How do Adults Think, Feel, and Behave Towards Teenagers? Measuring and Understanding

Adults' Attitudes Towards Teenagers

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Abstract

Despite the pervasiveness of adult-teenager relations, research has largely neglected adults' attitudes towards teenagers. Eight studies (*N*=3,517) examined the content of adults' attitudes towards 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 benefitting 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, United States, and South Africa. Together, the findings offer fundamental new insights about adults' attitudes towards 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 behaviours towards 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 towards 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 longstanding emphasis in psychology on understanding attitudes towards low-power social groups (e.g., ethnic and religious minorities, non-hetero sexuality). 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 criticised 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 towards 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, making it vital to better understand how adults' attitudes towards teenagers influence adults' treatment of them.

Existing research on attitudes towards teenagers has concentrated on beliefs about them (e.g., Buchanan & Holmbeck, 1998) or about adult-teenager conflict (e.g., Holmbeck & Hill, 1988), with common characterisations 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 towards teenagers have been overlooked. As with attitudes in general (Eagly & Chaiken, 2007), attitudes towards 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 behavioural experiences and intentions regarding the group (e.g., Haddock & Maio, 2019; Zanna & Rempel, 1988). As such, a more complete understanding of adults' attitudes towards teenagers requires examining a broader spectrum of relevant beliefs, emotions, and behavioural experiences.

The present research has three aims. First, we seek to identify the content of adults' attitudes towards teenagers by assessing adults' spontaneous descriptions of them. Using these descriptions, we develop a scale that comprehensively assesses this attitude content, the Attitudes Towards Teenagers (ATT) scale. 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 benefitting young people, sentencing decisions for teenaged crime suspects). Third, we test the cross-cultural validity of the scale by assessing measurement invariance across the UK, US, 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 [masked] psychology research ethics committee. The data (including explanations and syntax) and study materials are openly available under https://osf.io/8wynk/?view_only=cd3788d3dd3e4674a1afb9d6be4bf8c9.[1] The study designs and analyses were not pre-registered. Table 1 shows the sample characteristics of all eight studies.

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[1] The Study 1 dataset could not be retrieved and is not included in this repository.

Table 1.
Sample Characteristics of all Studies.

	Sample size	M_{age} (range)	Gender			Parents	Country	Source	Power considerations
			Women	Men	Other				
Study 1	30	49.2* (-)	22*	8*	0*	-	-	MTurk	N/A (qualitative analysis)
Study 2	155	35* (-)	79*	60*	16*	-	-	MTurk**	Meets recommended 100-200 participants for factor analysis (MacCallum et al., 1999)
Study 3	205	37.43 (20-70)	147	58	0	-	UK	Prolific	Meets recommended 100-200 participants for factor analysis (MacCallum et al., 1999)
Study 4	241	38.94 (18-85)	177	64	0	-	UK	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	UK	Prolific	95% power to detect β=.12 or higher
Study 6	479	39.80 (18-82)	252	223	4	227	UK	Prolific	95% power to detect β=.17 or higher
Study 7	351	40.55 (25-87)	176	174	1	201	UK	Prolific	95% power to detect β=.19 or higher
Study 8	1178	34.40 (21-89)	639	520	19	500	UK, US, 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. *We are unable to report the exact participant age, gender, and country of residence in Studies 1 and 2. Both datasets 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. **In Study 2, 138 participants (89%) were recruited via MTurk. The remaining participants were recruited via Social Psychology Network and Online Psychology Research.

Aim 1: Identifying the Content of Attitudes Towards Teenagers

The present research connects to work by Wolf et al. (2024), who identified teenagers as having an age range of 12-18 years (cf. Chan et al., 2012). After finding that adults' attitude content towards teenagers substantively differs from attitudes towards children (i.e., babies, toddlers, school-age children), Wolf et al. (2024) concentrated on the younger age groups and identified two factors: *affection* towards 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 behaviours 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 towards teenagers. Two independent raters thematically analysed 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 Table S1 in supplement). The EFA favoured three factors. One factor captured intentions signalling interest in teenagers, which we termed *openness intentions* (e.g., "I am willing to interact with teenagers"). The second factor concerned

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[2] We refer to teenagers rather than adolescents, because participants spontaneously used this term to describe 12-18 year olds.

[3] Study 1 was analysed shortly after data collection in 2012 and the aggregated results were exported, but the raw data was 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.

negative conceptualisations of teenagers' attributes, which we labelled *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 (GRM; 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, CFI=.987; RMSEA=.040 (90% CI [.00, .06]; 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 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, (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 intentions items, four negative beliefs items, and four positive emotions items.[4] We conducted a CFA that partialled 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,

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[4] We retained an additional positive-negative pair on the openness intentions factor (i.e., "I am encouraging towards 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 towards teenagers.

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≥.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 *Attitudes Towards Teenagers*

(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.

Table 2.

CFA Factor Loadings, Reliabilities, and Descriptive Statistics of the Attitudes Towards Teenagers Scale.

Factors and Items	*M*	*SD*	Range	Composite Reliability[a]	Standardised Factor Loadings
Openness intentions	1.08	1.17	-3 to +3	.90	
I try to understand teenagers					.79
I am encouraging towards 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-centred					-.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.

Aim 2: Understanding the Content of Attitudes Towards 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 towards 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 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 organised 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 towards 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 towards 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 empathise 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 favourability towards teenagers, contrasted with favourability towards 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 benefitting young people, support for granting 16-17 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 – judgements 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 towards teenagers vary across these characteristics.

Given the behavioural 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 benefitting 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, 1949 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 favourability (Haddock & Zanna, 1999). Participants completed the evaluation thermometer for teenagers and adults, providing a number between 0° (*extremely unfavourable*) and 100° (*extremely favourable*) to evaluate each group.

Stereotype content (Wolf et al., 2024). 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).

Study 5 Materials.

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

Personal values (Wolf & Hanel, 2024). Values were measured using a 21-item version of the Schwartz Value Survey (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 ($\alpha=.83$).

Empathic concern (Davis, 1983). 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*, $\alpha=.92$).

Social Dominance Orientation (SDO; Pratto et al., 1994). We used the SDO5 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 (α=.93), consistent with recent work (Berry, 2023).

Right-Wing Authoritarianism (RWA; Bizumic & Duckitt, 2018). 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*; α=.80).

Optimism (Garcia-Cadena et al., 2021). 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*; α=.76).

Anxiety and depression (Kroenke et al., 2009). 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 two weeks.

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 benefitting 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 (Voci & Hewstone, 2003). 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).

Political orientation. Participants indicated their political orientation on an 11-point scale (0=*left*, 5=*centre*, 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 offence (e.g., car keying), and the second a major offence (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 favoured a single-factor solution reflecting overall positivity towards 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: 1) Consider the suspect innocent and let them go; 2) Give warning and add allegation to suspect's record; 3) Convict on minor charges with community service; 4) Convict on major charges with custodial sentence. We averaged across minor and major offences (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 favoured a single-factor solution for suspect evaluation (α=.96). For sentencing, we again averaged across minor and major offences (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 Table S12 for correlations). Openness intentions correlated with negative beliefs (rs from -.41 to -.53) and positive emotions (rs from .67 to .76). Negative beliefs correlated with positive emotions (rs from -.62 to -.71, all ps<.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 towards teenagers, but neither parenthood nor age was linked with differences in negative beliefs.

Table 3.
Associations Between Demographic Bariables and ATT Factors in Studies 4-7.

ATT Factors	Gender			Being a parent			Age	
	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.

Associations between ATT factors and target variables. Tables 4-6 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 favourability of teenagers and adults before turning to each ATT factor's associations with the target variables.

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

Openness intentions. Openness intentions regarding teenagers uniquely related to openness values (e.g., curiosity). As expected, openness intentions 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 benefitting young people. Finally, openness intentions appear to be more relevant to group (i.e., favourability, innocence) rather than individual-level evaluations (e.g., Greta Thunberg, individual teenage suspect).

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 towards teenagers reflect a perception of them as 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 16-17 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 towards teenagers expressed

higher optimism, higher life satisfaction, and lower anxiety and depression. Positive emotions 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.

Table 4.
ATT Relations With Teenager Versus Adult Favourability in Study 4.

	Teenager Favourability		Adult Favourability		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 favourability as simultaneous predictors.

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 favourability	.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 behaviour	.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.

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

Outcomes	Openness Intentions		Negative Beliefs		Positive Emotions	
	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 favourability	.72	<.001	-.56	<.001	.68	<.001
Adult favourability	.32	<.001	-.20	.002	.28	<.001
Study 5						
Quality of contact	.59	<.001	-.53	<.001	.61	<.001
Donation behaviour	.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.

Aim 3: Examining the Cross-Cultural Validity of the ATT scale

Study 8 examined the cross-cultural validity of the ATT factors among 389 UK participants, 390 US participants, and 399 South African participants. We tested the 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: $|\Delta CFI| \leq .010$ (in each model comparison), $|\Delta RMSEA| \leq .015$ or $|\Delta SRMR| \leq .030$ (for metric invariance), and $|\Delta RMSEA| \leq .015$ or $|\Delta SRMR| \leq .015$ (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 UK, US, and South Africa in structure, but mean comparisons should be interpreted with caution. Correlations among ATT factors by country are shown in Table S13.

Table 8.
Tests of Measurement Invariance of the ATT Across UK, US, 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. $N = 1178$; UK $n = 389$, US $n = 390$, South Africa $n = 399$. * $p < .05$, ** $p < .01$, ***$p < .001$

Table 9.
Means and Standard Deviations on the ATT Factors for the UK, US, and South African Samples in Study 8.

Country	Openness Intentions		Negative Beliefs		Positive Emotions	
	M	*SD*	*M*	*SD*	*M*	*SD*
UK	4.69	1.20	4.18	1.09	4.18	1.22
US	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.

General Discussion

Research has largely failed to study teenagers as a distinct social category, despite the enormous impacts that adults 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 towards teenagers – how adults think, feel, and behave towards them – and the consequences of this content for teenager-relevant outcomes.

Adult participants first described their emotions, beliefs, and behaviours 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 Attitudes Towards Teenagers (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 towards 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 behaviours towards 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 favourability towards teenagers but not towards 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 18-89 years), gender, and parenthood, and we found that the factor structure replicated across the UK, US, 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 towards 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 towards 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). Further, 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 towards them, and teenagers' accounts of how this attitude content towards 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 towards 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 devotes greater attention to adults' attitudes towards teenagers as a social category. By shedding light on adults' attitudes towards 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.

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