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Youth Norm Deviation and Intolerance: Pathways to Polarized Political Attitudes and Behavioral Intentions

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Abstract

This study examines the psychological foundations of political polarization among adolescents, emphasizing the role of norm deviation and intolerance in shaping polarized political attitudes and behavioral intentions. We applied a structural equation model with latent variables to analyze the relationships between norm deviation and intolerance and five indicators of political polarization in 1,211 adolescents (aged 15–22 years, $M = 16.6$, $SD = 1.5$). These five indicators of political polarization were: rejection of democracy, rejection of human rights, conspiracy mentality, hostility toward foreigners, and the affinity for political violence. Multi-group structural equation modeling was conducted to explore the moderating effects of gender, age, and migration background. Results indicate that both norm deviation and intolerance are significantly associated with polarized political attitudes and behavioral intentions, with distinct patterns across demographic groups. These findings highlight the importance of tailored educational and preventive interventions that consider adolescents' gender, age, and migration background to reduce polarization risks and promote social cohesion.

Keywords

adolescence; intolerance; norm deviation; polarization; political attitudes

1. Introduction

Adolescence represents a critical developmental period for the formation of political attitudes and engagement (Neundorf & Smets, 2017; Sears & Brown, 2013). While a successful political socialization can promote prosocial convictions and democratic participation, this developmental phase also carries the risk of

extreme opinion formation, which may lead to societal divisions, conflicts, or alignment with radical political ideologies (Beelmann, 2020; Beelmann & Lutterbach, 2023; Berg-Schlosser et al., 2020). A multitude of psychological factors and social contexts shape the formation and polarization of political identities and beliefs during this life stage (Dekker et al., 2020; Wray-Lake, 2019). Norm deviation and intolerance constitute key factors in the development of political attitudes during adolescence. As young people seek to establish their own values and distance themselves from parental and institutional authorities, they often challenge social norms and use deviations as a means of exploring alternative lifestyles or ideologies (Eckstein et al., 2012; Quintelier, 2015). Simultaneously, the desire for peer recognition introduces a dynamic in which ingroup norms can either reinforce deviant behaviors or exacerbate intolerance toward outgroups perceived as norm-violating (Forst, 2013; Verkuyten et al., 2023).

To investigate how norm deviation and intolerance contribute to political polarization among adolescents, we examined their respective associations with key manifestations of polarized attitudes and behavioral intentions, including rejection of democracy and human rights, conspiracy mentality, hostility toward foreigners, and affinity for political violence. Additionally, we analyzed how gender, age, and migration background shape these relationships. This differential approach seeks to provide evidence-based insights into developmental and targeted strategies for preventing political polarization among youth (Beelmann, 2021; Beelmann & Lutterbach, 2022).

1.1. Political Polarization and Indicators of Polarized Political Attitudes and Behavioral Intentions

Polarization refers to the growing divide between individuals or social groups that fosters extreme viewpoints and reinforces ingroup and outgroup dynamics (Bakker & Lelkes, 2024). From a psychological perspective, polarization is defined as a process in which individuals' attitudes and beliefs become increasingly divergent, often accompanied by hostility toward opposing views (Lelkes, 2016). This phenomenon manifests in various forms, including the rejection of democratic principles, hostility toward political and social diversity, and the adoption of extremist ideologies. The consequences of polarization are profound, contributing to social fragmentation, the erosion of democratic institutions, and an increased risk of political violence (Bliuc et al., 2024; Piazza, 2023).

Polarization is particularly challenging during adolescence and early adulthood, a critical period for identity formation, norm and value development, and political socialization (Sears & Brown, 2013). At this stage, individuals are especially susceptible to social influences and may adopt polarized beliefs for the purpose of establishing and affirming their social identity. Research highlights that the interplay between developmental vulnerabilities and societal polarization can exacerbate phenomena such as ingroup superiority and political violence among youth (Rekker et al., 2015; Tyler & Iyengar, 2023). As adolescents navigate their social and political identities in polarized environments, they may gravitate toward extreme positions, further entrenching societal divides. This not only poses risks to their personal development but also threatens broader social cohesion.

From a social-psychological perspective, polarization manifests in attitudes such as rejection of democracy and human rights, conspiracy mentality, hostility toward foreigners, and affinity for political violence—each reflecting rigid group-based thinking. Social identity theory (Tajfel & Turner, 1979) suggests that identification with like-minded groups can heighten outgroup hostility and reduce openness to compromise.

For instance, conspiracy beliefs reinforce distrust and societal division by framing institutions or outgroups as hostile (Imhoff & Bruder, 2014). According to realistic group conflict theory (Sherif, 1966), perceived resource competition can fuel exclusionary attitudes, while threats to identity or status may foster authoritarian preferences and the erosion of democratic values (Osborne et al., 2023; Renström et al., 2022). In adolescence and early adulthood, such polarized attitudes are particularly salient due to identity formation and increased social influence (Crocetti et al., 2023; Wray-Lake, 2019). Political socialization theory and the impressionable years hypothesis (Sears & Levy, 2003) emphasize that early exposure to peer, family, and media cues, along with societal challenges, shape long-lasting political views. As youth adopt polarized attitudes—such as hostility toward foreigners or support for political violence—these can crystallize over time, embedding division into future political landscapes (Rekker et al., 2015).

1.2. Norm Deviation and Intolerance as Drivers of Political Polarization

1.2.1. Norm Deviation and Political Polarization

Norm deviation, understood as a departure from culturally and socially accepted standards and values (Hewstone et al., 2021) and thus rule-breaking behavior, reflects an early and general form or expression of polarization, as individuals distance themselves from widely shared societal norms. This deviation does not merely indicate a misalignment but can also function as a psychological and social mechanism that fosters openness to alternative worldviews and oppositional identities. In seeking new frameworks of meaning and belonging, norm-deviant individuals may adopt or reinforce politically polarized attitudes, which in turn contribute to broader processes of societal polarization.

The present study investigates norm deviation as a potential risk factor for political polarization. A central theoretical foundation is reactance theory (Brehm, 1966), which posits that individuals experience motivational reactance when they perceive their autonomy as unjustly constrained. Adolescents high in norm deviation may interpret dominant liberal-democratic values not as a shared framework but as illegitimate intrusions into their personal or group autonomy. This defiance against perceived restrictions can manifest as the rejection of democratic principles and human rights, especially when these are seen as limiting their behavioral or ideological space (Miron & Brehm, 2006). Further explanatory potential stems from social identity theory (Tajfel & Turner, 1979), which emphasizes the role of group membership in shaping attitudes and behaviors. Norm-deviating adolescents may feel excluded from or alienated by dominant normative peer groups and therefore seek belonging in alternative or oppositional ingroups that validate anti-system attitudes. This realignment of group identification can support the development of hostility toward foreigners, where democratic inclusion of outgroups is perceived as a threat to one's emerging ingroup identity. Moreover, the psychological distancing from mainstream society can increase openness to political violence, especially when such acts are framed as expressions of group-based resistance (Abrams & Hogg, 2006). Lastly, insights from social dominance theory (Sidanius & Pratto, 1999) suggest that norm-deviating individuals may be more inclined toward hierarchy-enhancing ideologies when they perceive existing norms as favoring egalitarianism or minority protection. In this framework, norm deviation can reflect a broader disposition to challenge status-quo values in favor of dominance-based ideologies. As such, norm deviation is expected to be positively associated with hostility toward foreigners, conspiracy mentality, and particularly with political affinity for violence to restore perceived group superiority or autonomy.

1.2.2. Intolerance and Political Polarization

Intolerance, defined as the unwillingness to permit disapproved beliefs or practices, is a central factor in political polarization. Unlike tolerance, which incorporates respect, freedom, and coexistence even amidst disagreement, intolerance rejects these principles, undermining the normative frameworks essential for social cohesion (Forst, 2013; Verkuyten et al., 2020, 2023). It manifests as exclusionary attitudes or behaviors that directly challenge pluralistic values and inclusivity. Adolescence, a critical stage for identity formation and social integration, is particularly susceptible to intolerance due to heightened sensitivity to peer influence and group dynamics.

Building again on social identity theory (Tajfel & Turner, 1979), intolerance strengthens ingroup cohesion by devaluing outgroups, especially when societal diversity is perceived as a threat to one's cultural or ideological identity (Verkuyten & Yogeeswaran, 2020). Adolescents with high intolerance may view inclusive democratic norms as illegitimately privileging "the other." This perceived asymmetry can foster rejection of democratic values and human rights discourses, especially when these are seen as institutional protections for outgroups. Reactance theory (Brehm, 1966) further explains how intolerance fuels resistance to perceived liberal or pluralistic societal expectations. When pluralistic norms (e.g., tolerance, inclusion) are interpreted as externally imposed constraints on group identity or cultural homogeneity, intolerant adolescents may react defensively—rejecting human rights frameworks as alien or overly permissive and developing conspiratorial ideation as a psychological response to perceived control (Sittenthaler et al., 2015). The perception that elites or institutions favor foreign or deviant groups can reinforce conspiracy thinking and ultimately justify political violence to restore perceived balance or justice. Within social dominance theory (Sidanius & Pratto, 1999), intolerance reflects a preference for group-based hierarchies and the legitimation of outgroup subordination. Adolescents high in intolerance may not only perceive other groups as threatening but also support ideologies that rationalize dominance and exclusion (Kteily et al., 2016). These attitudes are particularly predictive of hostility toward foreigners, conspiracy beliefs that protect dominant-group interests, and justification of violence against outgroups or institutions seen as enabling them.

1.2.3. Norm Deviation, Intolerance, and Political Polarization Across Gender, Age, and Migration Background

The relationships between norm deviation, intolerance, and the five indicators of political polarization are likely to vary across different demographic groups, including gender, age, and migration background. These factors influence the ways in which adolescents process social information, form identities, and engage with political ideologies, thereby shaping the nature and strength of these relationships.

Gender plays a significant role in how norm deviation and intolerance relate to political polarization. Research suggests that males are more likely to engage in oppositional or aggressive (political) behaviors, potentially due to socialization processes that emphasize competition, dominance, and outgroup hostility. For males, norm deviation may be more strongly linked to support for political violence and conspiracy thinking, while females may be more likely to experience norm deviation as a form of social exclusion, which may manifest as a rejection of democratic principles and human rights rather than aggression (Björkquist, 2018; Kuhn, 2010). Gender differences in political socialization may also influence the types of ingroup/outgroup dynamics that are reinforced through intolerance, with males more prone to adopting hierarchical, exclusionary ideologies (Sidanius et al., 1994).

Age is also a key variable that may moderate the impact of norm deviation and intolerance on political polarization. Adolescence is a period of heightened identity exploration and social influence (Eckstein et al., 2012; Quintelier, 2015), which makes younger individuals particularly susceptible to the effects of norm deviation. For younger adolescents, norm deviation may be more strongly associated with a rejection of democratic values and the embrace of extremist ideologies, as they may be more inclined to adopt rebellious or oppositional stances against perceived societal constraints. Older adolescents, on the other hand, may exhibit more refined ideological positions, with norm deviation potentially linking more to conspiracy theories and hostility toward foreigners, reflecting an increased awareness of societal power structures and their perceived exclusion from these structures (Wegemer, 2021).

Migration background is another crucial factor that may alter the relationship between norm deviation, intolerance, and political polarization. Adolescents with a migration background often navigate multiple cultural identities and may experience different forms of social marginalization and exclusion compared to their native peers (Sam & Berry, 2016). Studies show that migrant adolescents, especially those with a recent migration background, are more likely to experience alienation and reject mainstream democratic values, as these may be perceived as foreign to them or as instruments of social control used by the dominant group (Verkuyten, 2004). In contrast, native adolescents may be more prone to intolerance toward outgroups, as they are more likely to perceive threats to the status quo and to embrace exclusionary ideologies in response to perceived cultural dilution (Riek et al., 2006). For these adolescents, intolerance may more directly fuel hostility toward foreigners and the justification of political violence, whereas for migrant adolescents, norm deviation may be more strongly linked to the rejection of human rights and leaning toward conspiracy theories.

1.3. The Current Research

Norm deviation and intolerance are key psychological variables shaping political attitudes during adolescence—a phase of identity formation, autonomy seeking, and reevaluation of societal norms (Eckstein et al., 2012; Quintelier, 2015). Drawing on theories such as (a) reactance, (b) social identity, and (c) social dominance, this study examines how these tendencies relate to five indicators of political polarization: rejection of democracy, rejection of human rights, conspiracy mentality, hostility toward foreigners, and political affinity for violence.

Norm-deviating adolescents, as those opposing societal rules and norms, may reject democratic values and human rights as external constraints, triggering reactance and oppositional attitudes. They may also be more prone to conspiracy thinking, hostility toward foreigners, and justification of violence, especially when political discourses are seen as threatening or illegitimate. Intolerance, which is defined as rejection of differing beliefs and identities, can similarly foster political polarization. Intolerant adolescents may view democracy and human rights as overly permissive or protective of groups they perceive as threatening. This disposition is also linked to conspiracy beliefs, outgroup hostility, and legitimation of political violence in defense of perceived ingroup interests.

Despite clear theoretical assumptions, empirical studies on how norm deviation and intolerance contribute to adolescent political polarization remain scarce, even though adolescence is a key period for political socialization (Sears & Brown, 2013).

Demographic and contextual factors such as gender, age, and migration background may moderate these effects. Migrant adolescents may experience exclusion and alienation, potentially fostering alternative radicalization paths (Verkuyten, 2004), while native adolescents may react with stronger hostility toward foreigners. Gender differences also matter: Boys may lean toward aggression and political violence, while girls may express political disillusionment more passively (Björkquist, 2018; Kuhn, 2010). In the present study, we therefore examine the following hypotheses:

1. Adolescents who exhibit greater norm deviation and intolerance will demonstrate stronger tendencies to reject democracy and human rights, embrace conspiracy theories, express hostility toward foreigners, and show a higher affinity for political violence.
2. There will be significant differences in the relationships between norm deviation, intolerance, and the five indicators of political polarization based on gender, age, and migration background.

2. Method

2.1. Participants

The data for this study were derived from the Communities That Care (CTC) project in Lower Saxony (Germany), which is designed to assess risk and protective factors influencing youth behavior to inform evidence-based local prevention strategies (Groeger-Roth et al., 2018). Originally developed in the United States (Fagan et al., 2019; Hawkins & Catalano, 1992), the CTC framework has been adapted for use in Germany, aiming to empower communities to promote youth well-being and safety. The 2021/2022 survey (Soellner et al., 2022) included students from various school types across grades 6 to 11, as well as those attending vocational schools. Data collection employed a stratified random sampling approach and was conducted between November 29, 2021, and January 28, 2022.

In total, 316 schools, representing 373 classes and a total of 8,945 students, were contacted for participation in the CTC Youth Survey 2021/2022. Ultimately, 132 school classes from Lower Saxony took part, yielding a recruitment rate of 21.8% at the student level (N = 1,948). For this study, the sample was restricted to students in grade 8 and above, including equivalent grades in vocational school. This decision was grounded in developmental considerations (Eckstein & Noack, 2018; Sears & Brown, 2013), as it was assumed that the cognitive and ideological maturity required for valid engagement with political and ideological attitudes is more likely to be present in older adolescents. The resulting subsample consisted of n = 1,211, and all analyses were conducted using this subsample.

The mean age of participants was M = 16.6 years (SD = 1.5 years), with ages ranging from 15 to 22 years. Although our study focuses on adolescents, a small proportion of participants (n = 102; 8%) were 18 years or older. We retained these individuals in the analyses based on both theoretical and empirical considerations. Political socialization and the development of ideological attitudes do not end abruptly at age 18 but rather evolve gradually into early adulthood (Arnett, 2000). Including participants at the cusp of adulthood allows for a more comprehensive assessment of political attitudes across different youth age groups and ensures consistency with prior research that conceptualizes late adolescence and emerging adulthood as overlapping phases in the formation of political identity (Sears & Levy, 2003; Wray-Lake et al., 2020). Gender distribution was as follows: 45% identified as male, 53% as female, and 2% as diverse. Most

students were enrolled in grammar schools (gymnasium), vocational schools, or secondary schools. Approximately 30% of the respondents reported having a migration background, defined as either the adolescents themselves or both parents having been born outside of Germany. Notably, over 90% of these students were born in Germany. Detailed sample characteristics are presented in Table 1.

Table 1. Demographic characteristics of the sample.

Variable	Categories	Proportion of students	
		n	%
Gender	Male	545	45
	Female	642	53
	Diverse	24	2
Age*	15	296	24
	16	263	22
	17	345	28
	18	205	17
	19	64	5
	≥ 20	38	3
Type of school	Lower secondary school	15	1
	Intermediate secondary school	86	7
	German grammar school (gymnasium)	478	39
	Comprehensive school	330	28
	Vocational school	302	25
Migration background	No	848	70
	Yes	363	30

Notes: *n* = 1,211; * time of survey: November 2021 to January 2022.

2.2. Materials

The students received the questionnaire online and completed it during class whenever feasible under the conditions of the Covid-19 pandemic. In cases where this was not possible, students were allowed to complete the survey from home. The questionnaire comprised the full CTC Youth Survey 2021–2022, which covers a broad range of psychosocial and behavioral constructs. For the purposes of the present study, we selected and analyzed specific scales from this survey that captured the independent variables of norm deviation and intolerance, as well as indicators for polarized political attitudes and behavioral intentions. Each construct was measured using multiple items and subsequently aggregated into mean scales. The following paragraphs detail the individual measurement instruments (all items are listed in Supplementary File 2).

Norm deviation was assessed using a scale developed by Soellner et al. (2018), frequently employed in CTC research projects. The scale included three statements assessing individuals' propensity to deviate from general social norms and values. For example, students were asked to rate the acceptability of the statement "I do not abide by rules I do not like" on a four-point Likert scale (1 = *No* to 4 = *Yes*). The items were combined into a scale with an internal consistency of $\alpha = .66$ in the current sample. Higher scores reflected greater acceptance of norm-deviating behaviors among adolescents.

Intolerance was measured using items adapted from Beelmann and Karing (2015). Intolerance was conceptualized as the counterpart to tolerance, based on prior findings that negative evaluations tend to exhibit higher reliability than positive ones due to the reduced influence of social desirability effects (Beelmann et al., 2010). Intolerance was defined as an attitude pattern characterized by a minimal acceptance of deviations from social normative behavioral standards. Four items were rated on a five-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*). For example, participants evaluated the statement "If someone behaves differently than most people, I do not think it's good." The aggregated scale had an internal consistency of $\alpha = .73$, with higher values indicating greater intolerance.

Rejection of democracy was assessed through three items measuring fundamental opposition to democracy as a form of government and its principles. Participants rated statements such as "Democracy is the best way to govern a country" on a five-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*). The scale yielded an internal consistency of $\alpha = .51$, with higher values indicating stronger rejection of democracy.

Rejection of human rights was measured using two items generated and piloted by the research team. These items assessed a negative stance toward universal human rights. Participants rated the statements "All people are equal before the law" and "All people have freedom of religion" on a five-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*). The scale yielded an internal consistency of $\alpha = .54$, with higher scores indicating stronger rejection of human rights.

Conspiracy mentality was evaluated using two items from the General Conspiracist Beliefs Scale (Brotherton et al., 2013). Participants rated the statements "The government is hiding the truth from the public" and "The spread of certain diseases and viruses is in the interest of certain groups and organizations" on a five-point Likert scale (1 = *does not apply at all* to 5 = *applies completely*). These items were combined into a single scale with an internal consistency of $\alpha = .74$. Higher values indicating a stronger inclination toward conspiratorial thinking.

Hostility toward foreigners was assessed using three items derived from established surveys such as the Thuringia Monitor (e.g., Reiser et al., 2021) and the Authoritarianism Studies (e.g., Decker & Brähler, 2002). Participants rated statements such as "Foreigners are taking away our jobs" on a five-point Likert scale (1 = *does not apply at all* to 5 = *applies completely*). The aggregated scale demonstrated an internal consistency of $\alpha = .81$, with higher values reflecting greater hostility toward foreigners.

Affinity for political violence was measured as a behavioral indicator of polarized political intentions. This variable was operationalized using the violence-endorsing subscale of the Activism and Radicalism Intention Scale (Moskalenko & McCauley, 2009). Two items, one of which was "I would support an organization that fights for my group's political and legal rights even if the organization sometimes resorts to violence," were rated on a five-point Likert scale (1 = *does not apply at all* to 5 = *applies completely*). The resulting scale had an internal consistency of $\alpha = .84$, with higher scores indicating greater endorsement of violent actions to achieve political objectives.

3. Results

We used structural equation modeling (SEM) in JASP (JASP Team, 2024), employing R, to test our theoretical model with norm deviation and intolerance as latent predictors and rejection of democracy, rejection of human rights, conspiracy mentality, hostility toward foreigners, and affinity for political violence as latent outcomes. The overall model fit was evaluated using the χ^2/df ratio, CFI (comparative fit index), and RMSEA (root mean square error of approximation).

Descriptive statistics and correlations between the latent variables are presented in Table 2. Norm deviation was positively correlated with intolerance, rejection of democracy, rejection of human rights, conspiracy mentality, hostility toward foreigners, and affinity for political violence. Similarly, intolerance showed significant positive intercorrelations with all five indicators of polarized political attitudes and behavioral intentions.

Table 2. Correlations between the study variables and descriptive statistics.

Variable	M (SD)	2.	3.	4.	5.	6.	7.
1. Norm deviation	2.20 (0.62)	.25**	.08*	.09**	.17**	.13**	.10**
2. Intolerance	1.92 (0.73)	—	.14**	.22**	.10**	.27**	.13**
3. Rejection of democracy	2.34 (0.70)		—	.27**	.19**	.23**	.19**
4. Rejection of human rights	1.31 (0.65)			—	.11**	.37**	.11**
5. Conspiracy mentality	2.39 (1.09)				—	.29**	.22**
6. Hostility toward foreigners	1.67 (0.84)					—	.19**
7. Affinity for political violence	1.97 (1.12)						—

Notes: Norm deviation was measured on a four-point scale and the remaining variables on a five-point rating scale; * $p < .05$, ** $p < .01$.

To test for hypothesis 1, we first looked at the fit indices of the empirical model. The model fit was good, with fit values below or at recommended thresholds (χ^2(389.47)/df (131) = 2.97, CFI = .99, RMSEA = .03). The overall model is depicted in Figure 1. Norm deviation and intolerance were significantly interrelated (β = .18, $p < .01$). Norm deviation showed significant positive associations with rejection of democracy (β = .07, $p < .05$), conspiracy mentality (β = .21, $p < .01$), and affinity for political violence (β = .11, $p < .01$). However, no significant relationships were found between norm deviation and rejection of human rights (β = .02, $p < .61$) or hostility toward foreigners (β = .01, $p < .71$). Intolerance had significant positive associations with rejection of democracy (β = .14, $p < .01$), rejection of human rights (β = .30, $p < .01$), conspiracy mentality (β = .12, $p < .01$), hostility toward foreigners (β = .38, $p < .01$), and affinity for political violence (β = .08, $p < .01$). The model explained R^2 = .04 of the variances in rejection of democracy, R^2 = .09 in rejection of human rights, R^2 = .06 in conspiracy mentality, R^2 = .15 in hostility toward foreigners, and R^2 = .04 in affinity for political violence.
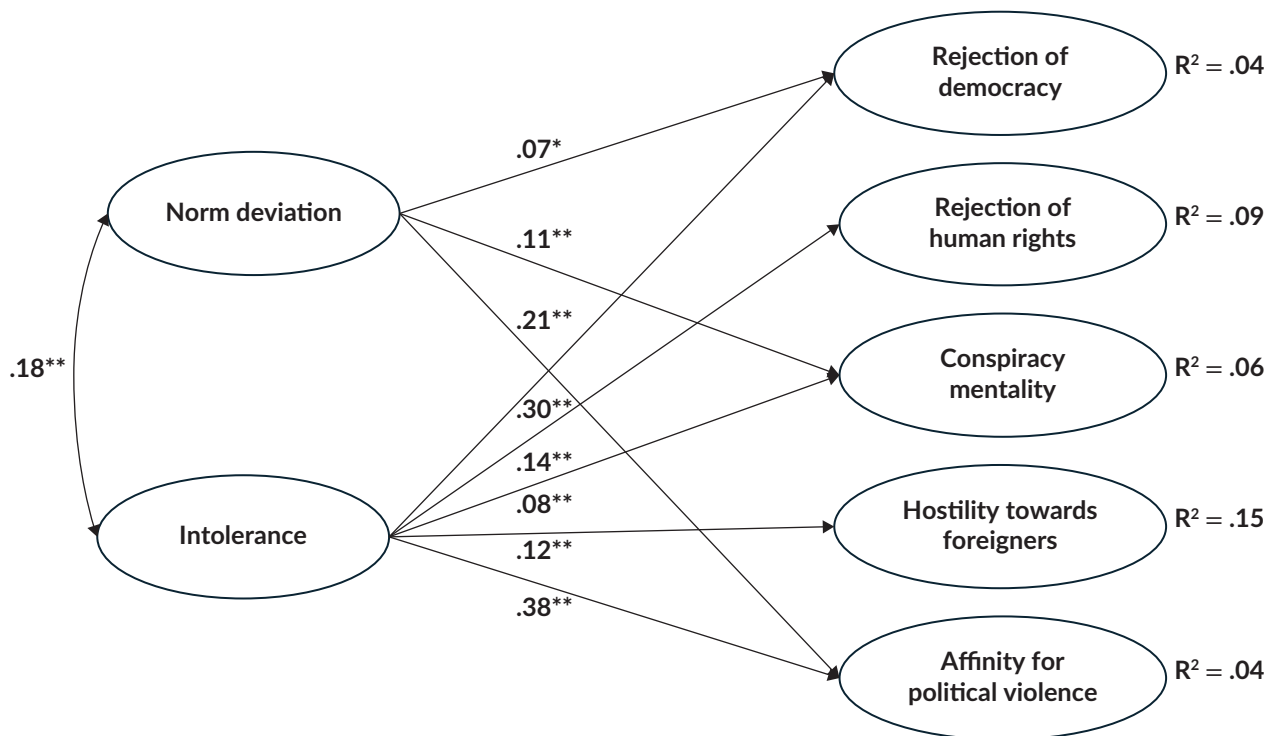
Figure 1. Specified SEM model with latent variables ($N = 1{,}211$, $\chi^2(389.47)/df\ (131) = 2.97$, CFI = .99, RMSEA = .03). Notes: Path coefficients represent standardized estimates; associations between norm deviation and indicators of political polarization are above the arrows, while associations between intolerance and indicators of political polarization are shown below the arrows; only significant paths are included; ** $p < .01$, * $p < .05$.

In line with hypothesis 2, we also examined the relationships between predictors and outcomes across different demographic groups, considering, gender, age, and migration background. The means of norm deviation ($M_{male} = 2.27$ vs. $M_{female} = 2.13$, $F\ [df = 1,\ 1210] = 14.88$, $p < .001$) and intolerance ($M_{male} = 2.05$ vs. $M_{female} = 1.81$, $F\ [df = 1,\ 1210] = 32.69$, $p < .001$) differed significantly by gender but not by age or migration background. Table 3 summarizes the main results of the applied multi-group SEM. Detailed information on the multi-group SEM models for gender (Table S1), age (Table S2), and migration background (Table S3) is provided in Supplementary File 1.

First, the multi-group SEM revealed distinct patterns in path coefficients based on the reported gender of participants (students identifying as "diverse" were excluded, $n = 24$). Two main patterns emerged for norm deviation:

Asymmetric relationships: Norm deviation was more strongly and positively associated with the rejection of democracy and human rights among male participants, but negatively among female participants.

Symmetric relationships: Positive associations with conspiracy mentality and affinity for political violence were observed across genders but were slightly more pronounced among males in case of political violence.

Table 3. Path differences in multi-group SEM models between norm deviation and intolerance and indicators of polarized political attitudes and behavioral intentions by gender, age, and migration background.

Polarization indicators	Norm deviation		Intolerance	
	Groups	z	Groups	z
Rejection of democracy	f < m	3.42**	f > m	2.17*
	y16 > o16	0.29	y16 = o16	0.18
	no MB < MB	0.77	no MB = MB	0.50
Rejection of human rights	f < m	3.38**	f > m	4.98**
	y16 < o16	3.50**	y16 > o16	3.79**
	no MB < MB	2.68*	no MB > MB	6.41**
Conspiracy mentality	f = m	1.05	f = m	0.31
	y16 > o16	1.82†	y16 > o16	1.05
	no MB > MB	2.16*	no MB > MB	0.82
Hostility toward foreigners	f = m	0.43	f > m	1.47†
	y16 = o16	1.26	y16 = o16	0.20
	no MB < MB	2.04*	no MB > MB	3.47**
Affinity for political violence	f < m	1.47†	f = m	0.03
	y16 = o16	0.20	y16 > o16	2.48*
	no MB < MB	0.37	no MB > MB	3.50**

Notes: f = female, m = male, y16 = younger than 16 years, o16 = older than 16 years, no MB = no migration background, MB = migration background; z-values indicate whether the strength of paths differs significantly between groups; † $p < .10$, * $p < .05$, ** $p < .01$.

For intolerance, positive associations with rejection of democracy, rejection of human rights, and hostility toward foreigners were significant for both genders but more pronounced among females. The relationships between intolerance and conspiracy mentality, as well as affinity for political violence, were positive and comparable across genders.

Second, we analyzed the relationships between norm deviation and intolerance as a function of age. Participants were divided into two groups: younger than 16 years and 16 years or older. For norm deviation, positive associations with rejection of democracy, conspiracy mentality, and affinity for political violence were significant among younger participants. Conversely, the relationship between norm deviation and rejection of human rights was more pronounced among older participants. Hostility toward foreigners showed no significant association in either age group. For intolerance, relationships with rejection of democracy and hostility toward foreigners were similarly strong across both age groups. However, stronger associations emerged between intolerance and rejection of human rights and affinity for political violence among younger participants. Furthermore, the relationship between intolerance and conspiracy mentality was positive and significant only in case of younger participants.

Third, we analyzed the relationships between norm deviation and intolerance and the five indicators of polarized political attitudes and behavioral intentions, differentiating the sample based on participants' migration background. For norm deviation, positive associations with rejection of human rights and hostility toward foreigners were stronger among participants with a migration background. In addition, the relationship between norm deviation and rejection of democracy and affinity for political violence was

only significant for students reporting a migration background. Conversely, participants without a migration background showed a stronger association between norm deviation and conspiracy mentality. For intolerance, the relationships with rejection of human rights, hostility toward foreigners, and affinity for political violence were stronger among participants without a migration background. In addition, the association between intolerance and conspiracy mentality was significant and positive only for students without a migration background. The relationship between intolerance and rejection of democracy was similarly strong across groups.

4. Discussion

This study aimed to examine how norm deviation and intolerance relate to key indicators of political polarization among adolescents. Additionally, it explored demographic differences in the relationships of norm deviation and intolerance with rejection of democracy and human rights, conspiracy mentality, hostility toward foreigners, and affinity for political violence by gender, age, and migration background. We found that norm deviation and intolerance are significant predictors of polarized political attitudes and behavioral intentions, albeit with varying degrees of influence across different outcomes and demographic groups.

The findings largely support the assumptions of hypothesis 1 and offer deeper insight into the differential predictive value of norm deviation and intolerance in explaining indicators of political polarization among adolescents. As anticipated, intolerance proved to be associated with all five indicators. This is in line with the conceptualization of intolerance as a broad social-psychological factor that reflects a negative orientation toward diversity and perceived norm deviations of others (Verkuyten et al., 2020, 2023; Whitley & Webster, 2018). In contrast, norm deviation—understood here as adolescents' tendency to distance themselves from established societal norms and rule-breaking behavior—exhibited a more selective pattern of associations. It was related to the rejection of democracy, conspiracy mentality, and political affinity for violence, but showed no significant associations with the rejection of human rights or hostility toward foreigners. This pattern highlights the conceptual distinction between norm deviation as a behavioral style of rule-breaking and autonomy assertion and intolerance as a value-laden, ideologically charged orientation toward others. The partial alignment of norm deviation with elements of reactance theory (Miron & Brehm, 2006) and social identity theory (Tajfel & Turner, 1979) suggests that adolescent rule-breaking may foster political alienation and mistrust, particularly toward institutional authority. However, the absence of associations with human rights rejection or outgroup derogation suggests that such deviance does not necessarily translate into ideologically structured attitudes. Furthermore, the lack of a robust link to hostility toward foreigners challenges assumptions drawn from social dominance theory (Sidanius & Pratto, 1999), indicating that norm-deviating adolescents do not necessarily endorse hierarchy-enhancing ideologies. Instead, norm deviation may reflect diffuse opposition, psychological disengagement, or situational frustration rather than structured ideological positioning.

The demographic differences added depth to the findings and predominantly supported hypothesis 2. Gender-specific patterns showed that norm deviation was more strongly linked to rejection of democracy and human rights among males, while intolerance had greater predictive power among females. These asymmetries likely reflected gendered socialization—males are often socialized toward autonomy and resistance (Hogg & Vaughan, 2020), whereas females tend to be more sensitive to relational dynamics (Eagly & Wood, 2012), which may increase susceptibility to exclusionary attitudes. Age also played a

significant role: Younger adolescents showed stronger links between norm deviation and democratic rejection, conspiracy mentality, and political violence, consistent with early adolescence as a period of identity exploration and emotional reactivity (Crone & Dahl, 2012). In contrast, older adolescents exhibited stronger associations between intolerance and exclusionary attitudes, likely reflecting more advanced ideological development and increasing sensitivity to socio-political cues (Abrams & Hogg, 2006). Migration background revealed further nuance. Among migrant adolescents, norm deviation was more strongly associated with rejecting human rights and endorsing violence—potentially due to experiences of exclusion and marginalization (Verkuyten, 2004). For non-migrant youth, stronger links between norm deviation and conspiracy mentality may have reflected perceived cultural threat and identity insecurity, aligning with integrated threat theory (Stephan & Stephan, 2000). These findings underscore how gender, age, and migration background shape distinct pathways to political polarization.

Overall, the findings highlight intolerance as a stable predictor of different indicators of political polarization, while norm deviation emerges as a more situational and demographically shaped pathway. This underscores the need for a developmental and context-sensitive lens on how adolescents relate to democracy and social cohesion.

4.1. Limitations

The present study, while offering valuable insights into the psychological roots of polarized political attitudes among adolescents, is not without limitations that warrant discussion.

First, the theoretical model was assessed using a limited number of items for each construct, a constraint imposed by the broad scope of the CTC study (Reder et al., 2024), which included numerous other constructs such as substance use, depressive symptomatology, and experiences during the Covid-19 pandemic. To mitigate potential validity concerns, the selected items were informed by prior research and optimized for conceptual coverage within these constraints. Future studies should adopt a more comprehensive approach to construct measurement, as this would enable a more nuanced understanding of the interplay between psychological factors and political polarization.

Second, the wording of some items may have introduced comprehension challenges, particularly for younger participants. While the items were designed to align with the reading level of adolescents, their complexity may have exceeded the cognitive capacities of younger school children. In subsequent research, simpler phrasing and additional pretesting with age-specific samples could enhance accessibility and validity.

Third, conducting the study during the Covid-19 pandemic presented unique limitations associated with online data collection. For participants under 18, parental consent was required, introducing a potential selection bias if parents restricted participation. Additionally, online studies carry inherent risks, such as uncertain respondent authenticity, which have been documented in prior research (e.g., Newman et al., 2020). To counter these issues and enhance the validity of findings, the study employed representative sampling for Lower Saxony and weighting of relevant demographic indicators (Soellner et al., 2022).

Participants completed the online survey either at home or in school, which could have been influenced by external factors like the presence of parents or teachers. Although the survey was anonymous and participants

were instructed to respond independently, the setting may have impacted their openness to sensitive topics such as norm deviation or attitudes toward democracy. Most data (99%) were collected in school settings, where teachers were asked not to intervene. Future research should better control for these contextual factors to enhance the ecological validity of adolescent political attitude studies.

The sample's age distribution presents another limitation, as it was heavily centered around 16 years, with insufficient representation of older adolescents (18–22 years) to establish a separate age group for nuanced analyses. Although our primary focus lay on adolescents, we included this small subgroup of participants aged 18 years and older in our analyses. This decision was theoretically grounded in research on emerging adulthood—which conceptualizes late adolescence and early adulthood as a continuous developmental stage in the formation of political beliefs (Arnett, 2000).

A conceptual limitation concerns our use of the term *political polarization*. While polarization typically refers to a growing divide between social groups, our study does not track such dynamics directly. Instead, we examine individual attitudes—such as rejection of democratic values or affinity for political violence—that are widely seen as early indicators or precursors of polarization. In this broader perspective, our use aligns with developmental and political psychology approaches that explore early risk factors for societal fragmentation during adolescence.

Our study provides valuable insights into norm deviation and political attitudes, but its findings may not be easily generalized to different cultural or political contexts. Norm deviation, particularly in relation to democracy and human rights, may have different meanings in non-WEIRD (Western, Educated, Industrialized, Rich, Democratic) societies. While the behaviors linked to norm deviation may occur in other democratic contexts, their expression could vary based on political and cultural factors. Future research should explore how norm deviation manifests in different political systems to better understand its relationship with polarized political attitudes across diverse cultures.

Lastly, the measure of hostility toward foreigners did not include parallel items assessing prejudice or hostility toward Germans from the perspective of participants with migration backgrounds. This asymmetry may have limited the scope of intergroup analyses, as the dynamics of prejudice and hostility often manifest reciprocally and are shaped by both majority and minority group perspectives (Lutterbach & Beelmann, 2023; Raabe & Beelmann, 2011).

4.2. Implications for Future Research and Prevention

Future research should investigate how identity development, socialization, and peer dynamics explain demographic differences in polarization. Stronger associations among younger and migrant adolescents suggest that developmental and cultural contexts interact in shaping political attitudes (Crocetti et al., 2023; Sam & Berry, 2016). Including variables such as identity conflict or bicultural stress could clarify specific vulnerabilities. Examining older adolescents (18–22) is also crucial, as this phase marks a key period for political and identity consolidation (Sears & Brown, 2013; Zaff et al., 2011).

The gender differences identified—especially regarding the link between norm deviation and rejection of democratic values—highlight the need to explore how gendered roles and expectations shape pathways to

political polarization. Examining gender-specific socialization and identity formation could inform more targeted interventions (Kish Bar-On et al., 2024; Paluck & Green, 2009). The absence of strong associations between norm deviation and hostility toward foreigners across age and gender groups points to the need for more nuanced measures of intergroup hostility. These should reflect a wider range of target groups and perspectives, particularly those of individuals with migration backgrounds, to better capture the complexity of intergroup dynamics in diverse societies. Including concepts like bicultural or hybrid identities (Schwartz et al., 2017) may further clarify how identity complexity influences the relationship between norm deviation, intolerance, and polarized political attitudes.

The findings of this study have important implications for prevention programs. For younger adolescents, civic education should emphasize democratic values, critical thinking, and media literacy to reduce susceptibility to conspiracy beliefs and political violence. Among adolescents with migration backgrounds, interventions should address acculturation stressors and promote inclusive identity formation to mitigate the effects of norm deviation on polarized attitudes. Gender-sensitive approaches are also essential. Programs for male adolescents should encourage positive peer influences and provide prosocial role models to counter democratic rejection and political violence. For female adolescents, interventions should focus on reducing intolerance-related risks—such as rejection of human rights or intergroup hostility—by fostering empathy, dialogue, and social cohesion.

Strong links between intolerance and indicators like conspiracy mentality and political violence underscore the urgency of comprehensive civic and media literacy programs (Goren & Yemini, 2017; Schmitt et al., 2018). These should empower adolescents to critically engage with polarized narratives, especially online. Community-based initiatives promoting shared projects and shared realities (Lutterbach & Beelmann, 2020) can strengthen mutual understanding. Additionally, fostering inclusive norms—centered on shared values, diversity, and equal participation—can help prevent polarization and support social cohesion (Shani et al., 2023). Addressing these challenges can ultimately contribute to a more inclusive and democratic society.

5. Conclusion

This study contributes to the discourse on political polarization by showing how norm deviation and intolerance relate to polarized attitudes among adolescents, with clear differences across gender, age, and migration background. These patterns highlight the need to understand the developmental and social-psychological roots of polarization (Beelmann & Lutterbach, 2022). Effective prevention must reflect these demographic nuances: Early adolescence is a key window for fostering democratic values and critical thinking, gender-sensitive strategies should address distinct social experiences, and tailored acculturation efforts can support integration and reduce polarization among youth with and without migration backgrounds. Targeting these factors may help prevent intolerance and societal division during times of political and cultural transformation.

Data Availability

The data are the property of the State Prevention Council of Lower Saxony in Germany. Upon request and with permission from the responsible authority, the data can be provided by the corresponding author.

Supplementary Material

Supplementary material for this article is available online in the format provided by the authors (unedited).

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