



# Meeting in school: Cultural diversity approaches of teachers and intergroup contact among ethnic minority and majority adolescents

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## Abstract

This study investigated the associations between cultural diversity approaches endorsed by teachers and adolescents' positive and negative intergroup contact in schools. Participants were 984 adolescents ( $M_{\text{age}} = 14.66$ ; 62.7% female; 24.8% ethnic minority) involved in a three-wave longitudinal study between 2019 and 2020. Results highlighted that perceived equal treatment by teachers was related to higher positive and lower negative contact over time. However, perceived support for contact and cooperation and interest of teachers in children's cultural background were not related to either positive or negative contact over time. Importantly, the results were replicated across ethnic minority and majority adolescents. This study provides novel insights into the key role that teachers can play in promoting cultural diversity approaches to facilitate harmonious intergroup interactions in schools.

Schools are a fundamental socialization context for adolescent development (Eccles & Roeser, 2011), and today's schools are becoming ethnically and culturally more diverse due to international migration (International Organization for Migration, 2019; Organisation for Economic Co-operation and Development [OECD], 2019). In the OECD countries, the overall percentage of ethnic minority students (i.e., students who are born outside the destination country or with at least one parent born outside the destination country; European Commission, 2020) in schools increased consistently from 10% to 13% between 2009 and 2018 (OECD, 2019). Such diversity provides various opportunities for intergroup contact among students with a variety of ethnic and cultural backgrounds (Thijs & Verkuyten, 2014).

In the intergroup contact theory (Allport, 1954), institutional support was proposed as a crucial factor in establishing the basis for respectful intergroup

relationships. In this regard, schools represent the main context in which adolescents establish experiences with formal authorities. Thus, school authorities, and more specifically teachers, have a fundamental role in facilitating beneficial intergroup relationships (Schwarzenthal et al., 2022; Thijs & Verkuyten, 2014). Indeed, teachers can promote intergroup relationships among students by expressing their own beliefs and institutional policies toward cultural diversity and acting accordingly (Saleem & Byrd, 2021).

Along this line of thought, a growing literature (e.g., Celeste et al., 2019; Schwarzenthal et al., 2018) has posited that endorsing equality-inclusion (i.e., promoting equality and supporting students in establishing intergroup contact and cooperation) and cultural pluralism (i.e., giving value to cultural diversity during the learning processes) in schools could have enormous potential to provide most of the optimal conditions for positive

**Abbreviations:** CFI, comparative fit index; CI, confidence interval; RMSEA, root mean square error of approximation; SRMR, standardized root mean square residual; TLI, Tucker-Lewis index.

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intergroup contact (Allport, 1954). Thus, this longitudinal research aimed to tackle the roles of equality and inclusion as well as cultural pluralism as shared views that might be reinforced by teacher practices to enhance harmonious intergroup contact in schools (i.e., promoting positive interactions and reducing negative experiences).

### Intergroup contact in adolescence

According to the seminal intergroup contact theory, contact between groups, especially under specific facilitative conditions (i.e., equal status, common goals, intergroup cooperation, and support from authorities, Allport, 1954), is likely to improve intergroup relationships. A corpus of evidence clearly documented that intergroup contact promotes various favorable outcomes, such as reduced prejudice and intergroup anxiety, as well as increased perspective-taking and positive intergroup attitudes toward outgroup members (Pettigrew & Tropp, 2006; Swart et al., 2011). Building upon these findings, recent advances in intergroup contact literature (e.g., Hayward et al., 2017) have underscored the importance of capturing nuances in the different forms of intergroup contact by noting that these experiences can have either a positive (warm, respectful, friendly, and pleasant interactions between members of different groups) or negative (distant, insulting, intimidating, unfriendly, and unpleasant interactions with outgroup members) valence (Barlow et al., 2012; Hayward et al., 2017). In this vein, to fully understand the quality of intergroup contact (i.e., the valence), it is crucial to explore how individuals from ethnic minority and majority groups experience both positive and negative intergroup contact in postmodern multicultural societies, especially in contexts where negative narratives against immigrants are often endorsed (Crocetti et al., 2021).

Studying positive and negative intergroup contact becomes particularly important in adolescence, as social-cognitive changes in this life phase can allow young people to develop a greater awareness of cultural diversity, social norms (Abrams & Rutland, 2008), and moral reasoning (e.g., fairness and justice; Rutland et al., 2010). In line with such an increase in social-cognitive maturity, both ethnic minority and majority adolescents tend to become more sensitive to their intergroup contact experiences. Consequently, young people might better understand the role of intergroup contact in driving their current and future orientations toward outgroup members (e.g., Wölfer et al., 2016).

So far, most prior research has consistently focused on adolescents' positive contact and their beneficial outcomes, such as reduction of prejudice and intergroup anxiety, and development of positive attitudes toward ethnic outgroup members (e.g., Binder et al., 2009; Ten Berge et al., 2017; van Zalk et al., 2021). However, less attention has been devoted to the implications of

negative contact (e.g., Árnadóttir et al., 2022). A few extant studies have emphasized that negative contact is associated with increased ethnic prejudice toward outgroup members on the part of both ethnic minority and majority adolescents (Ten Berge et al., 2017). Recently, the interplay of positive and negative contact has also been shown by noting how negative contact may overshadow the various beneficial outcomes (e.g., openness to intergroup contact) of positive contact (Árnadóttir et al., 2022).

Even though various consequences of adolescents' positive and negative contact have been examined, the antecedents of both forms of contact remain rather shadowy. Schools nowadays are not only important for accomplishing several normative developmental tasks (Eccles & Roeser, 2011), but they are also crucial contexts to cope with acculturative tasks (Schachner et al., 2018), whereby ethnic minority and majority adolescents might simultaneously experience both forms of intergroup contact (see Yip et al., 2015). In this vein, norms of cultural diversity established by school authorities, particularly by teachers, might influence adolescents' positive and negative intergroup contact in schools.

### Cultural diversity approaches in the school context

Even though there is relatively little consensus as to how cultural diversity should be endorsed in multi-ethnic school contexts (Celeste et al., 2019; Thijs & Verkuyten, 2014), teachers are widely considered the primary practitioners of cultural diversity approaches (e.g., Geerlings et al., 2019; Schachner, 2019). They might improve the quality of intergroup contact in schools not only by demonstrating to students how to interact with each other but also by acting in accordance with specific social norms. More particularly, by acting as role models for their students, teachers might create an optimal school context by treating all students equally, encouraging cooperation among students from different ethnic groups to achieve common goals, and placing value on ethnic and cultural diversity (Bayram Özdemir & Özdemir, 2020; Schachner et al., 2016). Thereby, teachers may create a "safe haven" (Verschuere & Koomen, 2012; see also Tropp, 2021 for a review on attachment and intergroup contact) for ethnic minority and majority adolescents to establish harmonious intergroup relationships. In light of these considerations, the burgeoning literature has extensively investigated the possible influences of teachers' cultural diversity practices on intergroup outcomes (e.g., perceived discrimination; Schwarzenhal et al., 2018) and psychosocial adjustment (e.g., life satisfaction; Schachner et al., 2016, 2019) by considering to what extent *equality-inclusion* and *cultural pluralism* approaches have been endorsed.

## Equality-inclusion and cultural pluralism approaches

Equality-inclusion approach mainly emphasizes the value of promoting fairness and equality as well as motivating students to establish contact and cooperation in order to overcome the possible negative consequences of inadequate cultural diversity practices in multiethnic school settings (Bayram Özdemir & Özdemir, 2020; Schachner et al., 2019, 2021). In this vein, teachers endorsing the equality-inclusion approach are expected to be fair toward their students independently of ethnic and cultural background, as well as to encourage mixed seating arrangements in class, create ethnically and culturally diverse study groups, and adopt cooperative learning activities (Schachner et al., 2016, 2019).

However, putting great emphasis on the equality-inclusion approach with no reference to cultural diversity might be perceived by the ethnic minority students as a colorblind approach, which is an ideology that reflects an individual's conscious choice of emphasizing sameness and common goals rather than cultural differences (i.e., color-evasion; Neville et al., 2013; see also Schachner et al., 2021) and their beliefs that each person has equal opportunities regardless of their ethnic or cultural background (i.e., power-evasion; Neville et al., 2000, 2013). On the other hand, the colorblind approach can also emphasize individualism by treating each person as a unique individual (Rosenthal & Levy, 2010). Even though these different concepts of colorblindness might entail different outcomes for the ethnic minority and majority groups, it has been indicated that emphasizing similarities and sameness as well as de-emphasizing cultural differences may also have unfavorable effects on intergroup relationships (cf. Rattan & Ambady, 2013 for an extensive review of differential effects of colorblindness). For example, Celeste et al. (2019) found that ethnic minority students reported lower academic achievement than their ethnic majority counterparts in schools endorsing a colorblind (or color-evasion) approach. In line with these considerations, promoting an equality-inclusion approach in combination with a cultural pluralism approach might lead to more positive intergroup outcomes (Schachner et al., 2016, 2019; Schwarzenhal et al., 2018).

Cultural pluralism involves emphasizing cultural diversity as a valuable learning opportunity for all students (Schachner et al., 2016; Verkuyten & Thijs, 2013). Teachers adopting this approach take account of students' diverse cultural backgrounds in everyday school activities by providing opportunities for all students to share customs, traditions, and values of their cultures through multicultural educational activities (Hachfeld et al., 2011; see Civitillo et al., 2017 for sample activities). In this way, teachers might improve the cultural awareness and outgroup orientations of ethnic minority and majority students and, at the same time, promote

a diversity-friendly climate at school (Schwarzenhal et al., 2018; Tropp et al., 2016). In fact, adolescents, particularly members of ethnic minority groups, highlighted a greater sense of school belongingness as well as a higher academic achievement in school settings where both teachers and students valued cultural pluralism (Celeste et al., 2019; Schachner et al., 2016).

## From equality-inclusion and cultural pluralism approaches to adolescents' positive and negative intergroup contact

As discussed by Schwarzenhal et al. (2018), schools endorsing both equality-inclusion and cultural pluralism approaches might facilitate the fulfillment of the four-fundamental conditions facilitating positive intergroup contact (i.e., equal status, common goals, intergroup cooperation, and support of authorities; Allport, 1954). In detail, *equal status* can be promoted by treating students with fairness; common goals and intergroup cooperation can be facilitated when students work cooperatively during school activities or help each other with homework; and support of authorities can be shown when teachers value the diversity of students' cultural heritage through multicultural educational activities (Miklikowska et al., 2021; Schwarzenhal et al., 2018; Thijs & Verkuyten, 2014; Verkuyten & Thijs, 2013). Building upon these theoretical premises, this study sought to test empirically whether a school context that embraces equality-inclusion and cultural pluralism approaches can increase over time positive intergroup contact and decrease negative intergroup contact among ethnic minority and majority adolescents.

Importantly, both direct and indirect effects can be involved. First of all, in line with intergroup contact theory, cultural diversity approaches can set the conditions to increase positive contact and reduce negative contact (direct effects). In addition, drawing on recent work on *seeking and avoiding intergroup contact* (Paolini et al., 2018), it is worth investigating the possible mediating (indirect) roles of both forms of contact in the associations of cultural diversity approaches with positive and negative intergroup contact.

In this respect, given that the quality of adolescents' prior intergroup contact and their outcomes might shape their intentions of having more contact in the future (Paolini et al., 2018), endorsement of such cultural diversity approaches in schools might also indirectly relate to lower negative contact through higher positive contact. In fact, positive contact usually enhances further contact seeking (Paolini et al., 2018; Turner & Cameron, 2016), which might entail more positive and less negative contact. Hence, promoting both equality-inclusion and cultural pluralism approaches in school may increase more positive contact that could, in turn, encourage



adolescents to engage in more positive and less negative contact at a later time.

It is also known that negative contact predominantly inhibits interest in further contact (Meleady & Forder, 2019; Paolini et al., 2018), and thus, initial negative interactions with outgroup members might lead to avoiding further contact by exacerbating intergroup anxiety and reducing self-confidence (Paolini et al., 2018; Turner & Cameron, 2016). So, if endorsing cultural diversity approaches were related to lower negative contact, this might encourage adolescents to seek more intergroup contact that could pave the way to engaging in more positive contact (Hayward et al., 2017). Hence, implementing such cultural diversity approaches in school could increase positive contact by reducing negative contact.

### Cultural diversity approaches and intergroup relationships in Italy

This study focused on the Italian context. Italy has recently been considered one of the major destination countries in Europe (United Nations, 2019), with more than six million migrants from various countries, mainly Eastern Europe (e.g., Romania, Albania, and Ukraine), North Africa (e.g., Morocco), and Asia (e.g., China). In the recent report of the Migrant Integration Policy Index (MIPEX, Solano & Huddleston, 2020), Italy is listed among the “halfway favorable” countries where fundamental rights and equal opportunities have mostly been provided to all immigrants even though integration policies generally encourage public opinion to consider the members of ethnic minority groups, on the one hand, as their equals and neighbors, but, on the other, as foreigners. As a result of relatively less comprehensive integration policies that might lead to the undesirable distinction between “us” and “them”, certain ethnic minority groups (e.g., Moroccan and Romanian nationals; e.g., Cicognani et al., 2018; Miconi et al., 2018) might be highly stigmatized by members of the destination society, and thus, experience relatively more adverse intergroup outcomes (e.g., ethnic prejudice and discrimination; see European Union Agency for Fundamental Rights, 2016) in various societal contexts such as public places and schools. Considering that a sizeable portion of the student population in Italy is made up of first- and second-generation immigrant youth (3.6% and 6.8%, respectively; Ministero dell'Istruzione—Ufficio Statistica e Studi, 2021), it is worth considering schools in Italy as a key context for promoting intergroup relationships among ethnic minority and majority adolescents.

More systematic evidence is nonetheless needed to better understand whether endorsing such cultural diversity approaches in Italian schools might be equally beneficial for both ethnic minority and majority adolescents. Even though immigrants in Italy are generally considered an

outgroup (e.g., Albarello et al., 2020; Crocetti et al., 2011; Karataş et al., 2020), most students without Italian citizenship migrated from countries that are culturally similar to the Italian majority culture. In fact, most ethnic minority adolescents in Italy comprise second-generation immigrants of Eastern European descent (e.g., Albania, Romania; Ministero dell'Istruzione—Ufficio Statistica e Studi, 2021) with relatively more prolonged interactions with their ethnic majority peers. Hence, while implementing cultural diversity approaches in schools might enhance the ease of contact with outgroup members (Schwarzenthal et al., 2018), one might further expect that the effects of promoting equality-inclusion and cultural pluralism approaches could be relatively similar for both groups of adolescents in the Italian context.

### The present study

In the light of the literature reviewed, this three-wave study aimed to tackle the longitudinal associations of adolescents' perceptions of equality-inclusion (i.e., perceived equal treatment by teachers, perceived support for contact and cooperation by teachers) and cultural pluralism (i.e., perceived interest of teachers in children's cultural background) approaches in the school context with their positive and negative intergroup contact. In line with the theoretical contention that teachers' cultural diversity approaches in schools can be an antecedent of positive contact (e.g., Allport, 1954; Schwarzenthal et al., 2018), we hypothesized that the endorsing equality-inclusion and cultural pluralism approaches would relate to increased positive and decreased negative contact over time (*Hypothesis 1*).

In addition to these direct effects, considering the recent work on seeking and avoiding intergroup contact (Paolini et al., 2018), we also expected indirect effects (*Hypothesis 2*). More specifically, the associations of equality-inclusion and cultural pluralism with negative intergroup contact could be mediated by positive contact. That is, the more adolescents perceive an endorsement of equality-inclusion and cultural pluralism approaches in their schools, the more they would experience positive contact and, therefore, the less negative contact over time (*Hypothesis 2a*). Similarly, we also hypothesized a mediating effect of negative contact in the associations between equality-inclusion and cultural pluralism and positive contact. In other words, the more adolescents perceive the endorsement of both diversity approaches in schools, the less they would experience negative contact, increasing their chances of engaging in positive contact later (*Hypothesis 2b*).

Even though the possible moderating effect of group membership (whether belonging to an ethnic minority or a majority group) on the association between cultural diversity approaches and intergroup outcomes is still largely unclear (e.g., Aral et al., 2021; Schwarzenthal



et al., 2018), teachers' handling of cultural diversity in a constructive way might be equally beneficial for both groups. Such expectations stand to reason, especially when the characteristics of ethnic minority adolescents in Italy (e.g., mainly second-generation youth of European descent; Ministero dell'Istruzione—Ufficio Statistica e Studi, 2021) are taken into account. Therefore, we hypothesized that the expected associations of equality-inclusion and cultural pluralism with adolescents' positive and negative intergroup contact would be replicated across ethnic minority and majority adolescents (*Hypothesis 3*).

Finally, as an additional *exploratory aim*, we checked whether these expected associations of equality-inclusion and cultural pluralism with positive and negative contact in schools would be replicated across males and females as well as across different types of schools (i.e., lyceums, technical, and vocational schools). While females usually reported more positive and less negative contact (Bagci & Gungor, 2019; Mähönen et al., 2011) and ethnic minority adolescents in Italy are more frequently represented in technical or vocational high schools than in lyceums (Ministero dell'Istruzione—Ufficio Statistica e Studi, 2021), equality-inclusion and cultural pluralism approaches could play a similar role as antecedents of different intergroup experiences in all these groups.

Overall, our study was built upon both confirmatory and exploratory efforts. Our study can be considered to be confirmatory given the theory-driven hypotheses concerning the beneficial effects of embracing equality-inclusion and cultural pluralism approaches on positive and negative contact of adolescents regardless of their ethnic and cultural backgrounds. Moreover, it can also be considered exploratory because we did not indicate any specific hypotheses related to the replicability of expected associations across gender subgroups and different types of schools.

## METHOD

### Participants

Participants in this study were drawn from a larger longitudinal research project *Developing Inclusive Identities in Adolescence*. Adolescents attending seven different high schools (i.e., lyceum, technical, and vocational high schools) located in small (about 25,000 inhabitants), medium (about 97,000 inhabitants), and large (about 150,000 inhabitants) cities in the North-East of Italy agreed to participate in this study at three different time points (*Ts*), at 6-monthly intervals. Thus, the students were in their first year of high school at *T1* and in their second year at *T2* and *T3*.

The final longitudinal sample included 984 adolescents (62.7% female;  $M_{\text{age}} = 14.66$ ,  $SD_{\text{age}} = 0.73$ , age

range: 14–17 years at *T1*) who participated in at least two waves of the data collection (76% of the total sample; for more information, see the sample attrition section in [Supporting Information](#)). The sample consisted of two groups: 740 ethnic majority (64.7% female;  $M_{\text{age}} = 14.58$ ,  $SD_{\text{age}} = 0.67$ , age range: 14–17 years at *T1*) and 244 ethnic minority (56.6% female;  $M_{\text{age}} = 14.90$ ,  $SD_{\text{age}} = 0.84$ , age range: 14–17 years at *T1*) adolescents. Almost all participants were recruited from multiethnic classrooms (i.e., the average percentage of ethnic minority adolescents in the classes was 24.8%, range: 0% to 80% across classes; see [Table S1](#)). As for family structure, most participants (76.9%) indicated that they came from two-parent families, 21.7% reported that their parents were separated or divorced, and 1.4% indicated other family situations (e.g., one deceased parent). Almost all the participants (97.5%) were living with one or both parents. Parents' educational levels were as follows: 37% held less than a high school diploma, 50.1% held a high school diploma, and 12.9% of fathers held a university degree; 27.3% of mothers held a lower qualification than a high school diploma, 49.2% held a high school diploma, and 23.5% held a university degree. Cross-group comparisons indicated that fathers of ethnic minority adolescents were less educated than those of ethnic majority adolescents ( $\chi^2(2) = 10.419$ ,  $p < .01$ ), whereas mothers' educational levels did not significantly differ across groups ( $\chi^2(2) = 1.529$ ,  $p = .446$ ). As for the occupations of the parents, 33.4% of the fathers and 9% of the mothers worked as artisans, specialized workers, and farmers; 12% and 23.9% of the fathers and mothers, respectively, worked in qualified positions in commercial activities and services; 8.4% of the fathers and 15.2% of the mothers worked in executive positions in office work; and the remaining parents were mostly unemployed (2.1% and 15.9% of the fathers and mothers, respectively) or employed in other types of work (e.g., technical positions, unqualified positions; 35.6% and 29.6% of the fathers and mothers, respectively) or the information was not available (8.5% and 6.4% of the fathers and mothers, respectively). Further cross-group comparisons showed differences in the occupations of fathers ( $\chi^2(10) = 34.287$ ,  $p < .001$ ) and mothers ( $\chi^2(9) = 34.449$ ,  $p < .001$ ) of ethnic minority and ethnic majority adolescents. Specifically, fathers who were working as artisans, specialized workers and farmers, and unemployed mothers or those who were working in unqualified jobs were overrepresented in ethnic minority groups. In addition, mothers working in the intellectual, scientific, and highly qualified professions and executive positions in office work were underrepresented among ethnic minority groups.

Among the ethnic minority participants, three-quarters (74.6%) were second-generation immigrants who were born in Italy, while the others were first-generation immigrants who had been living in Italy for an average of 7.53 years ( $SD = 5.11$ , range: 6 months–15.5 years) at *T1*. All ethnic minority adolescents were fluent



in Italian ( $M = 9.10$ ,  $SD = 1.55$ , range: 0–10), but the fluency of second-generation immigrants ( $M = 9.44$ ,  $SD = 0.83$ ) was significantly ( $t(63.406) = -4.189$ ,  $p < .001$ ) higher than that of first-generation ones ( $M = 8.07$ ,  $SD = 2.50$ ). Of the first-generation migrants, 67.7% were born in other European countries, with Romanians, Ukrainians, and Albanians are being the most represented groups. The rest of the first-generation migrants were born in Africa (17.7%), Asia (8.1%), and North, Central, and South America (6.5%). Among second-generation immigrant adolescents, most parents migrated from other European countries (40.6% and 49.5% of fathers and mothers, respectively), with Albania being the most frequent. The remaining parents migrated from Africa (20.6% and 19.2% of fathers and mothers, respectively), with Moroccans as the largest group; Asia (2.8% and 2.7% of fathers and mothers, respectively), with Chinese being the largest group; North, Central, and South America (3.9% of fathers, 6.6% of mothers), with the U.S. nationals and Argentines as the largest groups; and the Middle East (1.1% of fathers, 0.5% of the mothers) as the smallest group represented by Syrian and Iranian parents. The ethnic composition of the current sample is consistent with recent official migration statistics in Italy, indicating that second-generation immigrants were more numerous than first-generation in the total student population and that the largest groups were adolescents of Romanian, Albanian, and Moroccan backgrounds (Ministero dell'Istruzione—Ufficio Statistica e Studi, 2021; United Nations, 2019). With regard to reasons for migration, the majority of participants reported that their parents had migrated to improve their family's economic situation (35.2% and 29.5% of fathers and mothers, respectively), for family reunification (7.8% and 23.4% of fathers and mothers, respectively), other reasons (e.g., to study, to escape war; 3.6% and 6.9% of fathers and mothers, respectively), or did not answer this question (53.4% and 40.2% of fathers and mothers, respectively).

## Procedure

This study was approved by the Ethics Committee of the Alma Mater Studiorum University of Bologna (Italy). In order to administer a questionnaire during regular class hours, we initially obtained permission from the school principals. Thereafter, we contacted the adolescents to inform them about the study and to ask for their active assent to participate. Participants received oral and written information about the study and were asked to sign the informed consent form. In addition to the youth assent, active parental consent was also obtained by sending the parental consent forms to both parents (or legal guardians) at least one week before the date of the data collection. Both youth assent and parental consent have

been obtained from almost all (96.6%) of the approached students and their parents.

Data collection consisted of three-time points with a six-month interval between them. At each time point, all teachers were informed by the school principals (through written and/or digital communications) about the project and the scheduled time of the data collection. The teachers could then decide whether to stay in or leave the classroom during the questionnaire administration. The data collection at T1 (May 2019) and T2 (November 2019) was completed through the same paper-and-pencil questionnaire in the classrooms during school hours, whereas the data collection at T3 (May 2020) was completed via an online version of the questionnaire during regular class hours since the teaching activities had been continued in remote mode due to the COVID-19 pandemic. In both versions of the questionnaire (i.e., paper-and-pencil and online), each participant generated a unique code in order to link the participant's responses across the three waves while ensuring confidentiality. Participation in this longitudinal study was voluntary, and students could choose not to complete the questionnaire at each time point.

## Measures

Participants filled in a questionnaire, including socio-demographic questions (e.g., age, gender, their own birth country, the birth country of their parents), and measures of school cultural diversity climate, as well as positive and negative intergroup contact at each time point. Migration status was identified based on the birth countries of participants and their parents. A copy of these study materials is publicly available via the following link: [https://osf.io/nps92/?view\\_only=7b3c84cca26847899677a48aa1a46665](https://osf.io/nps92/?view_only=7b3c84cca26847899677a48aa1a46665).

### School cultural diversity climate

Three subscales of the Classroom Cultural Diversity Climate Scale (Schachner et al., 2016) were used to measure adolescents' perceptions regarding equal treatment by teachers, support for contact and cooperation by teachers (i.e., the dimensions of equality-inclusion approach) as well as the interest of teachers in children's cultural background (i.e., dimension of cultural pluralism approach). These subscales consist of 17 items in total scored on a 5-point Likert-type rating scale, ranging from 1 (*completely false*) to 5 (*completely true*). Sample items include: "Our teachers are equally friendly with Italian students and students with a foreign background" (perceived equal treatment by teachers; six items), "Our teachers encourage Italian students and students with a foreign background to work together" (perceived support for contact and cooperation by teachers;

eight items), and “The teachers in my class are interested in where the students with foreign background are from” (perceived interest of teachers in children’s cultural background; three items).

## Positive and negative intergroup contact

Intergroup Contact Interactions Scale (Karataş et al., 2022; see also Table S2 for the standardized factor loadings and fit indices at  $T1$ ) was employed to assess adolescents’ positive and negative contact in schools. Initially, participants were asked to think about their own interactions with outgroup members in school during the last 6 months by providing the following prompt: “The following questions are about interactions you may have had in school with people of foreign origin [Italian people]. Now think about the interactions you had in the last 6 months at school.” Thereafter, all participants were asked to provide their answers to the instrument that consists of 10 items scored on a 5-point Likert-type rating scale ranging from 1 (*never*) to 5 (*very frequently*). Sample items include: “They have been polite to you” (positive contact; five items) and “They have been rude to you” (negative contact; five items).

## Strategy of analyses

Part of the preliminary analyses (i.e., sample attrition and missing value analyses; for the results, see [Supporting Information](#)) were completed in IBM SPSS version 21. Besides, longitudinal measurement invariance analyses (for the procedure, see [Supporting Information](#)) and our main analyses were conducted with *Mplus* 8.6 (Muthén & Muthén, 1998–2017) with maximum likelihood estimator with robust standard errors (Satorra & Bentler, 2001). We evaluated model fit by means of the comparative fit index (CFI) and Tucker–Lewis index (TLI), with values higher than .90 indicative of an acceptable fit, and values higher than .95 representing excellent fit; and the standardized root mean square residual (SRMR) and the root mean square error of approximation (RMSEA) with values below .08 suggesting acceptable fit and values lower than .05 indicative of excellent fit (Byrne, 2012). Moreover, a 90% confidence interval (CI) for the RMSEA was also examined, whereby model fit can be considered acceptable if the upper bound of CI is lower than .10 (Chen et al., 2008). In order to compare nested models, we considered both the Satorra–Bentler scaled chi-square difference test (Satorra & Bentler, 2001) and changes in parameter estimates (i.e.,  $\Delta$ CFI and  $\Delta$ RMSEA; Cheung & Rensvold, 2002). To establish invariance between models, at least two out of the following three criteria had to be matched: non-significant  $\Delta\chi^2_{SB}$  (Satorra & Bentler, 2001),  $\Delta$ CFI < .010, and  $\Delta$ RMSEA < .015 (Chen, 2007).

For our main analyses, we performed cross-lagged modeling with manifest indicators to investigate the longitudinal associations among perceived equal treatment by teachers, perceived support for contact and cooperation by teachers, perceived interest of teachers in children’s cultural background, and positive and negative contact. Herein, we estimated (a) cross-lagged paths controlling for (b) stability paths ( $T1 \rightarrow T2$ ,  $T2 \rightarrow T3$ , and  $T1 \rightarrow T3$ ), and (c) within-time correlations among all study variables (at  $T1$ , and correlated changes at  $T2$  and  $T3$ ). Furthermore, to model the longitudinal associations as parsimoniously as possible, we tested for time-invariance of (a) adjacent stability paths ( $T1 \rightarrow T2$ ,  $T2 \rightarrow T3$ ); (b) cross-lagged effects ( $T1 \rightarrow T2$ ,  $T2 \rightarrow T3$ ); and correlated changes (within-time correlations at  $T2$  and  $T3$ ). Moreover, we specified classroom as a cluster variable using “type = complex” command in *Mplus* to adjust the standard errors since participants were nested in classrooms.

To uncover mediational mechanisms, we tested indirect effects by using the model indirect command procedure available in *Mplus*. In this vein, we tested whether a predictor (measured at  $T1$ ) affects an outcome (measured at  $T3$ ) via a mediator (measured at  $T2$ ). As a final step, we also conducted multi-group analyses to estimate the potential moderating effects of ethnic (i.e., ethnic minority and majority adolescents) and gender (i.e., males and females) subgroups as well as different types of school (i.e., lyceum, technical, and vocational high schools). Analyses scripts of the present study can be found at the following link: [https://osf.io/c48h5/?view\\_only=f3260a1661b442bc99b8846c0f66d5e7](https://osf.io/c48h5/?view_only=f3260a1661b442bc99b8846c0f66d5e7).

## RESULTS

### Preliminary results

Means, standard deviations, Cronbach’s alpha coefficients, and intraclass correlation coefficients are reported in [Table 1](#). Bivariate correlations between study variables are presented in [Table S3](#). In addition, the results of the longitudinal measurement invariance tests revealed that metric invariance could be established for the measures of school cultural diversity climate and intergroup contact as well as the total measurement model (see [Table S4](#)).

### Cross-lagged model

The results of the model comparisons (see [Table 2](#)) documented that time-invariance could be established for stability paths, cross-lagged effects, and correlated changes. Therefore, the more parsimonious model, including all time-invariance constraints (i.e., M4), could be retained as the final one.

**TABLE 1** Means (*M*), standard deviations (*SD*), Cronbach's alpha coefficients ( $\alpha$ ), and intraclass correlation coefficients (*ICC*) at each time point

	<i>T1</i>				<i>T2</i>				<i>T3</i>			
	<i>M</i>	<i>SD</i>	$\alpha$	<i>ICC</i> <sup>a</sup>	<i>M</i>	<i>SD</i>	$\alpha$	<i>ICC</i> <sup>a</sup>	<i>M</i>	<i>SD</i>	$\alpha$	<i>ICC</i> <sup>a</sup>
Perceived equal treatment by teachers	4.201	0.668	.787	.193/.109	4.113	0.693	.816	.111/.056	3.968	0.768	.874	.094/.061
Perceived support for contact and cooperation by teachers	3.593	0.791	.902	.028/.003	3.462	0.813	.915	.039/.000	3.551	0.774	.929	.023/.000
Perceived interest of teachers in children's cultural background	3.324	0.814	.819	.084/.001	3.398	0.823	.865	.072/.005	3.478	0.762	.865	.050/.003
Positive contact	4.085	0.766	.900	.052/.018	4.039	0.827	.940	.071/.016	4.057	0.808	.946	.021/.009
Negative contact	1.613	0.706	.846	.073/.099	1.649	0.747	.895	.083/.032	1.690	0.754	.896	.077/.040

Abbreviation: *T*, time.

<sup>a</sup>The values presented on the left side of the slash marks display the intraclass correlation coefficients at classroom level, whereas the values reported on the right side of the slash marks demonstrate the intraclass correlation coefficients at school level.

**TABLE 2** Cross-lagged models: Model fit indices and model comparisons

<b>Models</b>	<b>Model fit indices</b>						<b>Model comparison</b>					
	$\chi^2$	<i>df</i>	<b>CFI</b>	<b>TLI</b>	<b>SRMR</b>	<b>RMSEA [90% CI]</b>	<b>Models</b>	$\Delta\chi^2_{SB}$	$\Delta df$	<i>p</i>	$\Delta CFI$	$\Delta RMSEA$
M1: Baseline model	41.055	20	.989	.947	.020	.033 [.018, .047]						
M2: Model with time-invariance of stability paths	51.200	25	.986	.947	.027	.033 [.020, .045]	M2-M1	10.184	5	.070	-.003	.000
M3: Model with time-invariance of stability paths and cross-lagged paths	66.838	45	.988	.976	.033	.022 [.009, .033]	M3-M2	15.279	20	.760	.002	-.011
M4: Model with time-invariance of stability paths, cross-lagged paths, and <i>T2–T3</i> correlations	82.312	55	.986	.975	.034	.022 [.011, .032]	M4-M3	15.372	10	.119	-.002	.000

Abbreviations:  $\Delta$ , change in the parameter;  $\chi^2_{SB}$ , Satorra-Bentler scaled chi-square; CFI, comparative fit index; *df*, degrees of freedom; RMSEA [90% CI], root mean square error of approximation and 90% confidence interval; SRMR, standardized root mean square residual; TLI, Tucker–Lewis index.



TABLE 3 Standardized results of the cross-lagged model

Stability paths	T1 → T2	T2 → T3	T1 → T3
Equal treatment	.395 (.031) <sup>***</sup>	.365 (.032) <sup>***</sup>	.191 (.038) <sup>***</sup>
Support for contact and cooperation	.420 (.025) <sup>***</sup>	.424 (.027) <sup>***</sup>	.148 (.037) <sup>***</sup>
Interest in cultural background	.280 (.029) <sup>***</sup>	.294 (.033) <sup>***</sup>	.112 (.043) <sup>**</sup>
Positive contact	.414 (.048) <sup>***</sup>	.435 (.036) <sup>***</sup>	.151 (.044) <sup>**</sup>
Negative contact	.318 (.041) <sup>***</sup>	.322 (.039) <sup>***</sup>	.079 (.041)
Cross-lagged paths	T1 → T2	T2 → T3	
Equal treatment → Positive contact		.047 (.022) <sup>*</sup>	.048 (.023) <sup>*</sup>
Equal treatment → Negative contact		-.107 (.031) <sup>**</sup>	-.106 (.032) <sup>**</sup>
Equal treatment → Support for contact and cooperation		-.023 (.027)	-.023 (.028)
Equal treatment → Interest in cultural background		.014 (.017)	.015 (.019)
Support for contact and cooperation → Positive contact		.041 (.028)	.041 (.028)
Support for contact and cooperation → Negative contact		-.020 (.029)	-.019 (.028)
Support for contact and cooperation → Equal treatment		.054 (.030)	.048 (.027)
Support for contact and cooperation → Interest in cultural background		.080 (.027) <sup>**</sup>	.085 (.029) <sup>**</sup>
Interest in cultural background → Positive contact		.040 (.031)	.039 (.030)
Interest in cultural background → Negative contact		-.033 (.029)	-.032 (.027)
Interest in cultural background → Equal treatment		.060 (.031)	.053 (.027)
Interest in cultural background → Support for contact and cooperation		.028 (.028)	.028 (.028)
Positive contact → Negative contact		-.108 (.028) <sup>***</sup>	-.111 (.030) <sup>***</sup>
Positive contact → Equal treatment		.000 (.028)	.000 (.026)
Positive contact → Support for contact and cooperation		-.006 (.023)	-.006 (.024)
Positive contact → Interest in cultural background		.001 (.020)	.002 (.022)
Negative contact → Positive contact		-.057 (.028) <sup>*</sup>	-.059 (.030) <sup>*</sup>
Negative contact → Equal treatment		-.052 (.033)	-.049 (.030)
Negative contact → Support for contact and cooperation		-.044 (.023)	-.046 (.024)
Negative contact → Interest in cultural background		.006 (.029)	.007 (.032)
Within-time correlations	T1	T2	T3
Equal treatment ↔ Positive contact	.214 (.031) <sup>***</sup>	.181 (.037) <sup>***</sup>	.181 (.037) <sup>***</sup>
Equal treatment ↔ Negative contact	-.317 (.041) <sup>***</sup>	-.254 (.040) <sup>***</sup>	-.235 (.036) <sup>***</sup>
Equal treatment ↔ Support for contact and cooperation	.227 (.032) <sup>***</sup>	.201 (.031) <sup>***</sup>	.200 (.030) <sup>***</sup>
Equal treatment ↔ Interest in cultural background	.113 (.040) <sup>**</sup>	.103 (.041) <sup>*</sup>	.105 (.042) <sup>*</sup>
Support for contact and cooperation ↔ Positive contact	.207 (.031) <sup>***</sup>	.105 (.034) <sup>**</sup>	.119 (.035) <sup>**</sup>
Support for contact and cooperation ↔ Negative contact	-.181 (.033) <sup>***</sup>	-.047 (.031)	-.049 (.032)
Support for contact and cooperation ↔ Interest in cultural background	.326 (.039) <sup>***</sup>	.327 (.029) <sup>***</sup>	.374 (.033) <sup>***</sup>
Interest in cultural background ↔ Positive contact	.084 (.035) <sup>*</sup>	.063 (.028) <sup>*</sup>	.073 (.032) <sup>*</sup>
Interest in cultural background ↔ Negative contact	-.030 (.037)	-.013 (.030)	-.014 (.033)
Positive contact ↔ Negative contact	-.540 (.036) <sup>***</sup>	-.358 (.047) <sup>***</sup>	-.377 (.052) <sup>***</sup>

Note: Equal treatment = Perceived equal treatment by teachers; Support for contact and cooperation = Perceived support for contact and cooperation by teachers; Interest in cultural background = Perceived interest of teachers in children's cultural background.

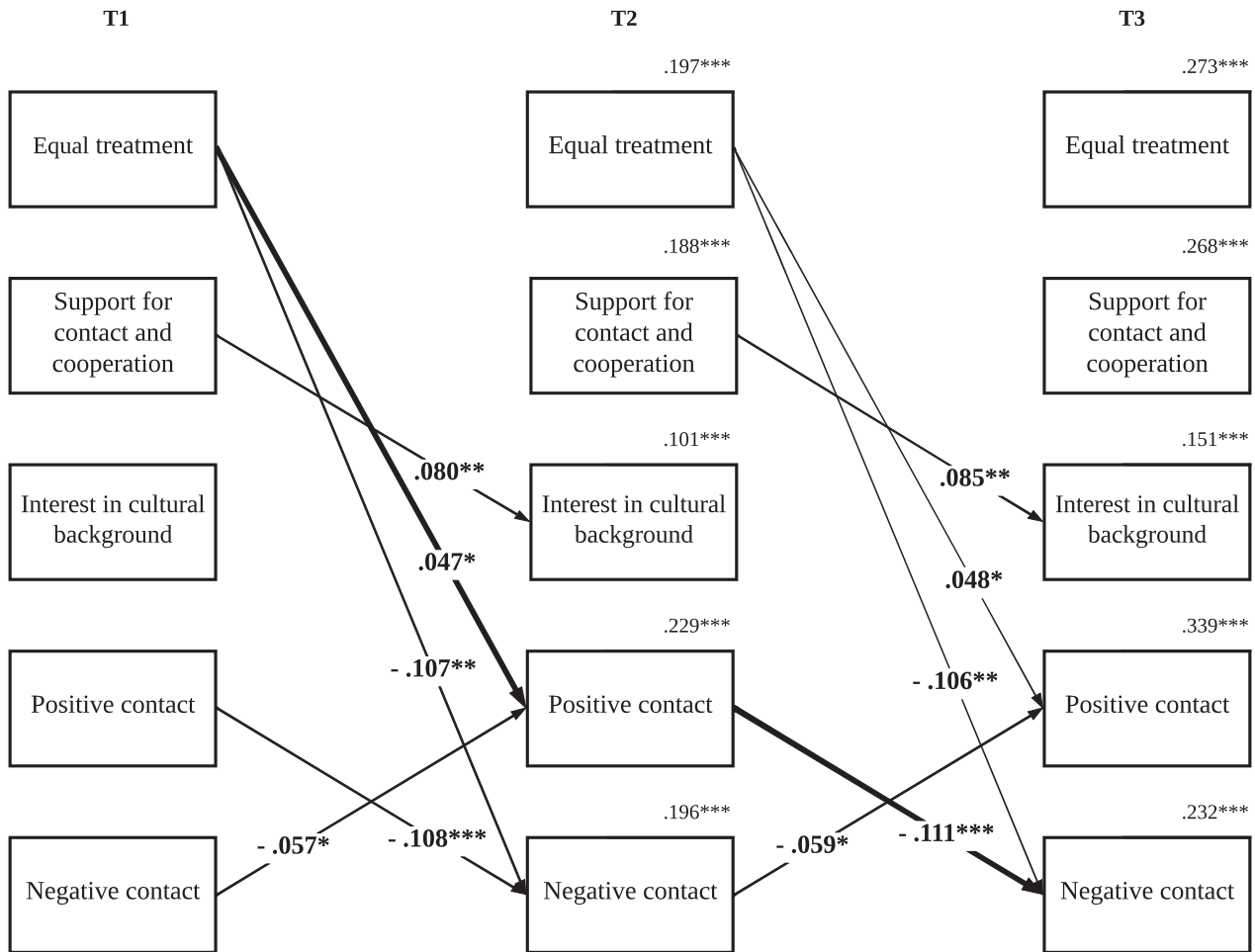
The values outside the parentheses indicate standardized estimates, whereas those reported in parentheses indicate standardized errors.

Abbreviation: T, time.

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

As displayed in Table 3 and Figure 1, perceived equal treatment by teachers was related to higher levels of positive contact and lower levels of negative contact over time (in line with Hypothesis 1). However, inconsistent with

Hypothesis 1, both perceived support for contact and cooperation by teachers as well as perceived interest of teachers in children's cultural background were not significantly related to either positive or negative contact of



**FIGURE 1** Significant standardized results of the cross-lagged model.

*Note:* For the sake of clarity, only significant standardized estimates of cross-lagged effects are displayed. Bold arrows indicate indirect effects. Equal treatment = Perceived equal treatment by teachers; Support for contact and cooperation = Perceived support for contact and cooperation by teachers; Interest in cultural background = Perceived interest of teachers in children's cultural background;  $T$  = time.  $*p < .05$ ,  $**p < .01$ ,  $***p < .001$ .

adolescents at a later time point. Moreover, positive associations between the indicators of classroom cultural diversity climate were also documented. More specifically, perceived support for contact and cooperation by teachers was positively related to the perceived interest of teachers in children's cultural background over time. Finally, bidirectional negative associations between adolescents' positive and negative contact could be detected.

To uncover mediational mechanisms, we tested indirect effects (cf. *Hypotheses 2a* and *2b*). Partially in line with the *Hypothesis 2a*, the findings showed that positive contact at  $T2$  mediated the negative associations between perceived equal treatment by teachers at  $T1$  and negative contact at  $T3$  ( $\beta_{\text{indirect}} = -.005 [-.010, .000]$ ,  $p = .046$ ). However, all other hypothesized indirect effects were not statistically significant (see Table S5). In general, these findings emphasize that perceived equal treatment by teachers is linked to negative contact indirectly via positive contact.

## Moderation analyses

In order to investigate the possible moderating effects of the ethnic background (cf. *Hypothesis 3*), multi-group

analyses were performed. The findings (see Table S6) revealed that the constrained model in which stability paths, cross-lagged paths, and within-time correlations were fixed to be equal across ethnic minority and majority adolescents was not significantly different from the unconstrained model in which these paths could vary across groups ( $\Delta\chi^2_{\text{SB}} = 67.229$ ,  $df = 50$ ,  $p = .052$ ,  $\Delta\text{CFI} = -.008$ , and  $\Delta\text{RMSEA} = -.002$ ). Thus, in accordance with our expectations (*Hypothesis 3*), the results of the cross-lagged model were replicated across ethnic minority and majority adolescents.

As displayed in detail within the Supporting Information (see Table S6), the results of the additional multi-group analyses to examine the potential moderating effects of gender and school types (cf. *exploratory aim*) showed that the constrained model significantly differed from the unconstrained one across males and females ( $\Delta\chi^2_{\text{SB}} = 87.733$ ,  $df = 50$ ,  $p = .001$ ,  $\Delta\text{CFI} = -.019$ , and  $\Delta\text{RMSEA} = .003$ ) as well as across different school types ( $\Delta\chi^2_{\text{SB}} = 162.424$ ,  $df = 100$ ,  $p = .000$ ,  $\Delta\text{CFI} = -.029$ , and  $\Delta\text{RMSEA} = .004$ ). As for the effects of gender, the associations depicted in Figure 1 were replicated across gender subgroups. Additionally, two cross-lagged associations that were not significant in the model tested in the total

sample were found to differ across males and females. The follow-up pairwise comparisons indicated that the cross-lagged path from positive contact to perceived equal treatment by teachers was positive and significant only in females (Wald  $\chi^2(1) = 8.661, p = .003$ ), whereas the path from negative contact to perceived equal treatment by teachers was found to be negative and significant only in males (Wald  $\chi^2(1) = 10.092, p = .001$ ). Concerning the moderating effects of school types, the path from positive contact to perceived equal treatment by teachers was positive and significant only in adolescents attending lyceum (Wald  $\chi^2(1) = 8.675, p = .003$ ), and the path from perceived equal treatment by teachers to negative contact was negative and significant only in adolescents in vocational schools (Wald  $\chi^2(1) = 6.321, p = .011$ ).

## DISCUSSION

Drawing on recent theoretical models that highlight the importance of diversity approaches (e.g., Schachner et al., 2019; Schwarzenhal et al., 2018), the current study provided evidence on the longitudinal associations between the equality-inclusion approach endorsed by teachers and adolescents' intergroup contact (i.e., positive and negative) in schools. More specifically, this study found both direct (i.e., perceived equal treatment by teachers on positive and negative contact) and indirect effects (i.e., perceived equal treatment by teachers on negative contact through positive contact). Most importantly, the findings also add to the literature by showing that these associations were fully replicated across ethnic minority and majority adolescents.

### School diversity approaches as antecedents of intergroup contact: The central role of equal treatment

In line with our expectations (*Hypothesis 1*), this study indicated that perceived equal treatment by teachers is related to an increase in adolescents' positive intergroup contact over time and also associated with a decrease in negative contact. In other words, adolescents experienced more positive (e.g., warm and respectful interactions) as well as less negative (e.g., distant and insulting interactions) contact in their schools when their teachers treated ethnic minority and majority adolescents equally. These intriguing findings confirmed that youth tend to become more sensitive as well as receptive to moral beliefs concerning fairness and justice in their socialization contexts (Rutland et al., 2010). Therefore, teachers' equal treatment of *all* students in shaping the quality of adolescents' intergroup contact could, in turn, be a basis for developing more positive intergroup attitudes (Gniewosz & Noack, 2008; Schachner et al., 2019; Schwarzenhal et al., 2018). Future studies might go a step further by

exploring how positive and negative forms of adolescents' contact could mediate the links between teachers' equal treatment and the development of positive intergroup attitudes.

However, in contrast to our expectations (*Hypothesis 1*), there were no cross-lagged associations between the other dimensions of cultural diversity approaches (i.e., teachers' support for contact and cooperation and perceived interest of teachers in children's cultural background) and intergroup contact (i.e., positive and negative). So, while within-time correlations were largely significant, when all three dimensions were considered together, what emerged as the most important was equal treatment. The fact that perceived support for contact and cooperation by teachers and perceived interest of teachers in children's cultural background were less impactful could be discussed in light of two possible explanations. First, this might be due to the intensity of implementing these diversity practices; encouraging adolescents to establish contact and cooperation as well as being interested in their diverse backgrounds during curricular and extracurricular activities might not always be beneficial if superficially implemented (Civitillo et al., 2017; Schachner et al., 2019). Similarly, Schwarzenhal et al. (2018) have drawn attention to not only beneficial but also potentially detrimental impacts of implementing superficial cultural pluralism practices by illustrating their unforeseen associations with higher perceived ethnic discrimination. The second explanation might be related to the extent to which students endorse these inclusion practices. In this respect, it could be possible that promoting such diversity approaches might lead to positive changes in adolescents' intergroup contact on the condition that all students get involved to a great extent in these multicultural activities. Future studies are thus needed to obtain a more nuanced understanding of the conditions under which students of diverse ethnic and cultural backgrounds might interact.

In addition, and partially in line with our expectations (*Hypothesis 2a*), we found that equal treatment by teachers was related to a decrease in negative intergroup contact not only directly, but also indirectly, through the mediation of positive contact. The more adolescents perceived their teachers treating all students equally, the more they experienced positive contact over time, and, in turn, the less they experienced negative contact at a later time point. As expected, such findings indicate that adolescents' perception of equal treatment in schools could attenuate negative contact by supporting the "self-reinforcing" nature of positive contact (Paolini et al., 2018). In this respect, equal treatment by teachers might be interpreted as the most crucial factor in improving confidence in contact among ethnic minority and majority adolescents (Turner & Cameron, 2016). Thus, high confidence in contact triggered by teachers' equal treatment might pave the way to endorsing contact in a positive way,

which could, in turn, reduce negative contact in the future (Paolini et al., 2018). In other words, positive contact legitimized by even-handedness from teachers could foster a school climate with harmonious relationships. Apart from the aforementioned indirect effect of perceived equal treatment by teachers on decreased negative contact, the indirect effects of support for contact and cooperation by teachers and the perceived interest of teachers in children's cultural background turned out to be insignificant. Given that there were neither direct effects of support for contact and cooperation by teachers nor of perceived interest of teachers in either positive or negative contact, it is plausible that no significant mediating effects were achieved. Nonetheless, in light of the earlier arguments, these noteworthy findings call for further research.

Likewise, inconsistently with *Hypothesis 2b*, we found no evidence of the mediating role of negative contact in the longitudinal associations of equality-inclusion and cultural pluralism with positive contact even though the direct associations were significant. The possible explanation of such unforeseen findings (particularly with regard to perceived equal treatment) might be due to the more substantial and long-lasting impact of negative contact as compared to positive one (see positive–negative contact asymmetry; Barlow et al., 2012; cf. also Árnadóttir et al., 2018; Graf et al., 2014). Although certain aspects of teachers' cultural diversity approaches (i.e., perceived equal treatment by teachers) could be linked to experiencing less negative contact at a later time, having relatively less negative contact with outgroup members might be related to increased positive contact to only a limited extent. From the point of the recent approach on seeking and avoiding intergroup contact (Paolini et al., 2018), in spite of our expectations, it could be that adolescents may not be willing to seek further contact even if the endorsement of cultural diversity approaches within schools (i.e., perceived equal treatment by teachers) was related to low negative contact.

Apart from the direct and indirect effects, bidirectional associations between positive and negative contact are worth noting. The mutual dynamics linking positive and negative contact pointed to a novel approach to better understanding the *beneficial* and *detrimental* effects of positive and negative intergroup contact, respectively. In detail, these findings highlight that positive contact provides significant protection not only against the adverse effects of negative contact (Árnadóttir et al., 2018) but also against negative contact itself. In contrast, negative contact not only casts a shadow over the more desirable outcomes of positive contact (Árnadóttir et al., 2022) but also directly reduces the possibility of experiencing positive contact in the future. Overall, these findings clearly emphasize the interdependence of positive and negative valence of contact, and thus, suggest that both forms of contact should be examined separately in order to

obtain a nuanced picture of such dynamics and reciprocal phenomena.

All the results have been replicated across ethnic minority and majority adolescents and are in line with our expectations (*Hypothesis 3*). Most importantly, perceived equal treatment by teachers can *equally* improve the quality of intergroup contact among all students alike. These findings shed new light on existing research by illustrating how embracing equal treatment could act as a central facet of cultural diversity approaches to enhance greater classroom connectedness and emotional engagement (Mameli et al., 2018) through increased positive but, most importantly, decreased negative contact among students of diverse ethnic and cultural backgrounds.

Besides these findings being replicated across ethnic minority and majority adolescents, ancillary analyses generally supported the replicability of the results across males and females as well as across students in different types of schools. Nevertheless, a few intriguing gender differences emerged. The cross-lagged path from positive contact to teachers' equal treatment was positive and significant only in females, whereas the path from negative contact to teachers' equal treatment was negative and significant only in males. This gender-specific pattern might be explained considering that male adolescents were generally found to indicate more negative contact than females (e.g., Bağcı & Gungor, 2019), and thus, they might be more sensitive to these negative experiences. Furthermore, the findings regarding school types are also noteworthy. They indicated that the beneficial effects of positive contact on the perception of equal treatment by teachers for students of lyceum and the positive implications of perceived equal treatment by teachers to reduce negative contact for students of vocational schools. This latter finding is particularly relevant since ethnic minority adolescents are usually overrepresented in vocational schools (Ministero dell'Istruzione—Ufficio Statistica e Studi, 2021), and the evidence collected in this study points to the fundamental role played by teachers who can enhance a climate in which students feel respected.

## Limitations and suggestions for future research

The findings of this study should be considered in light of some limitations that might be addressed in future research. Considering the central role of teachers as positive role models for all students, we assessed schools' cultural diversity climate through adolescents' perceptions of teachers' norms. Given that the discrepancies might arise between teachers' and students' perceptions of how cultural diversity is handled in school (particularly among minority youth; Civitillo et al., 2017), future studies should draw on multi-informant designs including teachers' as well as students' responses to identify whether adolescents'



perceptions accurately reflect those of teachers (e.g., Schwarzenthal et al., 2022).

Moreover, we specifically focused on teachers' handling of cultural diversity in relation to intergroup relationships in school. However, peers and institutional policies have also been proposed as additional agents driving cultural socialization in ethnically and culturally diverse schools (Saleem & Byrd, 2021). Likewise, current conceptual models—i.e., contact in context (Yip et al., 2015) and integrative risk and resilience (Suárez-Orozco et al., 2018)—posit the need to consider adolescents' intercultural relationships within and across various proximal (e.g., family, school, peer, neighborhood) and distal (e.g., city, country, mass-media communications, politics) contexts. In this sense, future studies should also pay more attention to actual diversity policies at the school level (Celeste et al., 2019) as well as cultural values at the community level (Kende et al., 2018) to illustrate the dynamic associations of endorsed diversity approaches with adolescents' positive and negative intergroup contact in a broader perspective.

An additional limitation of the present study stems from focusing on only one interpersonal facet of the cultural pluralism approach (i.e., perceived interest of teachers in children's cultural background). However, endorsement of such an approach also implies learning about intercultural relationships and multicultural topics (Aral et al., 2021; Schachner et al., 2016). Future studies considering such additional aspects of cultural pluralism (or more inclusive polyculturalism; Schachner et al., 2021) would make it possible to explore further the possible effects of multiple cultural affiliations on positive and negative contact.

From a methodological point of view, we particularly aimed to disentangle the prospective effects of between-person differences, and we, therefore, investigated longitudinal associations between study variables using a traditional cross-lagged panel design (Orth et al., 2020). Taking a step further from the present findings, future studies might investigate these associations at the within-person level by employing a random intercept cross-lagged panel model (Hamaker et al., 2015). In this sense, it would be possible to provide further insights into how deviations from an adolescent's average score on each of the cultural diversity dimensions would be associated with the changes in positive and negative contact over time and vice versa (Papp, 2004). Furthermore, given that school diversity climate refers to a school contextual characteristic, future studies might also employ designs and analytic strategies that allow disentangling of processes at the individual level from processes operating at the classroom level, by drawing on a multilevel framework (cf. Marsh et al., 2012). In this way, it might be possible to reflect the dynamic associations between cultural diversity approaches and adolescents' intergroup contact at the individual and classroom levels, so making

more precise and easily applicable recommendations for teachers.

As regards the participants, the adolescents of this study came from a specific area in Italy, Emilia Romagna, which is also the region characterized by the highest proportion of ethnic minority students in the nation. Despite the heterogeneity due to diverse ethnic and cultural backgrounds (Regione Emilia-Romagna, 2013), the vast majority of the students without Italian citizenship in this region were second-generation migrants (Ministero dell'Istruzione—Ufficio Statistica e Studi, 2021). Accordingly, most ethnic minority adolescents in this study had extended interaction with their ethnic majority peers, were fluent in Italian, and were not very culturally distant from the Italian majority culture. In this vein, replicating this study in a different yet more homogeneous sample consisting mainly of the first-generation migrant adolescents who recently migrated to Italy (i.e., the Southern part of Italy) would provide more in-depth information on the processes examined.

## Theoretical and practical implications

This study has important theoretical implications for the understanding of adolescents' development. In this regard, the present findings provided novelties on how schools act as the “primary engine” (Bronfenbrenner & Morris, 2006) to cope with both developmental and acculturative tasks that will ultimately enhance social inclusivity in contemporary societies. The current study also sheds light on the paramount importance of achieving maturity of cognitive processing and moral reasoning (Rutland et al., 2010) as capacities that enable adolescents to appreciate equal treatment and cultural diversity on the one hand, and, on the other, motivate them to shape a better, just and fair social climate through intergroup contact. This can lead to granting equal citizenship to diverse cultural identities as a fundamental antecedent of inclusive schools and, in turn, societies.

At the social psychological level, this contribution advances knowledge on antecedents of intergroup contact (Kauff et al., 2021) by highlighting how shared societal norms are as important as equal treatment, and respect for cultural diversity can trigger a chain of beneficial outcomes ending in increased intergroup contact and later in democratic attitudes toward social inclusivity in multicultural societies. These possible effects deserve further empirical investigation.

In terms of practical implications, the current study has provided essential insights into the central roles of the teachers in creating an inclusive school climate by demonstrating how they should tackle cultural diversity approaches in order to improve the overall quality of intergroup contact in multicultural schools. However, given that most teachers are still in need of further professional development to cope with cultural diversity in their schools (European

Commission, 2017), the findings of this study can be conceived as an essential source for the development of more holistic, theory-driven, intense, multilayered, and permanent training programs for both pre-service and in-service teachers (Civitillo et al., 2018). The possible benefits of the proposed educational programs would be twofold. First, they might allow teachers to notice their *own* biases and misperceptions toward cultural diversity as well as their ability to handle cultural diversity in schools (Civitillo et al., 2018; Juang & Schachner, 2020). Second, providing inclusive training programs might increase teachers' awareness of the value and strength of cultural diversity as an opportunity to enrich learning processes for all students rather than as a threat (Juang & Schachner, 2020). In this way, it could be possible to prevent superficial diversity practices that may have undesirable consequences.

## CONCLUSION

Overall, this longitudinal study highlighted the vital role that a school context endorsing fairness and equal treatment of students can play to increase positive and decrease negative contact among ethnic minority and majority adolescents in schools. It also demonstrated the mediating role of positive intergroup contact in the associations of equal treatment by teachers and adolescents' negative contact. Most importantly, all these results were replicated across ethnic minority and majority adolescents, indicating that equal treatment by teachers could improve the overall quality of intergroup contact of *all* students regardless of their ethnic background. To conclude, such findings provided novel insight into the potential of equal treatment as a crucial factor that can reveal “teachers' invisible hands” (i.e., a metaphor that refers to the unique role of teachers in guiding the social interactions of students; Farmer et al., 2011; see also Kindermann, 2011; Schwarzenhal et al., 2022) in creating a school climate characterized by harmonious relationships among adolescents from diverse ethnic backgrounds.

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The analyses presented here were not preregistered. The datasets generated and/or analyzed for the current study are not publicly available but are available from the corresponding author on reasonable request. Study materials, analyses codes, and input files are publicly available and can be retrieved from: [https://osf.io/hyj3d/?view\\_only=f979cb302e184cf484bf0e58778137d4](https://osf.io/hyj3d/?view_only=f979cb302e184cf484bf0e58778137d4). The authors thank Dr. Sauro Civitillo for his contributions to the Italian translation of the Classroom Cultural Diversity Climate Scale and Prof. Karen Phalet for her valuable comments on the initial stage of the study.

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## CONFLICT OF INTEREST

None of the authors have any conflicts of interest to disclose.

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## SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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