

Parents' and classmates' influences on adolescents' ethnic prejudice: A longitudinal multi-informant study

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Abstract

The family and classroom are important contexts that can contribute to the socialization of ethnic prejudice. However, less is known about their unique, relative, and synergic contributions in influencing youth's affective and cognitive prejudice. The current longitudinal study examined these processes and possible moderators among 688 Italian youth (49.13% girls; $M_{\text{age}} = 15.61$ years), their parents ($n_{\text{mothers}} = 603$, $n_{\text{fathers}} = 471$; $M_{\text{age}} = 49.51$ years), and classmates between January/February 2022 and January/February 2023. Cross-lagged panel models highlighted that parents and classmates exert unique and relative influences on different dimensions of adolescents' prejudice. Additionally, different interaction effects also emerged for affective (i.e., adverse compensatory effect) and cognitive (i.e., amplifying effect) prejudice. Thus, adolescents draw from the multiple contexts of development to orient themselves in the social world.

Ethnic prejudice is one of the main factors threatening positive intergroup relationships, social inclusion, and the cohesion of contemporary multicultural societies (Ward et al., 2017). Adolescence might be a crucial moment during which attitudes toward diversity change and consolidate, as this period is characterized by individual advancements in cognitive, social, and moral competences that support a more nuanced and complex understanding of the social world (Crocetti et al., 2021). Moreover, the development of attitudes during this life phase might be especially susceptible to the influences at play in key socialization contexts (Allport, 1954; Raabe & Beelmann, 2011).

In line with the ecological model of development (Bronfenbrenner, 1992, 2005), both the family and classroom are important proximal contexts that can contribute to the socialization of ethnic prejudice. Social learning and socialization perspectives (Allport, 1954; Bandura, 1977) posit that parents can model and reinforce desired attitudes and behaviors both directly, by explicitly and implicitly conveying their own views and beliefs, and indirectly, by managing their offspring's intergroup experiences and social environment. Conversely, classmates become an increasingly important source of intergroup norms in

adolescence and can provide youth with important descriptive and prescriptive information about the social world (Albarello et al., 2021; Thijs & Verkuyten, 2013). In turn, in line with developmental intergroup theory (Bigler & Liben, 2007; Nesdale, 2004), adolescents adjust their attitudes to be in line with the perceived shared norms in the class (e.g., Váradi et al., 2021) and with the levels of ethnic prejudice displayed by popular peers (Bohman & Kudrnáč, 2023; Paluck, 2011).

So far, most studies on the role of parents and classmates as socializing contexts for the development of ethnic prejudice in adolescence have relied on cross-sectional designs, thus limiting the understanding of the longitudinal reciprocal associations at play. Also, research has usually examined parents and classmates separately, thus preventing a comprehensive understanding of the relative and synergic influences of both contexts. Therefore, the current research aimed to fill these gaps by studying the longitudinal interplay between parents', classmates', and adolescents' ethnic prejudice and the conditions that facilitate or hinder the unique and interactive roles of these proximal contexts of development.

Abbreviations: FIML, full information maximum likelihood; MCAR, missing completely at random; MLR, maximum likelihood robust.

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Ethnic prejudice in context: A multidimensional and ecological approach

Ethnic prejudice can be conceived as a set of negative emotions, cognitions, and behaviors about individuals and groups because of their different ethnic and cultural backgrounds (Allport, 1954; Brown, 2011). It is a multidimensional phenomenon entailing both affective facets, such as negative feelings and dislike, and cognitive facets, such as stereotypes and negative beliefs, which together can lead to negative behaviors, such as avoidance and discrimination against outgroup members (Cuddy et al., 2007). In the context of the current study (i.e., Italy), prejudice against ethnic minority individuals is closely tied to their immigrant background. Specifically, local policies in the Italian context prevent foreigners to legally acquire and to be fully considered Italian citizens, because citizenship conceptions are closely tied to individuals' ethnic and cultural descent (Reijerse et al., 2015). Additionally, physical features and phenotypes can play a role in molding intergroup categorization processes, making the minority status of some but not other ethnic individuals more salient (Cicognani et al., 2018; Song, 2020). These conditions contribute to ascribing individuals with an immigrant descent (i.e., at least one parent born outside Italy) to minority or low-status groups within the larger society.

Consistent evidence highlights differences in development and correlates of the affective and cognitive components of ethnic prejudice in adolescence. For instance, intervention programs were found to be more or less effective depending on the dimension of prejudice examined (for a review, see Beelmann & Heinemann, 2014). Additionally, while positive intergroup contact was found to reduce both affective and cognitive prejudice levels, negative intergroup contact experiences were significantly associated only with increased negative stereotypes and beliefs about people from ethnic minority backgrounds (e.g., Aberson, 2015). Affective and cognitive prejudice also displayed different levels of rank-order stability in adolescence (for a meta-analysis, see Crocetti et al., 2021), with affective prejudice being less stable than cognitive prejudice. Overall, these findings suggest the importance of accounting for multiple dimensions of prejudice as they might be susceptible to different influences and factors.

Shifts and fluctuations in affective and cognitive dimensions of ethnic prejudice can result from the interactions and experiences that youth encounter in the multiple social contexts within which they develop (Bronfenbrenner, 2005; Crocetti et al., 2021). Proximal micro-contexts, such as the family and classroom, might be especially impactful because adolescents spend a considerable amount of time in these environments and have daily face-to-face interactions and close relationships with both their parents and classmates (Bohman & Kudrňáč, 2023). It is within these interpersonal

exchanges that intergroup attitudes, norms, and behaviors are expressed, negotiated, and socialized. Therefore, understanding how these socializing agents contribute to the development of affective and cognitive ethnic prejudice is fundamental to orient interventions aimed at supporting youth in their adjustment to current multicultural societies (Miklikowska & Bohman, 2019).

The role of proximal socialization contexts: Theoretical and empirical evidence

Social learning and socialization perspectives suggest that attitudes are learned through the observation and imitation of significant social referents, such as parents and peers (Allport, 1954; Bandura, 1977). Specifically, parents communicate their own attitudes, set norms and expectations, and reinforce behaviors and beliefs that align well with their own. Additionally, parents can foster specific views about diversity by managing their offspring's social world and experiences, such as their interaction with peers and opportunity for contact with diverse others (Grusec, 2011; Reich & Vandell, 2011). Together these processes contribute to parent-child similarity in ethnic prejudice (Dhont et al., 2013; Gniewosz et al., 2008; Meeusen & Dhont, 2015). As highlighted by meta-analytical (Degner & Dalege, 2013) and review (Zagrean et al., 2022) findings, significant medium-sized correlations emerged between parents' and children's intergroup attitudes. Additionally, parents' prejudice levels were found to be longitudinally associated with changes in German adolescents' (e.g., Gniewosz & Noack, 2015; Jugert et al., 2016) and Dutch young adults' (Hello et al., 2004) attitudes toward ethnic minority groups, confirming the role of parents as socializing agents in the development of ethnic prejudice.

Although most research has examined parents as main socializing actors and focused mostly on unidirectional influences, transactional models of development (Grusec, 2011; Sameroff, 2009) suggest that a bidirectional account of these processes can best capture the dynamic nature of parent-child relationships. Especially in adolescence, youth actively reflect on parental attitudes and even question their legitimacy (Smetana, 2018). These responses convey the mismatch between adolescents' and parents' views and highlight the need to renegotiate or discuss in more egalitarian ways the family rules and shared beliefs (Soenens & Vansteenkiste, 2020). As they grow older, adolescents can more independently choose whom they befriend and interact with, and they might be exposed to attitudes expressed in multiple contexts (e.g., school, media) that directly challenge those of their parents. These intergroup friendships and experiences might lead adolescents to engage in discussion with their parents and ultimately renegotiate the family's shared beliefs about diversity (Nesdale, 2004). Only a few longitudinal studies have examined the bidirectional nature

of these influences, lending support to transactional models of development (Grusec, 2011; Sameroff, 2009). That is, not only parental prejudice was significantly associated with changes in adolescents' attitudes, but also youth were found to influence their parents' beliefs at a later time (Miklikowska, 2016).

Besides the role of family, the classroom environment represents another important context where interpersonal and intergroup attitudes, norms, and behaviors are socialized and negotiated (Thijs & Verkuyten, 2013). This is especially relevant in the European and Italian context, where adolescents share their physical context and spend most of their time with the same group of classmates, who are not chosen but met on a daily basis in the school environment (Albarello et al., 2018). According to developmental intergroup theory (Bigler & Liben, 2007; Nesdale, 2004), classroom norms about diversity and group membership make specific group dimensions salient and guide the processes of categorization and association of specific labels or attitudes to some groups and their members. In other words, levels of affective and cognitive prejudice shared in the classroom environment convey specific views about diversity and consequently influence adolescents' feelings and thoughts about ethnic minority individuals. Compared to parents' influences on prejudice, the role of classmates has been examined less extensively. However, perceptions of classmates as supporting multiculturalism and disapproving ethnic prejudice were found to be associated with, respectively, more positive intergroup attitudes (Thijs & Verkuyten, 2013) and decreases in prejudice over time (Váradi et al., 2021). Additionally, friends' and classmates' intergroup attitudes were found to influence changes in adolescents' ethnic prejudice (e.g., Bohman & Kudrnáč, 2023; van Zalk et al., 2013; Zingora et al., 2020) and tolerance (van Zalk et al., 2013) across several countries (e.g., Sweden, the Netherlands).

Overall, prior research, which was mostly conducted in the European context, highlighted the significant role of both parents and classmates in contributing to the socialization of intergroup attitudes in adolescence. Nevertheless, it is less clear which conditions facilitate or hinder these processes of (possibly reciprocal) influence. Building upon the assumptions of developmental intergroup theory (Bigler & Liben, 2007; Nesdale, 2004), adolescents might be more susceptible to acquiring attitudes and behaviors that are prevalent in the social groups with whom they more strongly identify. In other words, the more youth identify with their family and classmates, the more likely they are to align themselves with the levels of affective and cognitive prejudice that characterizes these proximal contexts (Allport, 1954). Along this line, research has highlighted that parents and peers are more influential when adolescents have positive and open relationships with these socializing agents. For instance, parents' influences on ethnic prejudice were found to be stronger for youth who perceived higher parental

support (Miklikowska, 2016). Similarly, peer acceptance (Thijs & Verkuyten, 2013) was found to moderate peers' influences on adolescents' ethnic prejudice. One study (Sinclair et al., 2005) has examined the moderating role of ingroup identification. Specifically, parents' and their offspring's prejudice levels were found to be significantly associated only among children who highly identified with their parents, in line with the theoretical premises of developmental intergroup theory (Bigler & Liben, 2007; Nesdale, 2004). However, less is known about the process of identification with the group of classmates and how it could moderate the influences at play.

The relative influence of parents and classmates

Both the family and classroom environments represent important micro-contexts where youth learn and develop by observing and interacting with significant social agents (e.g., Pehar et al., 2020). However, these proximal systems might not be equally important at all life stages. On the one hand, parents can be conceived as primary socializing agents as they exert both direct and indirect influences on youth from a very young age, with long-lasting effects that are maintained in adolescence and adulthood (Grusec, 2011). On the other hand, adolescents tend to progressively separate themselves from parents, spending more autonomous time with peers and friends and turning to them for support (Brown, 2004). Applied to ethnic prejudice socialization processes, this suggests that, as adolescents grow older, parental influences could be progressively outweighed by those of classmates.

The research examining these two micro-contexts simultaneously has yielded mixed and inconclusive results. For instance, some studies have highlighted that parent-child similarity in prejudice decreased linearly with age, while similarity with the best friend remained stable (Gniewosz et al., 2008). Conversely, parents' and friends' prejudice levels were found to respectively exert long- and short-term influences on adolescents' attitudes (Miklikowska, 2017), with no significant differences in the strength of these associations over time (Miklikowska et al., 2019). The current study aimed to examine the simultaneous influences of both parents and classmates and to identify possible age-related differences in the relative importance of these socializing agents for the development and consolidation of affective and cognitive ethnic prejudice in adolescence.

The synergic influence of parents and classmates

In line with ecological system theory (Bronfenbrenner, 1992, 2005), the two micro-contexts of parents and classmates can interact synergically and therefore create meso-systemic conditions that contribute to adolescents'

development. On the one hand, consistency in the influences across the two contexts might amplify the effect of both socializing agents on youth's development and functioning. For instance, research on value socialization found that a fit between values of parents and peers (Barni et al., 2014) and parents and school (Knafo, 2003) enhanced the strength of family transmission processes. On the other hand, being exposed to opposed attitudes across the family and classroom contexts might offer adolescents a more nuanced perspective and possibly buffer negative influences from one or the other environment (for an overview, see Reich & Vandell, 2011).

Prior research on prejudice socialization highlighted that attending classrooms characterized by high ethnic diversity (e.g., Miklikowska et al., 2019) and having intergroup contact experiences and friendships (e.g., Dhont & Van Hiel, 2012; Miklikowska, 2017) buffered the negative effects of parents' prejudice. Conversely, friends' prejudice levels did not moderate the effect of parental attitudes on adolescents' views about diverse others (Miklikowska et al., 2019). Overall, while there is contrasting evidence on how features of the classroom and friendship contexts can interact with the family environment in the socialization of ethnic prejudice, less is known about the synergic effects of parents and classmates. Understanding the interactive effects of these proximal contexts is crucial to identify possible venues for interventions to prevent the consolidation of negative attitudes about diversity in adolescence.

Current study

Research examining the role of parents and classmates in influencing adolescents' attitudes has looked at these contexts mainly in isolation. However, a comprehensive understanding of unique, relative, and synergic socializing effects is needed to inform interventions aimed at reducing ethnic prejudice and its heinous consequences. Thus, the current study had four main goals.

First, it aimed to study the unique role of the family context by examining the longitudinal reciprocal associations between parents' and adolescents' affective and cognitive prejudice and the role of identification with the family in moderating parents' influences (if any). Parents' ethnic prejudice was expected to be significantly associated with changes in youth's prejudice (Hypothesis 1a), and adolescents' prejudice was expected to be significantly associated with changes in parents' (Hypothesis 1b). Also, adolescents who highly identify with their family were expected to be more strongly influenced by their parents' prejudice levels (Hypothesis 1c).

Second, this research studied the longitudinal interplay between classmates' and adolescents' prejudice levels and the moderating effect of identification with

this proximal group. Specifically, classmates were expected to significantly influence changes in youth's prejudice (Hypothesis 2a). However, no bidirectional influences were expected in this specific context since it is unlikely that a single youth can influence the shared attitudes within the classroom environment. Further, ingroup identification was expected to moderate this influence, with stronger influences emerging for adolescents who highly identify with their group of classmates (Hypothesis 2b).

Third, this study aimed to examine the influence of both parents and classmates' prejudice simultaneously. Specifically, both socializing agents were expected to significantly influence adolescents' affective and cognitive prejudice (Hypothesis 3a). However, parents' influences were expected to be stronger than those of classmates for younger adolescents, while classmates' prejudice was expected to be more strongly associated to older adolescents' prejudice compared to that of their parents (Hypothesis 3b).

Last, the current research sought to examine the interactive effect of both proximal contexts. Specifically, in line with prior research on values' socialization (Barni et al., 2014; Knafo, 2003), adolescents whose parents and classmates both report high levels of affective and cognitive prejudice were expected to display steeper increases in affective and cognitive prejudice against ethnic minorities (Hypothesis 4). Research questions and hypotheses were preregistered at: <https://osf.io/uqxrn>.

METHODS

Participants

Participants in this two-wave longitudinal study were drawn from a larger sample of adolescents and their parents involved in the ongoing longitudinal project IDENTITIES “Managing identities in diverse societies: A developmental intergroup perspective with adolescents”. For the purpose of the current study, a total of 688 youth (49.13% girls; $M_{\text{age}} = 15.61$ years, $SD = 1.10$ at T1) for whom at least one parent ($n_{\text{mothers}} = 603$, $n_{\text{fathers}} = 471$; $M_{\text{age}} = 49.51$ years, $SD = 4.62$ at T1) participated in the project were included. At the beginning of the study, adolescents attended either the 1st (48.55%) or 3rd (51.45%) year from 14 secondary high schools located in the Northern part of Italy (i.e., Emilia-Romagna region). This region is characterized by the highest percentage (i.e., 17.10%) of ethnic minority youth within the overall student population (from primary to secondary high schools) in the Italian school system (Ministero della Pubblica Istruzione, 2022). The average percentage of ethnic minority youth within the overall student population in Italy is 10.3%. Notably, most ethnic minority students in the Emilia-Romagna

have either an Eastern European background (e.g., Albania and Romania represent the country of origin of 27.4% of ethnic minority students), an African background (e.g., Morocco is the country of origin of 16.4% of ethnic minority students), or an Asian background (e.g., China is the country of origin of 5.3% of ethnic minority youth; Ministero della Pubblica Istruzione, 2022), fully reflecting the distribution observed in the general population (ISTAT, 2020). When examining more specifically the secondary high school context, again Emilia-Romagna has the highest percentage (i.e., 13.5%) of students with an ethnic minority background compared to the country's average (i.e., 8.0%; Ministero della Pubblica Istruzione, 2022). Therefore, this region provides an important context for the study of intergroup attitudes and relationships. Moreover, the schools involved in the current project fully reflect such diversity of the secondary high school student population. Specifically, the percentage of ethnic minority youth in our schools, as obtained from archive data, ranges between 8.72% and 32.97%, with an average of 20.95%.

Participants attended either a university-oriented (i.e., lyceum; 54.80%), a technical (31.68%), or a vocational (13.52%) track. Since the focus was on prejudice against people from ethnic minority backgrounds, only ethnic majority adolescents (i.e., those whose parents were both born in Italy and had Italian nationality) were included in the current study. At baseline, most adolescents reported their parents were married or cohabiting (83.41%), while 14.83% reported their parents were separated or divorced, and the remaining (1.76%) reported other family conditions (e.g., single-parent household). Most adolescents (79.21%) had at least one sibling, while the remaining (20.79%) were only children. Regarding parents' educational level, adolescents reported that most of their mothers (48.81%) and fathers (47.56%) had a medium educational level (i.e., high school diploma). Among mothers, most of the remaining (38.58%) had a high (i.e., university degree or higher) and only a few (12.61%) had a low (i.e., up to middle school diploma) educational level. Similarly, the remaining fathers had either a high (27.55%) or a low (24.89%) educational level.

Most adolescents (73.55%) and parents (70.79%) participated in both assessments. Within the first assessment, the completion rate at the item level was very high for both adolescents (92.59%) and parents (96.51%), while within the second assessment it decreased (66.71% for both respondents). The Little's (1988) Missing Completely at Random test yielded a normed χ^2 ($\chi^2/df=4034.43/2958$) of 1.37, indicating that data were likely missing completely at random. Therefore, the total sample of 688 participants was included in the analyses, and missing data were handled with the Full Information Maximum Likelihood procedure available in *Mplus* (Kelloway, 2015).

Procedure

The present study was approved by the Ethics Committee of the Alma Mater Studiorum University of Bologna (Italy) as part of the ERC-Consolidator project IDENTITIES “Managing identities in diverse societies: A developmental intergroup perspective with adolescents”. This longitudinal research involves adolescents from several high schools in Italy, together with their parents and teachers. Schools were selected through a stratified (by track and level of urbanization) randomized method and principals were approached to present the project. Upon their approval, the study was presented to students and their parents who also received written and detailed information. Active consent from parents was obtained prior to their children's participation. Active consent was also obtained from adolescents of age, while their underage peers provided their assent to participate in the project. Participation was voluntary and participants were informed they could withdraw their consent at any time.

The IDENTITIES project started in 2022 and included multiple annual, monthly, and daily assessments. For the purpose of the current study, only data from the first two annual assessments (i.e., January/February 2022 and 2023) of students and their parents were used. At each wave, adolescents and their classmates completed online questionnaires on Qualtrics during school hours, with researchers and research assistants present in the classroom to answer any questions. Parents received a personalized and pseudonymized link via email to complete the annual questionnaire online. All participants completed the questionnaire in Italian which, for those involved in the current study, was their first language. Adolescents and their parents were required to create a personal code (unique to each youth) to pair their answers over time and within each family unit and to protect their anonymity.

Measures

Demographics

Adolescents completed socio-demographic questions (i.e., sex, age, family condition, parents' educational level) at T1.

Adolescents' affective prejudice

The affective component of prejudice was assessed at both time points using the Feeling thermometer (Haddock et al., 1993; for the Italian version, see Bobba & Crocetti, 2022), which has been previously used in research assessing ethnic prejudice (for a review, see Crocetti et al., 2021). This measure asks participants

to rate how much they like different outgroups (i.e., Romanians, Albanians, Moroccans, Chinese, and Ukrainians) were chosen since they are the most represented groups of foreigners in Italy according to ISTAT, 2020) on a scale from 0° (at all) to 100° (very much). The scale was reversed to simplify the interpretation of results, with higher scores indicating higher prejudice. A total affective prejudice score was computed using the mean level of disliking expressed for these different outgroups. Reliability was high at both the first ($\alpha = .923$; $\omega = .924$) and second ($\alpha = .943$; $\omega = .944$) assessments.

Adolescents' cognitive prejudice

To evaluate the cognitive component of prejudice at both time points, five items were adapted from Brown et al. (2008). Adolescents rated their agreement on a 5-point Likert scale (from 1 “completely disagree” to 5 “completely agree”). A sample item is “Foreign people should be marginalized in Italian society”. The scale showed good reliability across both the first ($\alpha = .859$; $\omega = .863$) and second ($\alpha = .887$; $\omega = .886$) assessment.

Adolescents' social identification with family and classmates

Identification with family and classmates was assessed at T1 with a shortened version of the Group Identification Scale for both groups (Thomas et al., 2017). The shortened version of this scale included 3 items for each reference group, which the participants had to rate on a 5-point Likert type scale (from 1 “completely false” to 5 “completely true”). A sample item is: “I identify with my family/classmates”. Reliability was high for both identification with family ($\alpha = .843$; $\omega = .845$) and identification with classmates ($\alpha = .829$; $\omega = .831$).

Classmates' affective and cognitive prejudice

For each adolescent participant, two scores of their classmates' prejudice were computed, one for the affective and one for the cognitive dimensions. In both cases, classmates' prejudice was computed as the average level of either affective or cognitive prejudice reported by the classmates participating in the study, excluding the targeted participant. This procedure was followed for both assessments.

Parents' affective prejudice

Parents' affective component of prejudice was assessed at both time points using a single item of the Feeling

thermometer (Haddock et al., 1993; for the Italian version, see Bobba & Crocetti, 2022), asking participants to rate how much they like foreign people on a scale from 0° (at all) to 100° (very much). The scale was reversed to simplify the interpretation of results, with higher scores indicating higher prejudice. Additionally, the scores of mothers' and fathers' affective prejudice were standardized to control for potential mean differences between mother and father reports and then averaged.

Parents' cognitive prejudice

To evaluate the cognitive component of prejudice at both time points, parents completed the same five items used for adolescents (adapted from Brown et al., 2008). Parents rated their agreement on a 5-point Likert scale (from 1 “completely disagree” to 5 “completely agree”). A sample item is “Foreign people should be marginalized in Italian society”. The average scores of mothers' and fathers' cognitive prejudice were standardized to control for potential mean differences between mother and father reports and then averaged. The scale showed high reliability at both the first ($\alpha = .847$; $\omega = .844$) and second ($\alpha = .836$; $\omega = .834$) assessment.

Strategy of analyses

Descriptive and reliability analyses were conducted using IBM SPSS Version 28.0 for Windows. The remaining analyses were conducted in *Mplus* 8.6 (Muthén & Muthén, 2017), using Maximum Likelihood Robust estimator (Satorra & Bentler, 2001). The plan of analysis was preregistered at <https://osf.io/uqxrn>. Differently from the preregistered analytical plan, models reported in the manuscript were run using *Type = General* instead of *Type = Complex* function (which controls for the fact that students are nested in classrooms) because the latter would result in warnings about a non-positive definite product matrix. Nevertheless, results were replicated across the two analytical strategies, as detailed in [Supporting Information](#). Analyses codes and outputs can be retrieved from <https://osf.io/h5x7k/>.

Two preliminary steps were undertaken prior to conducting the main analyses. First, we tested whether affective and cognitive prejudice scales showed longitudinal (for affective prejudice of adolescents across the two time points) and multigroup (for cognitive prejudice across time points and respondents) invariance. The full procedure is detailed in [Supporting Information](#). Second, instead of relying on mean- or median-split methods, two latent profile analyses were conducted to identify groups of adolescents based on their levels of identification (i.e., low and high), separately for the family and classmates' groups. Models with an increasing number of classes were tested for

identification with family at T1 and identification with classmates at T1. The full procedure, model fit indicators, and results are reported in [Supporting Information](#). Identifying two groups of participants allowed to test the moderating role of identification with relevant proximal groups by conducting multigroup analyses. This analytical procedure is preferable when the moderation effect is to be tested on all the paths included in the model (Memon et al., 2019).

To test the main hypotheses of the current study (i.e., examine the unique, relative, and synergic role of parents and classmates in influencing changes in affective and cognitive prejudice of adolescents and whether identification with the proximal groups and age moderate these influences), seven cross-lagged panel models with observed variables were estimated. First, the unique (Model 1 and Model 2 for parents' and classmates' influences, respectively) and relative (Model 3) effects of parents and classmates were tested in three main models. These models examined cross-lagged paths between affective and cognitive prejudice of adolescents and affective and cognitive prejudice of their parents and/or classmates, controlling for: (a) stability or autoregressive paths (i.e., $T1 \rightarrow T2$), and (b) within-time correlations among all variables (i.e., correlations among variables at T1, and correlated changes at T2). Next, each main model was replicated in a multigroup framework to examine the moderating effects of social identifications (Model 1A and Model 2A for parents and classmates, respectively) and age (Model 3A), with Wald test statistics used to identify significant differences in lagged associations, within-time correlations, and correlated changes among the groups. Last, an additional cross-lagged panel model was tested by including two interaction terms (i.e., one for affective and one for cognitive prejudice) between (the grandmean centered values of) parents' and classmates' prejudice (Model 4). Significant interaction effects were further explored by conducting simple slope analysis and by examining regions of significance with the Johnson-Neyman technique (Preacher et al., 2006). All models were fully saturated. Regarding Models 1 to 4, stability paths, within-time correlations at T1, and T2 correlated changes are reported in [Tables 1 and 2](#). Significant cross-lagged paths are reported in [Figure 1](#).

RESULTS

Preliminary analyses

Means, standard deviations, and correlations among study variables are reported in [Table S1](#). Full metric invariance was established both longitudinally (for affective and cognitive prejudice of adolescents, and cognitive prejudice of parents) and across the groups of

adolescents and parents (for cognitive prejudice). Results are reported in [Table S2](#). Further, results of the latent profile analyses are reported in [Table S3](#). Regarding the family group, youth were divided between those with low (9%; $M=2.23$; $\sigma^2=.44$) and those with high (91%; $M=3.83$; $\sigma^2=.44$) levels of identification. Regarding identification with the group of classmates, youth were divided between those with low (15%; $M=1.88$; $\sigma^2=.43$) and those with high (85%; $M=3.31$; $\sigma^2=.43$) levels.

The role of the family context

Results on the longitudinal reciprocal influences between affective and cognitive prejudice of adolescents and their parents ([Figure 1](#), Model 1) only partially supported Hypothesis 1a and did not lend support for Hypothesis 1b. Out of the eight reciprocal longitudinal associations being tested, one was significant. Specifically, parents' cognitive prejudice at the beginning of the study was significantly associated with relative increases in cognitive prejudice of adolescents over time, but the same effect was not found for affective prejudice. Contrary to expectations, adolescents' prejudice levels were not significantly associated with those of their parents at the following time point.

Regarding the moderating role of identification with the family, results did not fully support the hypothesis. No differences emerged in cross-lagged associations and correlated changes between adolescents with low and those with high levels of identification with their family. However, the correlations of adolescents' cognitive prejudice with parents' cognitive (Wald=4.19, $p=.041$) and affective (Wald=5.55, $p=.018$) prejudice at T1 were found to be significant for adolescents with high levels of identification with the family ($r=.17$, $p<.001$ for both cognitive and affective prejudice), but not for those with low levels of identification ($r=-.11$, $p=.376$ for the affective dimension; $r=-.03$, $p=.807$ for the cognitive dimension).

The role of the classroom context

Results on the longitudinal associations between classmates' and adolescents' affective and cognitive prejudice ([Figure 1](#), Model 2) only partially supported Hypothesis 2a. Out of the eight reciprocal longitudinal associations examined, only one was significant. Specifically, classmates' cognitive prejudice was positively associated with relative changes in affective prejudice of adolescents, while no other significant cross-paths emerged. Regarding Hypothesis 2b, multigroup analyses revealed no significant differences in cross-lagged associations and correlated changes, whereas one significant difference emerged for the correlation between cognitive prejudice of adolescents and classmates at Time 1 (Wald=10.23, $p=.001$).

TABLE 1 Standardized results of cross-lagged panel Model 1 and Model 2.

<i>N</i> = 688	Model 1 <i>B</i> (SE)		Model 2 <i>B</i> (SE)	
	T1 → T2		T1 → T2	
Adolescents' affective prejudice	.472*** (.047)		.460*** (.048)	
Adolescents' cognitive prejudice	.491*** (.049)		.514*** (.049)	
Parents' affective prejudice	.414*** (.051)			
Parents' cognitive prejudice	.498*** (.046)			
Classmates' affective prejudice			.442*** (.061)	
Classmates' cognitive prejudice			.293*** (.058)	
Correlations	T1	T2	T1	T2
Adolescents' AP ↔ adolescents' CP	.511*** (.029)	.229*** (.050)	.514*** (.029)	.231*** (.050)
Adolescents' AP ↔ parents' AP	.144*** (.041)	.011 (.054)		
Adolescents' AP ↔ parents' CP	.109** (.041)	.008 (.058)		
Adolescents' CP ↔ parents' AP	.153*** (.043)	.018 (.058)		
Adolescents' CP ↔ parents' CP	.159*** (.041)	.061 (.059)		
Parents' AP ↔ parents' CP	.593*** (.029)	.347*** (.041)		
Adolescents' AP ↔ classmates' AP			.259*** (.038)	.067 (.053)
Adolescents' AP ↔ classmates' CP			.177*** (.038)	.001 (.050)
Adolescents' CP ↔ classmates' AP			.182*** (.043)	.018 (.051)
Adolescents' CP ↔ classmates' CP			.203*** (.043)	.027 (.048)
Classmates' AP ↔ classmates' CP			.640*** (.029)	.192* (.081)

Abbreviations: AP, affective prejudice; CP, cognitive prejudice; T, time.

* $p < .05$; ** $p < .01$; *** $p < .001$.

Among adolescents who identified strongly, cognitive prejudice at Time 1 significantly and positively correlated with their classmates' cognitive prejudice ($r = .21, p < .001$), while the same pattern did not emerge for youth with a low identification with classmates ($r = -.12, p = .268$).

The relative influences of the family and classroom contexts

Results on the relative influences of parents and classmates (Figure 1, Model 3) replicated findings from the previous cross-lagged panel models. Two associations, out of the 16 paths being tested, were significant. Specifically, these two effects were the same that emerged in the separate models, lending support for Hypothesis 3a. Multigroup analyses did not support Hypothesis 3b as age did not significantly moderate the cross-lagged associations nor the correlated changes between parents' and classmates' prejudice levels and those of adolescents. However, one significant difference emerged in the Time 1 correlation between affective prejudice of classmates and adolescents (Wald = 4.81, $p = .028$), which was stronger for older adolescents ($r = .34, p < .001$) than for younger adolescents ($r = .16, p = .008$).

The synergic influence of family and classmates

Results on the interactive effect of family and classroom contexts (Figure 1, Model 4) highlighted that parental and classmates' prejudice significantly interacted in predicting later levels of adolescents' prejudice and such associations were dimension specific. Regarding affective prejudice, the interaction of parents' and classmates' affective prejudice at Time 1 was significantly linked to adolescents' affective prejudice at Time 2. Follow-up analyses showed that, although the effects of classmates on adolescents' prejudice were not significant in both instances, at higher levels of parental affective prejudice, the effect of classmates on adolescents' prejudice was negative (slope at 1 SD above the mean: $-0.14, p = .231$), while when parents reported lower levels of prejudice, it was positive (slope at 1 SD below the mean: $0.19, p = .138$). The significant interaction was further explored using regions of significance with the Johnson-Neyman technique (Preacher et al., 2006). Figure 2a shows how the effect of classmates' affective prejudice at the beginning of the study (i.e., predictor) on adolescents' prejudice at the following time point (i.e., outcome) changed as a function of parents' affective prejudice levels (i.e., moderator). As can be inferred, the slope was not significant within the range of standardized values of parental prejudice.

TABLE 2 Standardized results of cross-lagged panel Model 3 and Model 4.

<i>N</i> = 688	Model 4 B (SE)		Model 4 B (SE)	
	T1 → T2		T1 → T2	
Stability paths				
Adolescents' affective prejudice	.458*** (.048)		.466*** (.047)	
Adolescents' cognitive prejudice	.488*** (.049)		.475*** (.049)	
Parents' affective prejudice	.418*** (.051)		.418*** (.051)	
Parents' cognitive prejudice	.497*** (.046)		.497*** (.046)	
Classmates' affective prejudice	.443*** (.061)		.443*** (.061)	
Classmates' cognitive prejudice	.287*** (.059)		.287*** (.059)	
Correlations				
	T1	T2	T1	T2
Adolescents' AP ↔ adolescents' CP	.513*** (.029)	.224*** (.050)	.513*** (.029)	.222*** (.052)
Adolescents' AP ↔ parents' AP	.146*** (.041)	.019 (.055)	.145*** (.041)	.016 (.055)
Adolescents' AP ↔ parents' CP	.109** (.041)	.001 (.057)	.109** (.041)	−.009 (.057)
Adolescents' CP ↔ parents' AP	.155*** (.043)	.021 (.058)	.156*** (.043)	.021 (.058)
Adolescents' CP ↔ parents' CP	.159*** (.041)	.056 (.059)	.159*** (.041)	.044 (.059)
Parents' AP ↔ parents' CP	.593*** (.029)	.349*** (.041)	.593*** (.029)	.349*** (.041)
Adolescents' AP ↔ classmates' AP	.258*** (.038)	.066 (.053)	.260*** (.038)	.058 (.051)
Adolescents' AP ↔ classmates' CP	.177*** (.038)	.002 (.051)	.179*** (.038)	.008 (.048)
Adolescents' CP ↔ classmates' AP	.182*** (.043)	.008 (.053)	.181*** (.043)	.009 (.051)
Adolescents' CP ↔ classmates' CP	.203*** (.043)	.022 (.048)	.201*** (.043)	.021 (.047)
Classmates' AP ↔ classmates' CP	.640*** (.029)	.190* (.081)	.640*** (.029)	.190* (.081)
Parents' AP ↔ classmates' AP	.138*** (.039)	−.007 (.050)	.139*** (.039)	−.006 (.050)
Parents' AP ↔ classmates' CP	.139*** (.037)	−.051 (.040)	.139*** (.037)	−.051 (.040)
Parents' CP ↔ classmates' AP	.091* (.038)	.092 (.053)	.091* (.038)	.092 (.053)
Parents' CP ↔ classmates' CP	.110** (.037)	.055 (.047)	.110** (.037)	.055 (.047)

Abbreviations: AP, affective prejudice; CP, cognitive prejudice; T, time.

* $p < .05$; ** $p < .01$; *** $p < .001$.

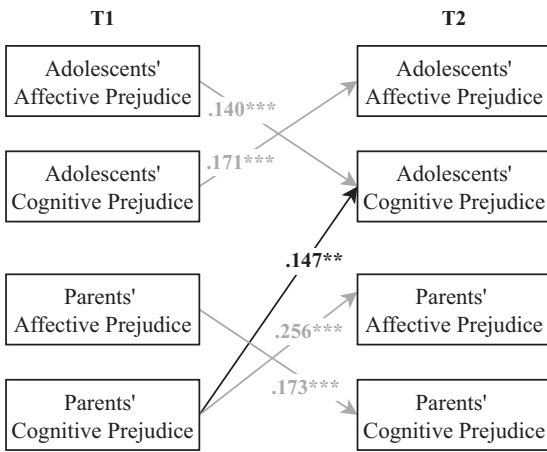
However, it highlights a trend whereby the link between classmates' and adolescents' prejudice became progressively negative and smaller at higher values of parental prejudice.

Regarding the cognitive dimension, the interaction of parents' and classmates' cognitive prejudice at Time 1 was significantly linked to adolescents' cognitive prejudice at Time 2. In line with Hypothesis 4, when parents reported higher prejudice levels the influence of classmates on adolescents was also positive and significant (slope at 1 SD above the mean: 0.30, $p = .036$), while when parents reported lower levels of cognitive prejudice it was negative but insignificant (slope at 1 SD below the mean: -0.25 , $p = .107$). Furthermore, this interaction was probed using the Johnson-Neyman regions of significance test, the results of which are represented in Figure 2b. The link between classmates' and adolescents' cognitive prejudice became significantly positive when parents' cognitive prejudice was higher than 1.05 and significantly negative when parents' prejudice was lower than -1.67 . Both values fell within the range (i.e., between -2 and 5) of standardized scores of parents' cognitive prejudice.

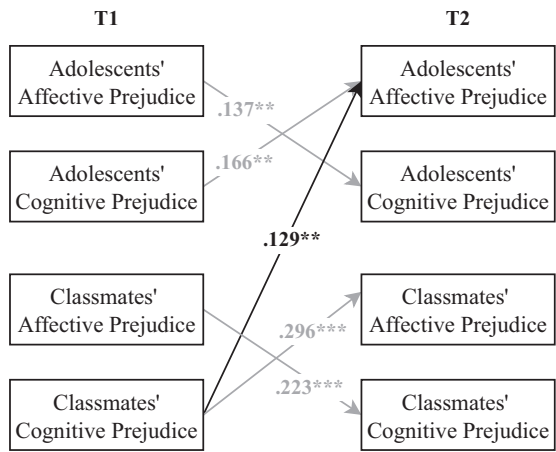
Ancillary sensitivity analyses

The robustness of findings from the cross-lagged panel models was further checked by conducting three sets of sensitivity analyses. First, Models 1 to 4 were replicated using *Type = Complex* to account for the nested nature of the data (i.e., students embedded in classrooms). Results, which fully replicate the current findings, are reported in Table S4a–d. Second, Model 1 to 4 were tested again controlling for participants' sex, and covariates of the family (i.e., parents' educational level) and classroom (i.e., school track) contexts. Results, which are reported in Table S5a–d, largely replicated the current findings. The main differences emerged in Model 3, where younger and older adolescents were found to respectively contribute to significant changes in their parents' and classmates' cognitive prejudice. Last, the models reported in the current study were partially revised and estimated as Latent Change Score models, which allows to better interpret longitudinal associations in light of within-person changes (McArdle, 2009; Newsome, 2015). Results (see Table S6a–d) fully replicated the main models, confirming the robustness of these findings.

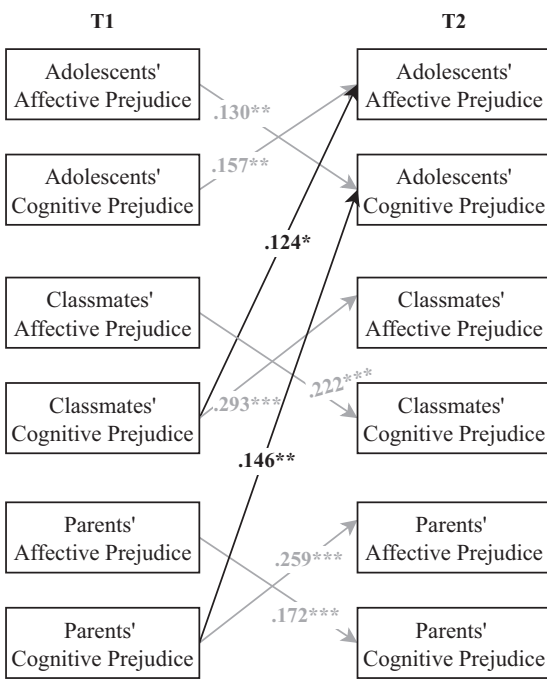
Model 1



Model 2



Model 3



Model 4

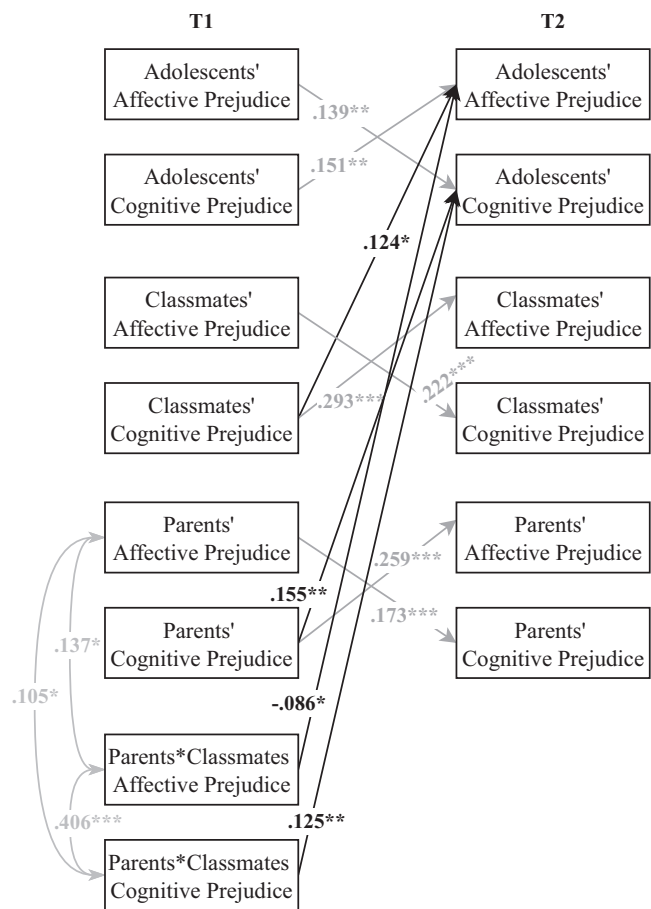


FIGURE 1 Standardized results of the cross-lagged panel models. T, time. Light gray arrows indicate within-respondents effects (e.g., paths between components of adolescents' prejudice), while dark gray arrows indicate between-respondents effects (e.g., paths between parents' and adolescents' prejudice). * $p < .05$, ** $p < .01$, *** $p < .001$.

DISCUSSION

Adolescence is a crucial period for the development and consolidation of personal views about self, others,

and society (Meeus, 2019). Such processes do not occur in a vacuum but are rather influenced by the multiple adult and peer referents with whom youth interact on a daily basis. Among these, parents and classmates, who

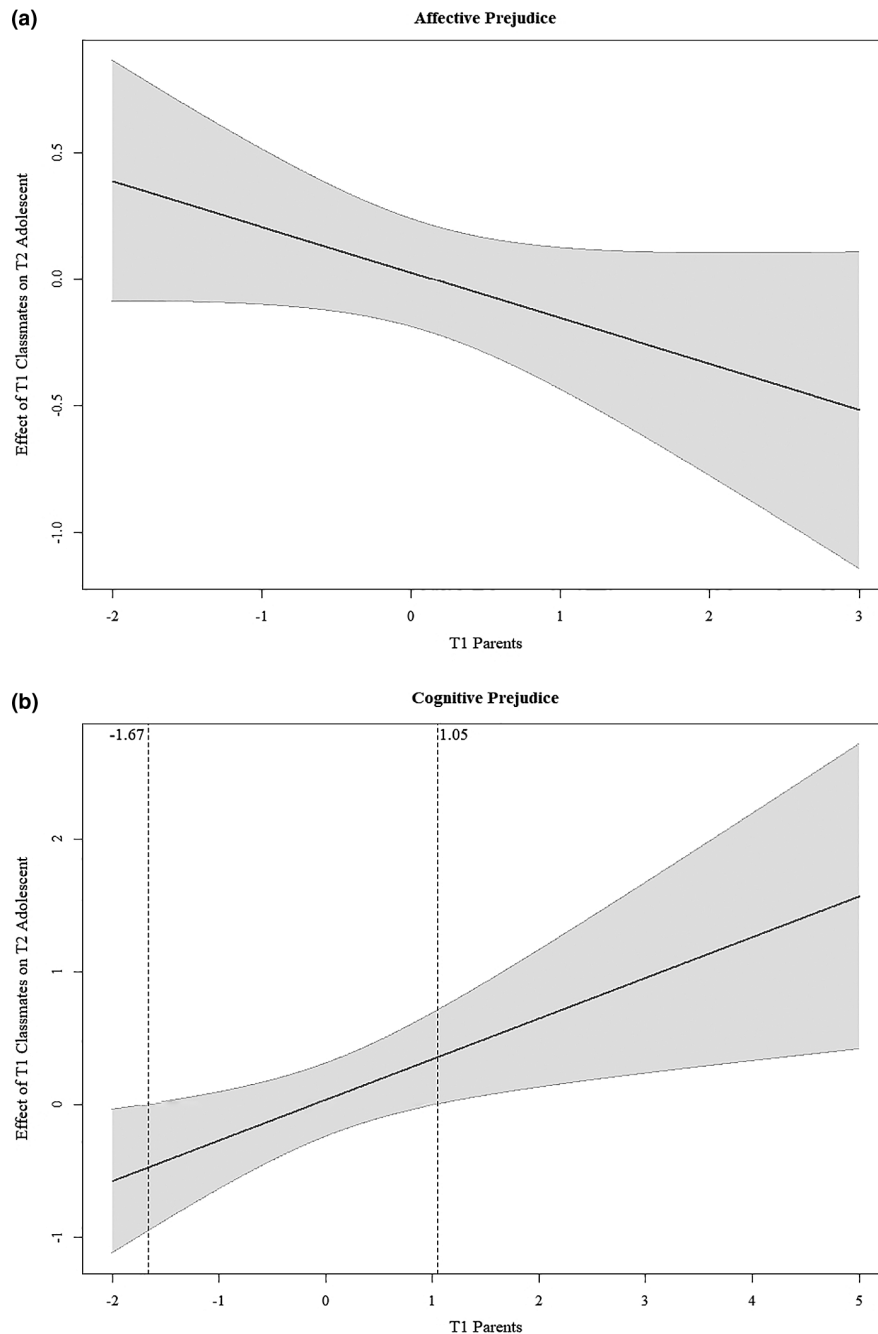


FIGURE 2 Interaction effect of parents and classmates on adolescents' affective (Figure (a)) and cognitive (Figure (b)) prejudice and Johnson-Neyman results. Parents' prejudice scores were standardized and grandmean centered for the purpose of interaction analyses. In Figure (b), the dashed lines mark the range of parents' cognitive prejudice values outside which the link between classmates' prejudice at T1 and adolescents' prejudice at T2 is significant.

represent two separate but equally important contexts of adolescents' development, can contribute to the socialization of intergroup affects and cognitions (e.g., Bohman & Kudrnáč, 2023; Meeusen & Dhont, 2015; for meta-analyses, see Crocetti et al., 2021; Degner & Dalege, 2013). The current study examined, among Italian youth, the unique, relative, and synergic influences of parents' and classmates' ethnic prejudice on subsequent levels of adolescents' negative emotions and

beliefs about ethnic others and the conditions that may facilitate or hinder socialization processes. Regarding unique influences, parents' and classmates' cognitive prejudice were found to respectively influence youth's cognitive and affective prejudice regardless of adolescents' level of identification with each social group. Regarding relative influences, these effects held when the two contexts were examined together and across different age groups. Last, significant synergic influences

emerged, although different for affective and cognitive prejudice. Overall, these findings highlighted the importance of both socialization contexts for the development of attitudes and how such influences play out differently depending on the dimension of prejudice considered.

Family ties and classroom walls: The unique role of parents and classmates in influencing adolescents' prejudice

The first and second goal of the current study were to investigate the unique role played by parents and classmates separately in influencing changes in adolescents' ethnic prejudice. Each context appeared to significantly contribute to the socialization of attitudes, although tapping different dimensions depending on the referent examined. Regarding the family context, only one significant longitudinal association emerged with parents' cognitive prejudice contributing to relative increases in the same dimension of adolescents' prejudice. This finding only moderately supports socialization theories of prejudice (Allport, 1954; Bandura, 1977) and aligns with prior research highlighting the concurrent (e.g., Jaspers et al., 2008; Meeusen & Dhont, 2015) and longitudinal (e.g., Gniewosz & Noack, 2015; Miklikowska, 2016) associations between parents and their offspring's attitudes about members of ethnic minority groups. On the contrary, no significant effect emerged for the affective dimension of prejudice. This lack of associations could be explained by the fact that children from a very young age look up to their parents as a source of information about the social world. In turn, the ideas, views, and beliefs they convey either directly or indirectly can represent the cornerstones for the development and consolidation of attitudes about others. Conversely, youth's feelings and emotions toward diversity, which have been found to display lower intrapersonal stability (for a review, see Crocetti et al., 2021), might be more susceptible to momentary factors (e.g., specific events or encounters) rather than influences that build up over time in the family context.

Additionally and contrary to the assumptions of transactional models of development (Sameroff, 2009), adolescents appeared to be mainly recipients of their parents' beliefs rather than influencing parents themselves. This finding is in contrast with other research showing bidirectional prejudice socialization effects over a 2-year span (Miklikowska, 2016). Youth might still be active participants, and not passive recipients, in the processes at play, although their influence might require more time to emerge and lead to significant changes in adults' views and beliefs. Future research should strive to unravel the nature of prejudice socialization processes across different time frames to examine short-, medium-, and long-term influences.

Regarding the classroom context, again only one significant cross-lagged path emerged, with classmates' cognitive prejudice at the beginning of the study contributing to increased affective prejudice of adolescents. This finding is in line with prior research highlighting that (popular) classmates' prejudice (e.g., Bohman & Kudrnáč, 2023) and perceived norms (e.g., Váradi et al., 2021) can influence intergroup attitudes. Interestingly, this effect emerged only between the cognitive and affective prejudice of classmates and adolescents, respectively. Such dimension mismatch in the socialization processes occurring in the class can be explained in relation to the opportunities that this peer context offers. Specifically, the class and school appear to be crucial milieus for intergroup encounters (Miklikowska & Bohman, 2019). However, ethnic-based stereotypes directly expressed or more subtly conveyed by classmates might set negative norms about diversity and contact with minorities in the class (e.g., Titzmann et al., 2015; Tropp et al., 2016). These negative conditions can impair the quality of intergroup interactions within the school and classroom context, as they have been found to contribute to less comfort and willingness to engage in cross-group friendship (e.g., Tropp et al., 2016), and more negative intergroup contact experiences (e.g., McKeown & Taylor, 2018). In turn, the lack of (positive) contact experiences with ethnic others might lead to higher levels of affective prejudice, in line with the stronger associations found between contact and affective aspects of intergroup attitudes (Tropp & Pettigrew, 2005).

Interestingly, across both contexts, social identification (with the family or classmates' group) did not moderate the longitudinal associations at play. This means that parents and classmates exerted a unique influence on adolescents' prejudices regardless of the extent to which youth identified with these proximal groups. This finding is in contrast with seminal evidence (Sinclair et al., 2005) suggesting that social identification might strengthen prejudice socialization processes. However, it should be noted that prior research highlighting the moderating role of social identification with the family has relied on youth's reports of attitudes of both socializers and socialized actors, rather than examining these processes through a multi-informant approach. Therefore, identification might strengthen the socialization of attitudes but only when these processes are examined from the perspective of adolescents. Additionally, in the current study, a large majority of adolescents reported high levels of identification with both the family and classmates' groups. Such uneven distribution might have limited the opportunity to find significant moderating effects of social identification. Additional research is warranted to unravel the conditions that can facilitate or hinder transmission of values, attitudes, and behaviors across multiple contexts.

Different referents for different dimensions of prejudice: The relative influences of proximal contexts

The third goal of the current study was to examine the relative contribution of parents and classmates in the development of ethnic prejudice of adolescents and test the moderating role of age. Overall, the main influences of both socializing agents remained significant when the two contexts were examined simultaneously. This finding confirms the unique effects found in each context and highlights the relative independence of parents and classmates in contributing to different facets of prejudice. This is in line with prior research that found a mismatch in the influences of parents' and friends' perceived multicultural norms on youth's intergroup attitudes (Thijs et al., 2016). Specifically, when examined together, friends' norms were found to influence the affective evaluation of ethnic minority groups, while parents' multicultural attitudes reduced the endorsement of exclusive views of Dutch identity, a bias that strongly relies on cognitive categorization processes.

Interestingly, these effects were replicated regardless of adolescents' age group. This finding is in contrast with prior research highlighting a general decrease in parent-child similarities with age, while the influence of best friends remained stable (Gniewosz et al., 2008). However, it should be noted that the group of classmates represents a unique peer context that is not chosen, but rather ascribed. Therefore, youth might be less prone to progressively abandon their parents as referents in place of their classmates, as conforming to the latter might not be as valued as aligning oneself with the reciprocally chosen group of friends outside the school context (Brown, 2004). Additionally, other conditions, such as the extent to which youth engage in open discussions at home (Meeusen & Dhont, 2015) or in the classroom (Bohman & Kudrnáč, 2023), might facilitate or hinder the socialization of attitudes about diverse others.

Compensatory or amplifier effect? The synergic influence of parents and classmates

The fourth and last goal of this research was to understand whether parents' and classmates' attitudes interact in influencing subsequent levels of affective and cognitive prejudice of adolescents. Overall, this study found that these proximal contexts synergically contribute to changing youth's views about ethnic others. Specifically, significant dimension-matching effects (e.g., affective prejudice of social referents interacted to influence affective prejudice of adolescents) emerged, although these interactions differ depending on the facet of prejudice examined.

Regarding the affective dimension, the association between classmates' and adolescents' prejudice

was not significant at any level of parental prejudice. Nevertheless, it displayed a trend whereby the two referents compensate each other in contributing to youth's increased negative feelings against people from ethnic minority backgrounds (i.e., adverse compensatory effect). The heightened importance attributed to negative (i.e., high prejudice) rather than positive (i.e., low prejudice) attitudes of the proximal contexts parallels the asymmetry found in the study of intergroup contact experiences. Specifically, prior research has highlighted that negative intergroup encounters might overturn the protective role of positive encounters and relationships, especially when they do not involve intimate interactions (e.g., Árnadóttir et al., 2022; Graf et al., 2014). Similarly to the negative intergroup experiences, being exposed to high levels of affective prejudice in one of the proximal contexts of development might increase the salience of intergroup categories (Paolini et al., 2010), heighten intergroup anxiety and threat (Cernat, 2017), and reduce the willingness to engage in cross-ethnic relationships (Edmonds & Killen, 2009). In turn, these intergroup conditions can facilitate the socialization of negative feelings against ethnic minority groups.

Conversely, regarding the cognitive dimension of prejudice, parents and classmates appeared to amplify each other's influences on youth stereotypes about ethnic minorities. Specifically, the longitudinal association between classmates' and adolescents' attitudes was increasingly positive and significant only when parents had high levels of cognitive prejudice. This finding is in line with the theoretical premises of source magnification framework (Harkins & Petty, 1981) and recent empirical findings (Lee-Won et al., 2020) highlighting that ethnic-based hate messages from multiple sources (such as in the case of online platforms) can amplify the harmful effects of such representations on the targeted outgroup. In a similar way, it appears that when the proximal contexts of influence, such as the family and classroom environments, convey consistent (negative or positive) views of the outgroup, adolescents more readily access these stereotypes and beliefs and define their own attitudes based on the information available from these important referents.

Limitations and suggestions for future research

Findings from the current study should be read in light of some limitations. First, the current research relied on an aggregated measure of parental prejudice rather than focusing on the specific influences of mothers and fathers separately. Similarly, it did not distinguish the position of different classmates (e.g., prestigious or popular) or the relationships among classmates (e.g., Stark et al., 2015) and how they might contribute to influencing youth's prejudice (e.g., Bohman & Kudrnáč, 2023).

Future research should delve into the roles of each proximal referent to disentangle possible associations between their affective and cognitive prejudice and those of adolescents. Second, while this study focused on parents and classmates as primary contexts within which youth spend a considerable amount of time, additional adult (e.g., teachers, coach) and peer (e.g., best friend, friends' group) referents might be ulterior sources of information that orient adolescents' in developing intergroup attitudes and expectations (Bronfenbrenner, 1992, 2005). Third, within the school and other contexts (e.g., sport, neighborhood), adolescents nowadays have several opportunities for contact with members of ethnic minority groups (Karataş et al., 2023). The quantity and, more importantly, the quality of such intergroup encounters can influence the development and the socialization of individuals' emotions and cognitions about others (e.g., Dhont & Van Hiel, 2012; Tropp & Pettigrew, 2005). Therefore, future research could benefit from adopting an ecological approach to study the multiple proximal contexts and experiences that can contribute to changes in affective and cognitive prejudice against ethnic others. Fourth, the current study relied on the Feeling Thermometer scale to assess the affective component of ethnic prejudice (i.e., disliking of minority groups). This scale, however, is formulated in terms of liking (or positive intergroup attitudes), which is not technically identical to disliking (or negative intergroup attitudes). Nevertheless, the latter certainly implies the former, as highlighted by previous research (Bobba et al., 2023) and the extensive use of this scale to assess ethnic prejudice in adolescence (for a review, see Crocetti et al., 2021). Additionally, the current study was conducted in a context characterized by a unique history and patterns of migration, as well as by a high percentage of ethnic diversity in the school contexts. Further research is needed to delve into the generalizability of current findings to different socio-historical contexts. Last, this study focused on the socialization of ethnic prejudice among ethnic majority (native Italian) adolescents. A further step might be to understand ethnic prejudice displayed by members of specific groups against ethnic majority or other ethnic minority individuals (Meeusen et al., 2019), and to delve into processes of inter-minority relationships and solidarity.

CONCLUSION

The family and classroom represent key contexts where adolescents learn, observe, and acquire unique skills to approach the social world and define their own attitudes about diversity. However, no prior research has focused on their unique, relative, and synergic contribution in orienting youth's feelings and thoughts about people from ethnic minority backgrounds and has investigated the conditions that might facilitate or hinder processes of socialization. The current study examined the role of

parents and classmates in influencing changes in youth's affective and cognitive ethnic prejudice and whether interpersonal (i.e., social identification with the proximal groups) and individual (i.e., age group) factors could moderate the longitudinal associations at play. Regarding unique contributions, parents' cognitive prejudice led to increased cognitive prejudice of adolescents, while classmates' stereotypes were associated with increased affective prejudice, and these associations held regardless of youth's level of identification with either social group. Regarding their relative effects, when examined together, the associations found in the previous models were maintained regardless of adolescents' age, highlighting how each context contributes to non-overlapping changes in different facets of prejudice. Last, parents' and classmates' influences were found to interact in different ways for the affective (i.e., adverse compensatory effect) and cognitive (i.e., amplifying effect) dimensions of prejudice. Overall, the current research suggests how the affective and cognitive dimensions of prejudice might be sensitive to different social clues and that adolescents draw from the multiple contexts of development to orient their feelings and thoughts about ethnic others. This implies that interventions targeting only one of the two contexts might not be enough to prevent the development of prejudice and negative intergroup outcomes in adolescence.

AUTHOR CONTRIBUTIONS

Beatrice Bobba: Conceptualization, data curation, formal analysis, investigation, methodology, writing—original draft preparation. Susan Branje: Conceptualization, methodology, supervision, writing—original draft preparation. Elisabetta Crocetti: Conceptualization, funding acquisition, resources, supervision, writing—original draft preparation.

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DATA AVAILABILITY STATEMENT

The data, analytic codes, and materials necessary to reproduce the analyses presented in this paper can be retrieved from the Open Science Framework page of the project. <https://osf.io/h5x7k/>. Preregistration: The analyses presented in this paper were preregistered. The preregistration materials can be retrieved from <https://doi.org/10.17605/OSF.IO/UQXRN>.

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REFERENCES

- Aberson, C. L. (2015). Positive intergroup contact, negative intergroup contact, and threat as predictors of cognitive and affective dimensions of prejudice. *Group Processes & Intergroup Relations*, 18(6), 743–760. <https://doi.org/10.1177/1368430214556699>
- Albarello, F., Crocetti, E., & Rubini, M. (2018). I and us: A longitudinal study on the interplay of personal and social identity in adolescence. *Journal of Youth and Adolescence*, 47(4), 689–702. <https://doi.org/10.1007/s10964-017-0791-4>
- Albarello, F., Crocetti, E., & Rubini, M. (2021). Developing identification with humanity and social well-being through social identification with peer groups in adolescence. *Journal of Youth and Adolescence*, 50(6), 1157–1172. <https://doi.org/10.1007/s10964-020-01214-0>
- Allport, G. W. (1954). *The nature of prejudice*. Addison-Wesley.
- Árnadóttir, K., Kende, J., Phalet, K., & Tropp, L. R. (2022). The interplay of positive and negative intergroup contact: Experiences of Latino/a youth in the U.S. *International Journal of Intercultural Relations*, 86, 190–202. <https://doi.org/10.1016/j.ijintrel.2021.12.004>
- Bandura, A. (1977). *Social learning theory*. Prentice Hall.
- Barni, D., Vieno, A., Rosnati, R., Roccato, M., & Scabini, E. (2014). Multiple sources of adolescents' conservative values: A multi-level study. *European Journal of Developmental Psychology*, 11(4), 433–446. <https://doi.org/10.1080/17405629.2013.857307>
- Beelmann, A., & Heinemann, K. S. (2014). Preventing prejudice and improving intergroup attitudes: A meta-analysis of child and adolescent training programs. *Journal of Applied Developmental Psychology*, 35(1), 10–24. <https://doi.org/10.1016/j.appdev.2013.11.002>
- Bigler, R. S., & Liben, L. S. (2007). Developmental intergroup theory: Explaining and reducing children's social stereotyping and prejudice. *Current Directions in Psychological Science*, 16(3), 162–166. <https://doi.org/10.1111/j.1467-8721.2007.00496.x>
- Bobba, B., & Crocetti, E. (2022). “I feel you!”: The role of empathic competences in reducing ethnic prejudice among adolescents. *Journal of Youth and Adolescence*, 51, 1970–1982. <https://doi.org/10.1007/s10964-022-01650-0>
- Bobba, B., Thijs, J., & Crocetti, E. (2023). A war on prejudice: The role of media salience in reducing ethnic prejudice. *Journal of Adolescence*. <https://doi.org/10.1002/jad.12234>
- Bohman, A., & Kudrnáč, A. (2023). Like the cool kids? The role of popular classmates in the development of anti-immigrant attitudes in adolescence. *Group Processes & Intergroup Relations*, 26(5), 1010–1031. <https://doi.org/10.1177/13684302221099444>
- Bronfenbrenner, U. (1992). Ecological systems theory. In R. Vasta (Ed.), *Six theories of child development: Revised formulations and current issues* (pp. 187–249). Jessica Kingsley Publishers.
- Bronfenbrenner, U. (2005). *Making human beings human*. Sage Publications.
- Brown, B. B. (2004). Adolescents' relationships with peers. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology* (pp. 363–394). Wiley & Sons.
- Brown, R. (2011). *Prejudice: Its social psychology*. John Wiley & Sons.
- Brown, R., González, R., Zagefka, H., Manzi, J., & Čehajić, S. (2008). Nuestra culpa: Collective guilt and shame as predictors of reparation for historical wrongdoing. *Journal of Personality and Social Psychology*, 94(1), 75–90. <https://doi.org/10.1037/0022-3514.94.1.75>
- Cernat, V. (2017). Trajectories of interethnic contact and prejudice in a four-waves study of Romanian teenager–parent pairs. *Journal of Ethnic and Migration Studies*, 43(15), 2669–2687. <https://doi.org/10.1080/1369183X.2016.1271699>
- Cicognani, E., Sonn, C. C., Albanesi, C., & Zani, B. (2018). Acculturation, social exclusion and resistance: Experiences of young Moroccans in Italy. *International Journal of Intercultural Relations*, 66, 108–118. <https://doi.org/10.1016/j.ijintrel.2018.07.002>
- Crocetti, E., Albarello, F., Prati, F., & Rubini, M. (2021). Development of prejudice against immigrants and ethnic minorities in adolescence: A systematic review with meta-analysis of longitudinal studies. *Developmental Review*, 60, 100959. <https://doi.org/10.1016/j.dr.2021.100959>
- Cuddy, A. J., Fiske, S. T., & Glick, P. (2007). The BIAS map: Behaviors from intergroup affect and stereotypes. *Journal of Personality and Social Psychology*, 92(4), 631–648. <https://doi.org/10.1037/0022-3514.92.4.631>
- Degner, J., & Dalege, J. (2013). The apple does not fall far from the tree, or does it? A meta-analysis of parent–child similarity in intergroup attitudes. *Psychological Bulletin*, 139(6), 1270–1304. <https://doi.org/10.1037/a0031436>
- Dhont, K., Roets, A., & Van Hiel, A. (2013). The intergenerational transmission of need for closure underlies the transmission of authoritarianism and anti-immigrant prejudice. *Personality and Individual Differences*, 54(6), 779–784. <https://doi.org/10.1016/j.paid.2012.12.016>
- Dhont, K., & Van Hiel, A. (2012). Intergroup contact buffers against the intergenerational transmission of authoritarianism and racial prejudice. *Journal of Research in Personality*, 46(2), 231–234. <https://doi.org/10.1016/j.jrp.2011.12.008>
- Edmonds, C., & Killen, M. (2009). Do adolescents' perceptions of parental racial attitudes relate to their intergroup contact and cross-race relationships? *Group Processes & Intergroup Relations*, 12(1), 5–21. <https://doi.org/10.1177/1368430208098773>
- Gniewosz, B., & Noack, P. (2015). Parental influences on adolescents' negative attitudes toward immigrants. *Journal of Youth and Adolescence*, 44, 1787–1802. <https://doi.org/10.1007/s10964-015-0291-3>
- Gniewosz, B., Noack, P., Wentura, D., & Funke, F. (2008). Adolescents' attitudes towards foreigners: Associations with perceptions of significant others' attitudes depending on sex and age. *Discourse. Journal of Childhood and Adolescence Research*, 3(3), 321–337.
- Graf, S., Paolini, S., & Rubin, M. (2014). Negative intergroup contact is more influential, but positive intergroup contact is more common: Assessing contact prominence and contact prevalence in five central European countries. *European Journal of Social Psychology*, 44(6), 536–547. <https://doi.org/10.1002/ejsp.2052>
- Grusec, J. E. (2011). Socialization processes in the family: Social and emotional development. *Annual Review of Psychology*, 62(1), 243–269. <https://doi.org/10.1146/annurev.psych.121208.131650>
- Haddock, G., Zanna, M. P., & Esses, V. M. (1993). Assessing the structure of prejudicial attitudes: The case of attitudes toward homosexuals. *Journal of Personality and Social Psychology*, 65(6), 1105–1118. <https://doi.org/10.1037/0022-3514.65.6.1105>
- Harkins, S. G., & Petty, R. E. (1981). Effects of source magnification of cognitive effort on attitudes: An information-processing view. *Journal of Personality and Social Psychology*, 40(3), 401–413. <https://doi.org/10.1037/0022-3514.40.3.401>
- Hello, E., Scheepers, P., Vermulst, A., & Gerris, J. R. M. (2004). Association between educational attainment and ethnic distance in young adults: Socialization by schools or parents? *Acta Sociologica*, 47(3), 253–275. <https://doi.org/10.1177/0001699304046222>
- ISTAT. (2020). *Rapporto annuale 2020: La situazione del Paese*.
- Jaspers, E., Lubbers, M., & de Vries, J. (2008). Parents, children and the distance between them: Long term socialization effects in The Netherlands. *Journal of Comparative Family Studies*, 39(1), 39–58. <https://doi.org/10.3138/jcfs.39.1.39>
- Jugert, P., Eckstein, K., Beelmann, A., & Noack, P. (2016). Parents' influence on the development of their children's ethnic intergroup attitudes: A longitudinal analysis from middle childhood to early adolescence. *European Journal of Developmental Psychology*, 13(2), 213–230. <https://doi.org/10.1080/17405629.2015.1084923>

- Karataş, S., Eckstein, K., Noack, P., Rubini, M., & Crocetti, E. (2023). Meeting in school: Cultural diversity approaches of teachers and intergroup contact among ethnic minority and majority adolescents. *Child Development, 94*(1), 237–253. <https://doi.org/10.1111/cdev.13854>
- Kelloway, E. K. (2015). *Using Mplus for structural equation modeling: A researcher's guide* (2nd ed.). Sage.
- Knafo, A. (2003). Contexts, relationship quality, and family value socialization: The case of parent–school ideological fit in Israel. *Personal Relationships, 10*(3), 371–388. <https://doi.org/10.1111/1475-6811.00055>
- Lee-Won, R. J., White, T. N., Song, H., Lee, J. Y., & Smith, M. R. (2020). Source magnification of cyberhate: Affective and cognitive effects of multiple-source hate messages on target group members. *Media Psychology, 23*(5), 603–624. <https://doi.org/10.1080/15213269.2019.1612760>
- Little, R. J. A. (1988). A test of missing completely at random for multivariate data with missing values. *Journal of the American Statistical Association, 83*(404), 1198–1202. <https://doi.org/10.1080/01621459.1988.10478722>
- McArdle, J. J. (2009). Latent variable modeling of differences and changes with longitudinal data. *Annual Review of Psychology, 60*(1), 577–605. <https://doi.org/10.1146/annurev.psych.60.110707.163612>
- McKeown, S., & Taylor, L. K. (2018). Perceived peer and school norm effects on youth antisocial and prosocial behaviours through intergroup contact in Northern Ireland. *British Journal of Social Psychology, 57*(3), 652–665. <https://doi.org/10.1111/bjso.12257>
- Meeus, W. (2019). *Adolescent development: Longitudinal research into the self, personal relationships, and psychopathology*. Routledge.
- Meeusen, C., Abts, K., & Meuleman, B. (2019). Between solidarity and competitive threat?: The ambivalence of anti-immigrant attitudes among ethnic minorities. *International Journal of Intercultural Relations, 71*, 1–13. <https://doi.org/10.1016/j.ijintrel.2019.04.002>
- Meeusen, C., & Dhont, K. (2015). Parent–child similarity in common and specific components of prejudice: The role of ideological attitudes and political discussion. *European Journal of Personality, 29*(6), 585–598. <https://doi.org/10.1002/per.2011>
- Memon, M., Hwa, C., Ramayah, T., Ting, H., Chuah, F., & Cham, T.-H. (2019). Moderation analysis: Issues and guidelines. *Journal of Applied Structural Equation Modeling, 3*(1), 1–11. <https://doi.org/10.47263/JASEM.3>
- Miklikowska, M. (2016). Like parent, like child? Development of prejudice and tolerance towards immigrants. *British Journal of Psychology, 107*(1), 95–116. <https://doi.org/10.1111/bjop.12124>
- Miklikowska, M. (2017). Development of anti-immigrant attitudes in adolescence: The role of parents, peers, intergroup friendships, and empathy. *British Journal of Psychology, 108*(3), 626–648. <https://doi.org/10.1111/bjop.12236>
- Miklikowska, M., & Bohman, A. (2019). Bridging contexts: The interplay between parents, peers, and schools in explaining youth reactions to growing diversity. In P. F. Titzmann & P. Jugert (Eds.), *Youth in superdiverse societies: Growing up with globalization, diversity, and acculturation* (1st ed., pp. 213–232). Routledge.
- Miklikowska, M., Bohman, A., & Titzmann, P. F. (2019). Driven by context? The interrelated effects of parents, peers, classrooms on development of prejudice among Swedish majority adolescents. *Developmental Psychology, 55*(11), 2451–2463. <https://doi.org/10.1037/dev0000809>
- Ministero della Pubblica Istruzione. (2022). *Gli alunni con cittadinanza non italiana A.S. 2020/2021*. https://www.miur.gov.it/documents/20182/0/NOTIZIARIO_Stranieri_2021+%281%29.pdf/150d451a-45d2-e26f-9512-338a98c7bb1e?t=1659103036663
- Muthén, L. K., & Muthén, B. O. (2017). *Mplus user's guide* (8th ed.). Muthén & Muthén.
- Nesdale, D. (2004). Social identity processes and children's ethnic prejudice. In M. Bennett & F. Sani (Eds.), *The development of the social self* (pp. 219–245). Psychology Press.
- Newsome, J. T. (2015). Fundamentals of stability and change. In J. T. Newsom (Ed.), *Longitudinal structural equation modeling: A comprehensive introduction* (pp. 107–112). Routledge.
- Paluck, E. L. (2011). Peer pressure against prejudice: A high school field experiment examining social network change. *Journal of Experimental Social Psychology, 47*(2), 350–358. <https://doi.org/10.1016/j.jesp.2010.11.017>
- Paolini, S., Harwood, J., & Rubin, M. (2010). Negative intergroup contact makes group memberships salient: Explaining why intergroup conflict endures. *Personality and Social Psychology Bulletin, 36*(12), 1723–1738. <https://doi.org/10.1177/0146167210388667>
- Pehar, L., Čorkalo Biruški, D., & Pavin Ivanec, T. (2020). The role of peer, parental, and school norms in predicting adolescents' attitudes and behaviours of majority and different minority ethnic groups in Croatia. *PLoS One, 15*(1), e0227512. <https://doi.org/10.1371/journal.pone.0227512>
- Preacher, K. J., Curran, P. J., & Bauer, D. J. (2006). Computational tools for probing interactions in multiple linear regression, multi-level modeling, and latent curve analysis. *Journal of Educational and Behavioral Statistics, 31*(4), 437–448. <https://doi.org/10.3102/10769986031004437>
- Raabe, T., & Beelmann, A. (2011). Development of ethnic, racial, and national prejudice in childhood and adolescence: A multinational meta-analysis of age differences. *Child Development, 82*(6), 1715–1737. <https://doi.org/10.1111/j.1467-8624.2011.01668.x>
- Reich, S. M., & Vandell, D. L. (2011). The interplay between parents and peers as socializing influences in children's development. In P. K. Smith & C. H. Hart (Eds.), *The Wiley-Blackwell handbook of childhood social development* (2nd ed., pp. 263–280). Wiley-Blackwell.
- Reijerse, A., Vanbeselaere, N., Duriez, B., & Fichera, G. (2015). Accepting immigrants as fellow citizens: Citizenship representations in relation to migration policy preferences. *Ethnic and Racial Studies, 38*(5), 700–717. <https://doi.org/10.1080/01419870.2014.916812>
- Sameroff, A. J. (Ed.). (2009). *The transactional model of development: How children and contexts shape each other* (1st ed.). American Psychological Association.
- Satorra, A., & Bentler, P. M. (2001). A scaled difference chi-square test statistic for moment-structure analysis. *Psychometrika, 66*(4), 507–514.
- Sinclair, S., Dunn, E., & Lowery, B. (2005). The relationship between parental racial attitudes and children's implicit prejudice. *Journal of Experimental Social Psychology, 41*(3), 283–289. <https://doi.org/10.1016/j.jesp.2004.06.003>
- Smetana, J. G. (2018). The development of autonomy during adolescence: A social-cognitive domain theory. In B. Soenens, M. Vansteenkiste, & S. Van Petegem (Eds.), *Autonomy in adolescent development: Toward conceptual clarity* (pp. 53–73). Psychology Press.
- Soenens, B., & Vansteenkiste, M. (2020). Taking adolescents' agency in socialization seriously: The role of appraisals and cognitive-behavioral responses in autonomy-relevant parenting. *New Directions for Child and Adolescent Development, 2020*(173), 7–26. <https://doi.org/10.1002/cad.20370>
- Song, M. (2020). Rethinking minority status and 'visibility'. *Comparative Migration Studies, 8*(1), 5–17. <https://doi.org/10.1186/s40878-019-0162-2>
- Stark, T. H., Mäs, M., & Flache, A. (2015). Liking and disliking minority-group classmates: Explaining the mixed findings for the influence of ethnic classroom composition on interethnic attitudes. *Social Science Research, 50*, 164–176. <https://doi.org/10.1016/j.ssresearch.2014.11.008>
- Thijs, J., Gharaei, N., & de Vroome, T. (2016). "Why should I?": Adolescents' motivations to regulate prejudice in relation to their norm perceptions and ethnic attitudes. *International Journal of Intercultural Relations, 53*, 83–94. <https://doi.org/10.1016/j.ijintrel.2016.05.006>
- Thijs, J., & Verkuyten, M. (2013). Multiculturalism in the classroom: Ethnic attitudes and classmates' beliefs. *International Journal of*

- Intercultural Relations*, 37(2), 176–187. <https://doi.org/10.1016/j.ijintrel.2012.04.012>
- Thomas, W. E., Brown, R., Easterbrook, M. J., Vignoles, V. L., Manzi, C., D'Angelo, C., & Holt, J. J. (2017). Social identification in sports teams: The role of personal, social, and collective identity motives. *Personality and Social Psychology Bulletin*, 43(4), 508–523. <https://doi.org/10.1177/0146167216689051>
- Titzmann, P. F., Brenick, A., & Silbereisen, R. K. (2015). Friendships fighting prejudice: A longitudinal perspective on adolescents' cross-group friendships with immigrants. *Journal of Youth and Adolescence*, 44(6), 1318–1331. <https://doi.org/10.1007/s10964-015-0256-6>
- Tropp, L. R., O'Brien, T. C., González Gutierrez, R., Valdenegro, D., Migacheva, K., de Tezanos-Pinto, P., Berger, C., & Cayul, O. (2016). How school norms, peer norms, and discrimination predict interethnic experiences among ethnic minority and majority youth. *Child Development*, 87(5), 1436–1451. <https://doi.org/10.1111/cdev.12608>
- Tropp, L. R., & Pettigrew, T. F. (2005). Differential relationships between intergroup contact and affective and cognitive dimensions of prejudice. *Personality and Social Psychology Bulletin*, 31(8), 1145–1158. <https://doi.org/10.1177/0146167205274854>
- van Zalk, M. H. W., Kerr, M., van Zalk, N., & Stattin, H. (2013). Xenophobia and tolerance toward immigrants in adolescence: Cross-influence processes within friendships. *Journal of Abnormal Child Psychology*, 41(4), 627–639. <https://doi.org/10.1007/s10802-012-9694-8>
- Váradi, L., Barna, I., & Németh, R. (2021). Whose norms, whose prejudice? The dynamics of perceived group norms and prejudice in new secondary school classes. *Frontiers in Psychology*, 11. <https://doi.org/10.3389/fpsyg.2020.524547>
- Ward, C., Szabó, Á., & Stuart, J. (2017). Prejudice against immigrants in multicultural societies. In C. G. Sibley & F. K. Barlow (Eds.), *The Cambridge handbook of the psychology of prejudice* (pp. 413–437). Cambridge University Press.
- Zagrean, I., Barni, D., Russo, C., & Danioni, F. (2022). The family transmission of ethnic prejudice: A systematic review of research articles with adolescents. *Social Sciences*, 11(6), 236. <https://doi.org/10.3390/socsci11060236>
- Zingora, T., Stark, T. H., & Flache, A. (2020). Who is most influential? Adolescents' intergroup attitudes and peer influence within a social network. *Group Processes & Intergroup Relations*, 23(5), 684–709. <https://doi.org/10.1177/1368430219869460>

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