness intentions | | Negative beliefs | | Positive emotions | |
|---|---|---|---|---|---|---|
| Country | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| The United Kingdom | 4.69 | 1.20 | 4.18 | 1.09 | 4.18 | 1.22 |
| The United States | 4.46 | 1.30 | 4.40 | 1.12 | 4.07 | 1.32 |
| South Africa | 5.35 | 1.25 | 4.32 | 1.02 | 4.60 | 1.21 |

*Note.* Possible scores range from 1 to 7, with higher scores indicating higher openness intentions, negative beliefs, and positive emotions, respectively.

have on teenagers' lives and cross-cultural evidence that teenagers report experiencing age-based negativity (Bratt et al., 2018). The present research addressed this gap by examining the content of adults' attitudes toward teenagers—how adults think, feel, and behave toward them—and the consequences of this content for teenager-relevant outcomes.

Adult participants first described their emotions, beliefs, and behaviors regarding teenagers. We found robust, cross-cultural evidence that this attitude content splits into three factors—openness intentions, negative beliefs, and positive emotions—which can be reliably assessed with the ATT scale. While the negative beliefs factor broadly overlaps with past work describing stereotypic beliefs of teenagers as impulsive and rebellious (Chan et al., 2012), the openness intentions and positive emotions factors provide fundamentally novel insights into adults' attitudes toward teenagers.

The distinction among the factors is important because our findings show that each factor subsumes different underpinning motivations and predicts distinct outcomes. Openness intentions capture broad empathic orientations and predict positive behaviors toward teenagers that impact teenagers' well-being (e.g., donations, contact). Negative beliefs are underpinned by self-oriented and conservative motivations and predict greater support for measures to control and punish teenagers (e.g., opposing voting rights for 16-17 year olds). Positive emotions show a partly opposed pattern to negative beliefs, with more egalitarian motivations and more forgiving evaluations and decisions regarding norm-defying teenagers (e.g., sentencing of teenage suspects), but this factor also relates to higher personal well-being and hope about the future. All three factors uniquely predicted overall favorability toward teenagers but not toward adults. Overall, the three factors are distinct and predict outcomes that have significant impacts on teenagers' lives.

The present research derived the attitude content from adults' salient descriptions of teenagers in a bottom-up process, rather than using content imposed by the researchers. The presented studies also used large, heterogeneous samples across age groups (i.e., ages ranged from 18 to 89 years), gender, and parenthood, and we found that the factor structure replicated across the United Kingdom, the United States, and South Africa. We further found that participant age, gender, and parenthood did not systematically moderate the associations between attitude content and other relevant variables, suggesting that the obtained associations with underpinning motivations and teenager-relevant outcomes reflect general psychological processes that are relevant across these demographics. We hence expect that the identified content in adults' attitudes toward teenagers is comprehensive, ecologically valid, and broadly applicable across Western, English-speaking countries. While past work suggests high cross-cultural agreement on stereotypic beliefs about teenagers (Chan et al., 2012), future research would benefit from adapting our approach to examine attitude content toward teenagers in non-Western and non-English-speaking countries.

Future research may benefit from testing the malleability of these attitudes (see Maio et al., 2025). For instance, because most associations with the openness intentions factor emerged at the group level, this factor may be more sensitive to perceived aspects of teenagers as a group (e.g., their innocence), whereas the other two factors may respond more to perceived aspects of individual teenagers (e.g., a hope-inspiring or norm-defying teenager). Furthermore, while we found that parents express greater openness intentions and positive emotions regarding teenagers than non-parents, research may consider how parents' attitude content changes over the course of their children's progression into adolescence and adulthood. We would expect the openness intentions factor to increase during their children's teenage years (because they have more opportunity to engage with teenagers), but it is unclear how negative beliefs and positive emotions might change over time. Similarly, research could explore whether different types of jobs (e.g., teachers, youth workers) also relate to different attitude content.

While the present work has focused on the adult perspective to understand attitude content, it is also important to examine teenagers' views of how this attitude content affects them. Future research would benefit from adopting teenagers' perspective to study how their perception of adults' attitude content impacts outcomes such as teenagers' well-being, self-esteem, aspirations, or civic engagement. Such work could provide insights into the extent to which teenagers are aware of and accurately perceive adults' attitude content toward them and teenagers'

accounts of how this attitude content toward them makes them feel. It may be particularly worthwhile to focus on adult–teenager interactions and the extent to which attitude content plays a role in adults' and teenagers' experience and enjoyment of the interaction.

Overall, the present research provides evidence of the importance of distinguishing among openness intentions, negative beliefs, and positive emotions in adults' attitudes toward teenagers. This content showed substantive associations with vital outcomes for teenagers, such as quantity and quality of contact, donations to benefit young people, views on sentencing of teenage suspects, and support for voting rights. This evidence makes an important start in illustrating the significant impacts adults' attitudes may have on teenagers' lives across many contexts (e.g., education, employment, legal systems). It is vital that social psychological research devote greater attention to adults' attitudes toward teenagers as a social category. By shedding light on adults' attitudes toward teenagers and developing a new scale assessing these attitudes, we hope to facilitate a deeper theoretical and practical understanding of the ramifications of these attitudes.

## Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Funding

The authors disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This project was supported by funding from the Economic and Social Research Council (ESRC; ES/P002463/1) and from the British Academy (SRG21_211111).

## ORCID iDs

Lukas J. Wolf https://orcid.org/0000-0002-3948-8846
Colin Foad https://orcid.org/0000-0003-0423-2848
Geoffrey Haddock https://orcid.org/0000-0001-5293-2772

## Supplemental Material

The supplemental material is available in the online version of the article.

## Notes

1. The Study 1 data set is not included in this repository. See Footnote 3.
2. We refer to teenagers rather than adolescents, because participants spontaneously used this term to describe 12- to 18-year-olds.
3. Study 1 was analyzed shortly after data collection in 2012, and the aggregated results were exported, but the raw data were subsequently lost. As a result, participant-level demographic information and individual descriptions of teenagers are unavailable. We were able to estimate demographic information (see Table 1), and we retained the set of 75 items as well as documentation of the analysis approach (see Supplement). The subsequent studies demonstrated that the items exhibit a reliable factor structure across samples and countries, and the resulting factors show strong associations with relevant outcomes. These findings indicate that the item set developed in Study 1 provided a solid foundation for the scale.
4. We retained an additional positive–negative pair on the openness intentions factor (i.e., "I am encouraging toward teenagers," "I am uninterested in teenagers"), because these met the selection criteria and allowed us to capture a broader range of how adults may express openness intentions toward teenagers.

## References

Altemeyer, B. (1981). *Right-wing authoritarianism*. University of Manitoba Press.

Baker, F. B. (2001). *The basics of item response theory*. ERIC. https://eric.ed.gov/?id = ED458219

Berry, C. M. (2023). A critical examination and meta-analysis of the distinction between the dominance and antiegalitarianism facets of social dominance orientation. *Journal of Personality and Social Psychology*, *124*(2), 413–436. https://doi.org/10.1037/pspp0000432

Bizumic, B., & Duckitt, J. (2018). Investigating right-wing authoritarianism with a very short authoritarianism scale. *Journal of Social and Political Psychology*, *6*(1), 129–150. https://doi.org/10.5964/jspp.v6i1.835

Bolin, R. M., Applegate, B. K., & Ouellette, H. M. (2021). Americans' opinions on juvenile justice: Preferred aims, beliefs about juveniles, and blended sentencing. *Crime & Delinquency*, *67*(2), 262–286. https://doi.org/10.1177/0011128719890273

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), 167–180. https://doi.org/10.1037/dev0000398

Buchanan, C. M., & Holmbeck, G. N. (1998). Measuring beliefs about adolescent personality and behavior. *Journal of Youth and Adolescence*, *27*(5), 607–627. https://doi.org/10.1023/A:1022835107795

Chan, W., McCrae, R. R., De Fruyt, F., Jussim, L., Löckenhoff, C. E., De Bolle, M., Costa, P. T. Jr., Sutin, A. R., Realo, A., Allik, J., Nakazato, K., Shimonaka, Y., Hřebíčková, M., Graf, S., Yik, M., Brunner-Sciarra, M., de Figueroa, N., Schmidt, V., Ahn, C., & . . .Terracciano, A. (2012). Stereotypes of age differences in personality traits: Universal and accurate? *Journal of Personality and Social Psychology*, *103*(6), 1050–1066. https://doi.org/10.1037/a0029712

Chen, F. F. (2007). Sensitivity of goodness of fit indexes to lack of measurement invariance. *Structural Equation Modeling: A Multidisciplinary Journal*, *14*(3), 464–504. https://doi.org/10.1080/10705510701301834

Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling: A Multidisciplinary Journal*, *9*(2), 233–255. https://doi.org/10.1207/S15328007SEM0902_5

Colwell, S. R. (2016). The composite reliability calculator user's guide. *Technical Report*. https://www.researchgate.net/profile/

Scott-Colwell/publication/292818085_The_Composite_Reliability_Calculator_User's_Guide/links/56b1771f08ae56d7b06a1360/The-Composite-Reliability-Calculator-Users-Guide.pdf

Costello, A. B., & Osborne, J. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment, Research, and Evaluation*, *10*(7), 1–9. https://doi.org/10.7275/jyj1-4868

Davidov, E., Meuleman, B., Billiet, J., & Schmidt, P. (2008). Values and support for immigration: A cross-country comparison. *European Sociological Review*, *24*(5), 583–599. https://doi.org/10.1093/esr/jcn020

Davis, M. H. (1983). Empathic concern and the muscular dystrophy telethon: Empathy as a multidimensional construct. *Personality and Social Psychology Bulletin*, *9*(2), 223–229. https://doi.org/10.1177/0146167283092005

Dovidio, J. F., Hewstone, M., Glick, P., & Esses, V. M. (2010). Prejudice, stereotyping and discrimination: Theoretical and empirical overview. In J. F. Dovidio, M. Hewstone, P. Glick, & V. M. Esses (Eds.), *Handbook of prejudice, stereotyping, and discrimination* (pp. 3–28). Sage Publications.

Duckitt, J., & Sibley, C. G. (2010). Right–wing authoritarianism and social dominance orientation differentially moderate intergroup effects on prejudice. *European Journal of Personality*, *24*(7), 583–601. https://doi.org/10.1002/per.772

Eagly, A. H., & Chaiken, S. (2007). The advantages of an inclusive definition of attitude. *Social Cognition*, *25*(5), 582–602. https://doi.org/10.1521/soco.2007.25.5.582

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, *39*(2), 175–191. https://doi.org/10.3758/BF03193146

Francioli, S. P., & North, M. S. (2021). Youngism: The content, causes, and consequences of prejudices toward younger adults. *Journal of Experimental Psychology: General*, *150*(12), 2591–2612. https://doi.org/10.1037/xge0001064

Garcia-Cadena, C. H. G., Daniel González, L., & Valle De La, O. A. (2021). A new brief scale to measure optimism. *Psychological Reports*, *124*(1), 5–22. https://doi.org/10.1177/0033294119884059

Garland, B., Melton, M., & Hass, A. (2012). Public opinion on juvenile blended sentencing. *Youth Violence and Juvenile Justice*, *10*(2), 135–154. https://doi.org/10.1177/1541204011418991

Goff, P. A., Jackson, M. C., Di Leone, B. A. L., Culotta, C. M., & DiTomasso, N. A. (2014). The essence of innocence: Consequences of dehumanizing Black children. *Journal of Personality and Social Psychology*, *106*(4), 526–545. http://dx.doi.org/10.1037/a0035663

Gross, E. F., & Hardin, C. D. (2007). Implicit and explicit stereotyping of adolescents. *Social Justice Research*, *20*(2), 140–160. https://doi.org/10.1007/s11211-007-0037-9

Haddock, G., & Maio, G. R. (2019). Inter-individual differences in attitude content: Cognition, affect, and attitudes. In *Advances in Experimental Social Psychology* (*Vol. 59*, pp. 53–102). Elsevier. https://www.sciencedirect.com/science/article/pii/S0065260118300273

Haddock, G., & Zanna, M. P. (1999). Cognition, affect, and the prediction of social attitudes. *European Review of Social Psychology*, *10*(1), 75–99. https://doi.org/10.1080/14792779943000026

Holmbeck, G. N., & Hill, J. P. (1988). Storm and stress beliefs about adolescence: Prevalence, self-reported antecedents, and effects of an undergraduate course. *Journal of Youth and Adolescence*, *17*(4), 285–306. https://doi.org/10.1007/BF01537671

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*(1), 1–55. https://doi.org/10.1080/10705519909540118

Kogan, N. (1961). Attitudes toward old people: The development of a scale and an examination of correlates. *The Journal of Abnormal and Social Psychology*, *62*(1), 44–54. https://doi.org/10.1037/h0048053

Kroenke, K., Spitzer, R. L., Williams, J. B., & Löwe, B. (2009). An ultra-brief screening scale for anxiety and depression: The PHQ–4. *Psychosomatics*, *50*(6), 613–621. https://doi.org/10.1016/S0033-3182(09)70864-3

Levin, M. E., Luoma, J. B., Vilardaga, R., Lillis, J., Nobles, R., & Hayes, S. C. (2016). Examining the role of psychological inflexibility, perspective taking, and empathic concern in generalized prejudice. *Journal of Applied Social Psychology*, *46*(3), 180–191. https://doi.org/10.1111/jasp.12355

MacCallum, R. C., Widaman, K. F., Zhang, S., & Hong, S. (1999). Sample size in factor analysis. *Psychological Methods*, *4*(1), 84–99. https://doi.org/10.1037/1082-989X.4.1.84

Maio, G. R., Verplanken, B., & Haddock, G. (2025). *The psychology of attitudes and attitude change* (4th ed.). Sage. https://www.torrossa.com/gs/resourceProxy?an=5018714&publisher=FZ7200

Nelson, T. D. (2005). Ageism: Prejudice against our feared future self. *Journal of Social Issues*, *61*(2), 207–221. https://doi.org/10.1111/j.1540-4560.2005.00402.x

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), 993–1021. https://doi.org/10.1037/a0039469

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), 741–763. https://doi.org/10.1037/0022-3514.67.4.741

Raykov, T. (1997). Estimation of composite reliability for congeneric measures. *Applied Psychological Measurement*, *21*(2), 173–184. https://doi.org/10.1177/01466216970212006

Richeson, J. A., & Shelton, J. N. (2007). Negotiating interracial interactions: Costs, consequences, and possibilities. *Current Directions in Psychological Science*, *16*(6), 316–320. https://doi.org/10.1111/j.1467-8721.2007.00528.x

Samejima, F. (2016). Graded response models. In *Handbook of item response theory* (pp. 95–107). Chapman and Hall/CRC. https://www.taylorfrancis.com/chapters/edit/10.1201/9781315374512-8/graded-response-models-fumiko-samejima

Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. *Methods of Psychological Research Online*, *8*(2), 23–74. https://doi.org/10.1037/e520772013-001

Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. In *Advances in experimental social psychology* (*Vol. 25*, pp. 1–65). Elsevier.

Sibley, C. G., & Duckitt, J. (2008). Personality and prejudice: A meta-analysis and theoretical review. *Personality and Social*

*Psychology Review*, *12*(3), 248–279. https://doi.org/10.1177/1088868308319226

Vecchione, M., Caprara, G., Schoen, H., Castro, J. L. G., & Schwartz, S. H. (2012). The role of personal values and basic traits in perceptions of the consequences of immigration: A three nation study. *British Journal of Psychology*, *103*(3), 359–377. https://doi.org/10.1111/j.2044-8295.2011.02079.x

Voci, A., & Hewstone, M. (2003). Intergroup contact and prejudice toward immigrants in Italy: The mediational role of anxiety and the moderational role of group salience. *Group Processes & Intergroup Relations*, *6*(1), 37–54. https://doi.org/10.1177/1368430203006001011

Webster, R. J., Burns, M. D., Pickering, M., & Saucier, D. A. (2014). The suppression and justification of prejudice as a function of political orientation. *European Journal of Personality*, *28*(1), 44–59. https://doi.org/10.1002/per.1896

Welkenhuysen-Gybels, J., Billiet, J., & Cambré, B. (2003). Adjustment for acquiescence in the assessment of the construct equivalence of Likert-type score items. *Journal of Cross-cultural Psychology*, *34*(6), 702–722. https://doi.org/10.1177/0022022103257070

Wolf, L. J., Costin, V., Iosifyan, M., Thorne, S. R., Nolan, A., Foad, C., Webb, E., Karremans, J., Haddock, G., & Maio, G. R. (2024). Attitudes toward children: Distinguishing affection and stress. *Journal of Personality*, *92*(2), 601–619. https://doi.org/10.1111/jopy.12854

Wolf, L. J., & Hanel, P. H. P. (2024). Correcting misperceptions of fundamental differences between U.S. Republicans and Democrats: Some hope-inspiring effects. *Social Psychological and Personality Science*, *15*(8), 895–907. https://doi.org/10.1177/19485506241263887

Wolf, L. J., Weinstein, N., & Maio, G. R. (2019). Anti-immigrant prejudice: Understanding the roles of (perceived) values and value dissimilarity. *Journal of Personality and Social Psychology*, *117*(5), 925–953. https://doi.org/10.1037/pspi0000177

Zanna, M. P., & Rempel, J. K. (1988). Attitudes: A new look at an old concept. In D. Bar-Tal & A. W. Kruglanski (Eds.), *The social psychology of knowledge* (pp. 315–334). Cambridge University Press.

## Author Biography

**Lukas J. Wolf** is a senior lecturer/associate professor at the University of Bath, with expertise in intergroup perceptions, human values, and attitudes. His current work focuses on misperceptions about groups, and how correcting them can improve societal polarisation, prejudice, environmental action, and well-being.

**Vlad Costin** is a lecturer/assistant professor at the University of Sussex, with expertise in subjective well-being, existential psychology, and scale development. His current work focuses on testing how concern for future generations predicts sense of meaning in life, proenvironmental behaviours and support for future-oriented policies.

**Marina Iosifian** is a senior research associate at the University of St Andrews, with expertise in aesthetic cognition, social perception, and values. Her current work focuses on the role of abstraction in cognition, particularly how shifting between abstract and concrete representations influences idea generation and problem solving.

**Alexander Nolan** is a Senior Research Officer (SRO) at Office for National Statistics in the UK, with expertise in attitudes and assessment. His current work focuses on user-centred approaches to measurement design.

**Elizah-Marie Hurst** completed her BSc Psychology at Cardiff University in 2023. This included a professional placement year spent at the University of Bath under the supervision of Lukas J. Wolf and Gregory Maio. Following this, Elizah worked as a Science Associate Assistant for Guide Dogs, and is now in the first year of a Graduate-Entry Medicine (MBChB) course at the University of Warwick.

**Sara Ascensão** completed her BSc Psychology at the University of Essex in 2023. This included a professional placement year spent at the University of Bath under the supervision of Lukas J. Wolf and Gregory Maio. Following this, Sara completed an MRes Cognitive Neuroscience and Neuropsychology at the University of Manchester, and she is currently working as a Trainee Psychological Wellbeing Practitioner at Oxford Health NHS Foundation Trust.

**Colin Foad** is currently an honorary research associate at Cardiff University, with expertise in values, attitudes, hypocrisy and ambivalence. His current work seeks to understand how greater transparency, honesty, and humility with regards to ambivalence can aid individuals, institutions, and society at large.

**Geoffrey Haddock** is a Professor of Social Psychology at Cardiff University, with expertise in the psychology of attitudes. His current work focuses on affective and cognitive processes in attitudes, the effects of category salience on attitudes and behaviour, attitude ambivalence, and how people mentally represent attitude objects.

**Gregory R. Maio** is a Professor at the University of Bath, with expertise in attitudes, values, social cognition, and individual differences. His current work focuses on the social cognitive underpinnings of values and attitudes, especially as these pertain to intellectual humility in debate.

Handling Editor: Unkelbach, Christian