

# Help or hindrance? Minority versus majority cross-ethnic friendships altering discrimination experiences<sup>☆</sup>

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## ABSTRACT

We examined the interplay between perceived ethnic discrimination (PED) as a risk factor, and cross-ethnic friendships as a protective factor in culturally diverse classrooms, and how they relate to the socioemotional adjustment of ethnic minority boys and girls. We conducted multi-level analyses of 327 Turkish-heritage ethnic minority early-adolescents in Germany (62 classrooms;  $M_{\text{age}} = 11.59$  years,  $SD_{\text{age}} = 0.76$ ). Higher rates of PED were associated with more depressive symptoms and disruptive behaviors and lower general life satisfaction—though these effects differed by gender. Unexpectedly, cross-ethnic friendships with ethnic majority peers *exacerbated* the negative effects of PED on socioemotional adjustment. This effect was decreased, though, when adolescents perceived the classroom climate to be supportive of intergroup contact toward majority-minority cross-ethnic friendships. Supportive classroom climate also buffered the effects of PED for youth with minority cross-ethnic friends. Results indicate the need to differentiate types of cross-ethnic relationships and account for the intergroup climate.

## Introduction

As societies grow increasingly multicultural, this diversity brings with it challenges and opportunities, which may act as risk and protective factors for the development of culturally diverse youth (Spencer, 2006). In terms of risk factors for healthy development, there is a heightened potential for ethnic discrimination in more ethnically diverse contexts (Putnam, 2007; Rodkin & Ryan, 2012)—the negative physical, psychological, and social consequences of which are wide-ranging and well-established (Priest et al., 2013; Schmitt, Branscombe, Postmes, & Garcia, 2014). At the same time, contact between members of different ethnic groups may promote positive interethnic attitudes and allow for the formation of cross-ethnic friendships (Pettigrew & Tropp, 2006). Such friendships, in turn, may help protect against some of the negative effects of discrimination (e.g., Bagci, Rutland, Kumashiro, Smith, & Blumberg, 2014; Page-Gould, 2012). Yet, cross-ethnic friendships may also require a supportive intergroup climate in order to develop (Schachner, Brenick, Heizmann, Van de Vijver, & Noack, 2015) and manifest positive effects. In the current study, we

investigated the interplay between perceived ethnic discrimination (PED) as a major risk factor and cross-ethnic friendships as a possible protective factor for the socioemotional adjustment of ethnic minority youth in the context of culturally diverse classrooms. As part of the classroom context, we also considered the intergroup climate. Specifically, we assessed how much support there was for cross-ethnic friendships amongst students attending the same classroom.

## Risk and protective factors for ethnic minority youth - conceptual framework

PED is a common occurrence amongst ethnic minority youth (US: Greene, Way, & Pahl, 2006; Seaton, Caldwell, Sellers, & Jackson, 2008)—especially those with immigrant backgrounds (Europe: Bayram Özdemiş & Stättin, 2014)—and has well-established negative implications for youth's socioemotional adjustment and well-being (see Priest et al., 2013; Schmitt et al., 2014). Several theoretical frameworks highlight the central role of PED for ethnic minority youth's socioemotional development (e.g., Garcia Coll et al., 1996; Spencer, 2006).

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Spencer's (2006) Phenomenological Variant of Ecological Systems Theory (PVEST) asserts that, in ethnic minority youth development, coping strategies and outcomes—adaptive and maladaptive—must be examined in relation to each individual's balance of risks and protective factors within a larger ecological context. Similarly, Garcia Coll et al. (1996) suggest that how ethnic minority youth cope with discrimination experiences depends on promoting and inhibiting factors in different contexts, such as school. As a result, in addition to assessing PED's myriad negative consequences, scholars have tried to identify protective factors and mechanisms through which the negative effects of PED might be attenuated (see Schmitt et al., 2014; Priest et al., 2013 for reviews). A handful of recent studies, have explored the role of cross-ethnic friendships as a source of intergroup support that might also serve as a protective factor against PED's deleterious effects (Europe: Bagci et al., 2014; US: Benner & Wang, 2017; Kawabata & Crick, 2015). Yet, these studies did not distinguish between different types of cross-ethnic friendships (with majority or other minority peers) and have not looked at the broader social context (such as perceived support for intergroup contact) as another moderating factor.

We extended the previous literature by investigating majority and minority cross-ethnic friendships as a moderator of PED effects on socioemotional adjustment amongst early-adolescents of Turkish immigrant background—one of the most stigmatized ethnic minority groups living in Germany. To get a broader picture of these associations in the context of culturally diverse classrooms, we looked at discrimination from multiple sources (i.e., teachers & peers), and studied these effects on multiple outcomes (i.e., depressive symptoms, disruptive behavior, and general life satisfaction). Finally, we tested whether the moderating effects of cross-ethnic friendships were altered by the perceived intergroup climate in the classroom.

### Negative effects of perceived ethnic discrimination (PED)

In a recent meta-analysis of PED's negative effects on child health, increased depressive symptoms and decreased life satisfaction emerged as the “strongest and most consistent” relations across the literature (Priest et al., 2013). PED-related increases in depressive symptoms and decreases in life satisfaction have been found not only in numerous samples of ethnic minority and immigrant-background youth in the US (e.g., Davis et al., 2016; Niwa, Way, & Hughes, 2014; Seaton et al., 2008), but also amongst immigrant-background youth across Europe (Adriaanse, Veling, Doreleijers, & Domburgh, 2014; Frankenberger, Kupper, Wagner, & Bongard, 2013). For example, Turkish-heritage adults living in the Netherlands (Verkuyten, 2008) and Germany (Aichberger et al., 2015) who experienced higher rates of PED, reported decreased life satisfaction and increased depressive symptoms, respectively. Additionally, Maes, Stevens, and Verkuyten (2014) found a positive relation between PED and internalizing problems (e.g., depressive symptoms) in Muslim early-adolescents of Turkish or Moroccan heritage in the Netherlands.

PED is also frequently associated with youth externalizing and problem behaviors (Priest et al., 2013). For Hispanic youth in the US, PED predicted problem behaviors, including aggressive and rule-breaking behaviors (Cano et al., 2015). Still, PED's externalizing outcomes remain understudied amongst children and adolescents with ethnic minority and/or immigrant backgrounds living in Europe (see Maes et al., 2014; Stevens, Vollebergh, Pels, & Crijnen, 2005). Higher rates of PED predicted increased externalizing behaviors amongst Muslim Moroccan- and Turkish-heritage youth in the Netherlands, but school or peer context (Stevens et al., 2005), gender, and social group (Maes et al., 2014) all played critical moderating roles, warranting further research.

Moreover, ethnic minority youth frequently perceive discrimination from multiple sources, such as teachers and peers (see Benner & Graham, 2013; Brenick, Titzmann, Michel, & Silbereisen, 2012; Byrd & Carter Andrews, 2016). Experiencing PED from peer sources is more

often associated with psychological outcomes (e.g., depressive symptoms; US: Benner & Graham, 2013). However, youth who reported PED from adult sources (US: Niwa et al., 2014), or specifically teachers (US: Benner & Wang, 2017; Belgium: D'hondt, Eccles, Van Houtte, & Stevens, 2017), reported greater maladjustment related to schooling (e.g., lower behavioral school engagement). As we are broadly interested in discrimination experiences and effects in the school context, we included measures of both sources of discrimination (teachers and peers) as well as relevant outcomes of both sources of PED.

### Protective factors against the negative effects of PED

#### Cross-ethnic friendships

Recently, cross-ethnic relationships have been identified as a potential protective factor. Previous studies suggest that cross-ethnic friendships can serve as a buffer against the harmful effects of multiple forms of intergroup-based victimization (Page-Gould, 2012; Paolini et al., 2014). Much of this work has been conducted on a broader array of intergroup-based victimization beyond PED, however, the results provide additional support for the consideration of cross-ethnic friendships as a protective factor against PED. For example, having cultural majority cross-ethnic friendships mitigated the impact of various negative intergroup experiences (e.g., ethnic, national, religious, and immigrant background minority youth in the US and two European Countries; Paolini et al., 2014). At the same time, these friendships increased positive academic trajectories (Muslim minority youth across four European countries; Baysu & de Valk, 2012), feelings of increased school belongingness and safety (US; Munniksma & Juvonen, 2012), rates of social acceptance and help from friends (Kawabata & Crick, 2011, 2015), and rejection of intergroup discrimination (Brenick & Killen, 2014).

To date, however, only a handful of studies have examined the potential of intergroup social relationships as a protective factor specifically against PED for ethnic minority youth. These few studies show promise. Research on ethnically diverse youth in the US has shown that cross-ethnic friendships are related to lower rates of discrimination, and better coping with PED (Benner & Wang, 2017). Bagci et al. (2014) also found that cross-ethnic friendships with youth of various cultural heritages helped to buffer against PED's negative effects on psychological well-being in South-Asian British children living in London.

#### Classroom climate

A classroom climate that supports positive intergroup contact may have an additional protective function and further enhance the PED-buffering effects of cross-ethnic friendships. First, a positive intergroup climate was associated with better well-being and fewer psychological and behavioral problems amongst youth of immigrant backgrounds in Germany (Schachner, Noack, Van de Vijver, & Eckstein, 2016). In addition, such a climate was associated with lower PED (Schwarzenthal, Juang, Schachner, van de Vijver, & Handrick, 2017) and also buffered the negative effects of stereotype threat, a concept related to PED (Baysu, Celeste, Brown, Verschuere, & Phaet, 2016). A positive intergroup climate in the classroom was also associated with more cross-ethnic friendships (Jugert, Noack, & Rutland, 2011; Schachner et al., 2015). In line with contextual frameworks of development (e.g., Garcia Coll et al., 1996; Spencer, 2006) and following calls from the field that more attention should be paid to the larger social context when studying effects of cross-ethnic friendships (Jugert & Feddes, 2017), we assessed the perceived intergroup climate (i.e., support for relationships between ethnic majority and minority youth) in the classroom as an additional factor that may alter the moderating effects of cross-ethnic friendships.

To summarize, there are three ways the current study extends this body of work: first, only a few studies (e.g., Jugert, Leszczensky, & Pink,

2017; Kooops, Martinovic, & Weesie, 2017; Quillian & Campbell, 2003) have differentiated between types of cross-ethnic friendships amongst ethnic minority youth (e.g., cross-ethnic friendships with ethnic majority youth compared to cross-ethnic friendships with other ethnic minority youth) and none of these have examined different types of cross-ethnic friendships as moderating the relation between PED and adjustment. This is important because the different types of cross-ethnic friendships may provide different supports to ethnic minority youth (e.g., feeling accepted by the cultural mainstream with majority youth; sharing experiences of rejection with other minority youth). Second, given the impact of the diversity context (e.g., proportion of minority youth in a class, intergroup climate about cross-ethnic friendships) on the development and outcomes of cross-ethnic relationships (see Brenick et al., 2012; Jugert et al., 2011; Schachner et al., 2015; Schachner, van de Vijver, & Noack, 2016; Titzmann, Brenick, & Silbereisen, 2015), the larger social context must be taken into account (Jugert & Feddes, 2017; Spencer, 2006). Third, ethnic minority populations in Europe must be better represented in this literature (see Ikram et al., 2016; Maes et al., 2014). Of the previous studies on cross-ethnic friendships moderating the effects of PED, only one has been conducted with ethnic minority youth in Europe (Bagci et al., 2014). This study was conducted in the super-diverse context of greater London, where there is also a great deal of support for multiculturalism, and which may not be representative for other, less multicultural regions in Europe. Thus, we went beyond previous studies by examining multiple sources and outcomes of PED amongst Turkish-heritage early-adolescents in Germany.

### *The present study*

We investigated the potential buffering role of cross-ethnic friendships on the negative impact of PED by teachers and peers in terms of socioemotional adjustment (i.e., depressive symptoms, general life satisfaction, and disruptive behavior). Specifically, we looked at how this relation may differ for students with different types of cross-ethnic friendships (cross-ethnic minority & cross-ethnic majority) when controlling for same-ethnic friendships. Controlling for same-ethnic friendships is necessary in order to distinguish a unique effect of a specific type of friendship (cross-ethnic friendships) from a general effect of just having friends (vs. not having friends). Additionally, we examined how the moderating effect of cross-ethnic friendships was further moderated by perceived intergroup climate. To date, no studies on PED have distinguished different types of cross-ethnic friendships (majority vs. other minority), nor have any included classroom climate as a moderator. Gender was added as a covariate, as previous research has shown gender differences in socioemotional adjustment with boys showing more externalizing (e.g., disruptive behavior) and girls more internalizing behavior (e.g., depressive symptoms) (Leadbeater, Kuperminc, Blatt, & Hertzog, 1999; Stevens & Vollebergh, 2008). In addition, we controlled for classroom ethnic composition and the nested structure of the data. We hypothesized:

Hypothesis 1: Both types of cross-ethnic friendships would have a buffering function (i.e., reduce the negative association of PED with life satisfaction and the positive association of PED with depression and disruptive behavior). We did not have strong theoretical assumptions about whether one type of cross-ethnic friendships would be more beneficial than the other, so this was treated as an exploratory research question.

Hypothesis 2: The buffering effect of cross-ethnic friends would be increased when supported by students in the classroom (i.e., when the intergroup climate in school was supportive of relationships between students from different ethnic groups).

We focused on early-adolescents of Turkish heritage for two reasons: 1) previous work showed that ethnic discrimination is perceived at higher rates in early adolescence as ethnic identity exploration begins (see Seaton et al., 2008); and 2) minorities of Turkish heritage are

the largest ethnic minority group in Germany (Statistisches Bundesamt, 2016), but also one of the most stigmatized ethnic minority groups in many European countries (Güngör, Fleischmann, Phalet, & Maliepaard, 2013). The experience of high levels of discrimination amongst Muslim youth more generally and Turkish-heritage youth specifically also contributes to lower academic achievement and psychological adjustment compared to other ethnic minority groups (Güngör et al., 2013; Schachner, van de Vijver, & Noack, 2016). A recent meta-analysis of the association between PED and negative physical and mental health outcomes suggested that Turkish youth were amongst those that most consistently yielded negative effects of PED (Priest et al., 2013).

Most Turkish-heritage early-adolescents in Germany are descendants of so-called guest workers, who had been recruited to work in German factories during the 1960s and 1970s. Compared to other European countries, Germany is characterized by a rather assimilative climate, where people who do not fully fit in often tend to be excluded (Zick, Wagner, Van Dick, & Petzel, 2001). Examples of PED for Muslim Turkish-heritage youth in Germany range from interpersonal rejection based on their ethnic and religious background to feeling that the larger German population believes all Muslims to be “radical Islamists and Terrorists” (Frankenberg et al., 2013; Frindte, Boehnke, Kreikenbronn, & Wagner, 2011, p. 483). In the school context, Turkish-heritage youth in Germany are often isolated from other-ethnic peers (Schachner, van de Vijver, Brenick, & Noack, 2016) and frequently experience discrimination and prejudice by teachers, such as being treated as outsiders and foreigners (Moffitt, Juang, & Syed, 2017) or being perceived as less academically competent than students of other ethnic groups (Froehlich, Martiny, Deaux, & Mok, 2016). In interviews with Turkish-heritage young adults in Germany, almost all of the participants reported having experienced (sometimes severe) instances of PED by classmates and teachers (Moffitt et al., 2017).

## **Method**

### *Participants and procedure*

Data were collected as part of a larger questionnaire study on interethnic relations in culturally diverse classrooms at urban secondary schools in southwest Germany. Students were at the beginning of their second year of secondary school when the survey was conducted during regular class hours. The Ministry of Education of the federal state of Baden-Württemberg granted permission for the study and individual participation was conditional upon parental approval and students' assent.

The overall participation rate was high (87% in participating classrooms). The complete sample (which formed the basis for classroom-level measures of the ethnic composition and was used to inform our friendship measures) comprised 1971 students, including 61% ethnic minority youth with immigrant backgrounds from 83 heritage countries. In line with the current official German definition, we classified students with at least one parent born outside Germany as being an ethnic minority of immigrant background (Statistisches Bundesamt, 2016).

The sample comprised 327 Turkish-heritage ethnic minority students ( $M_{\text{age}} = 11.67$  years,  $SD_{\text{age}} = 0.67$ , 51% male), which formed the biggest single ethnic minority group, in 73 classrooms. We classified students as being of Turkish heritage if they had at least one parent who was born in Turkey or had Turkish nationality. Most of the Turkish-heritage students (89%) were born in Germany, representing second and third generation immigrant background youth.

### *Measures*

All measures were previously used with culturally diverse samples of early-adolescents (Schachner, Noack, et al., 2016). Unless stated otherwise, responses were provided on a 5-point Likert scale, ranging

from (1) *no, that's not right* to (5) *yes, that's right*. A detailed list of all items can be found in the Online Supplement.

#### Perceived ethnic discrimination

We measured perceived individual PED by teachers and peers (classmates) with two separate scales. Both scales were developed on the basis of qualitative interviews with 20 early-adolescent students for the purpose of the larger questionnaire study on interethnic relations. Scales comprised five items each (e.g., “*Have you ever had a teacher make a strange comment about you because you are from your other country?*” for perceived discrimination by teachers; Cronbach's alpha = 0.85; and “*Have you ever been teased by your classmates because you are from your other country?*” for perceived discrimination by classmates; Cronbach's alpha = 0.88). “*Your other country*” had been previously defined as students' heritage country. Responses were provided on a 5-point Likert scale from (1) *never* to (5) *very often*. As both scales were highly correlated ( $r = 0.61$ ,  $p < .001$ ), we used a combined measure of PED for the analyses.

#### Cross-ethnic and same-ethnic friendships

Participants identified their five best friends in class, marking them on a numbered class list of students. Using the numbered list, we were able to match participant responses with their friends' questionnaire data. This allowed us to obtain each friend's demographic information, and extract the number of cross-ethnic majority, cross-ethnic minority, and same-ethnic friends for every adolescent. We were also able to determine which friendships were reciprocated. In previous research, this procedure was found effective and less prone to social desirability (Vervoort, Scholte, & Scheepers, 2011). Following similar procedures as Benner and Wang (2017), we distinguished between participants who had at least one reciprocated friendship (1) and those who did not have reciprocated friendships (0). This distinction was made for each type of friendship (i.e., majority cross-ethnic, other ethnic minority cross-ethnic, and same-ethnic).

#### Classroom ethnic composition

On the basis of individual students' ethnic backgrounds, we compiled two classroom-level indices: (1) the proportion of other ethnic minority students (not including Turkish-heritage), (2) the proportion of ethnic majority (German) students. The mean proportion of other ethnic minority early-adolescents per classroom was moderate ( $M = 0.43$ ,  $SD = 0.16$ ), ranging from 0.14 to 0.79. The proportion of ethnic majority early-adolescents was lower ( $M = 0.28$ ,  $SD = 0.17$ ), ranging from 0.04 to 0.74. Both proportions correlated negatively ( $r = -0.70$ ).

#### Perceived intergroup climate in class

To measure perceived support for cross-ethnic contact and friendships amongst students we used the respective 8-item subscale of the equality and inclusion dimension of the Classroom Cultural Diversity Climate Scale (Schachner, Noack, et al., 2016). The scale measured intergroup climate in terms of support for relationships between ethnic minority and majority children. Items included, “*German children and children of ethnic minority like to hang out together during break time.*” (Cronbach's alpha = 0.94).

#### Depressive symptoms

We administered a five-item scale on depressive mood (e.g., “*I worry a lot.*”; Cronbach's alpha = 0.81), which had been used previously in one of the largest studies with ethnic minority youth with immigrant backgrounds, conducted in 13 countries (Berry, Phinney, Sam, & Vedder, 2006). Participants reported the frequency of experiencing depressive symptoms on a scale from (1) *almost never* to (5) *very often*.

#### General life satisfaction

We used the Satisfaction with Life Scale (Diener, Emmons, Larsen, &

Griffin, 1985) to measure general life satisfaction. It is comprised of five items (e.g., “*I am satisfied with my life.*”; Cronbach's alpha = 0.81) rated from (1) *no, that's not right* to (5) *yes, that's right*. The measure had previously been adapted and validated for ethnic minority early-adolescents of immigrant background (Ponizovsky, Dimitrova, Schachner, & Van de Schoot, 2012).

#### Disruptive behavior

To measure disruptive behavior, we selected five items from a scale by Jenkins (1995), which were considered appropriate for early-adolescents. Students were asked how often a particular situation had occurred over the last four weeks (e.g., “*In the last four weeks, how often did you chat with your neighbor during class?*”; Cronbach's alpha = 0.70), from (1) *never* to (5) *very often*.

#### Analytical procedure

To examine how discrimination and different types of cross-ethnic friendships affect multiple indicators of socioemotional adjustment, we ran a series of multi-level models in Mplus (level 1: students, level 2: classrooms). This was necessary for two reasons. First, our measure of friendships was classroom-based and it was therefore necessary to control for differing opportunities to form same- and cross-ethnic friendships in different classrooms (by controlling for ethnic composition). Second, we sampled early-adolescents from different classrooms and data were therefore nested (i.e., students in classrooms). Multi-level models provide unbiased standard errors that account for the dependency between youth attending the same classrooms (Raudenbush & Bryk, 2002). In these models, we included gender, PED, cross-ethnic majority friends, cross-ethnic minority friends, and same-ethnic minority friends on level 1 (individuals). In order to test our first hypothesis, we included two-way interaction terms between PED and the different cross-ethnic friendship types (Model 1). In order to test our second hypothesis, we subsequently added the PED  $\times$  cross-ethnic majority friendships  $\times$  intergroup climate, the PED  $\times$  cross-ethnic minority friendships  $\times$  intergroup climate (Model 2). All predictor variables were grand-mean centered. On level 2 (classrooms), we included the proportion of other (non-Turkish) ethnic minority students and the proportion of ethnic majority (German) students. Significant interactions were followed up by simple slopes (i.e., estimating the relation between predictor and the outcome at different values of the moderator; Cohen, Cohen, West, & Aiken, 2003). Sample sizes in the predictive models ( $n_{\text{Model 1}} = 297$ ;  $n_{\text{Model 2}} = 243$ ) are lower than the overall sample ( $n = 327$ ) because of missing data on covariates.

## Results

#### Preliminary analyses

Descriptive statistics and correlations are presented in Table 1. PED was associated with more depressive symptoms, more disruptive behavior, and lower general life satisfaction. The correlations also suggest that boys, as compared to girls, perceived more discrimination by teachers and classmates and were also more likely to show disruptive behavior. Additionally, boys and participants who reported higher rates of PED rated intergroup climate to be less accepting of cross-ethnic friendships between ethnic majority and minority youth than did girls and participants who reported lower rates of PED. There were few significant correlations involving the friendship variables. Having cross-ethnic majority friends was associated with a lower likelihood of having same-ethnic minority friends as well as perceiving a more positive intergroup climate in class. On the other hand, having cross-ethnic minority friends was associated with a higher likelihood of having same-ethnic minority friends and related to less depressive symptoms. In addition, a perceived positive intergroup climate was associated with less depressive symptoms, higher general life-satisfaction, and less disruptive behavior. Finally, all three outcomes were related, such that



**Table 1**Means, standard deviations and bivariate correlations between individual variables ( $n = 297$ ).

Variables	Range	<i>M</i>	<i>SD</i>	2	3	4	5	6	7	8	9
1. Gender	0–1	0.51	0.50	0.22**	–0.11	–0.09	–0.09	–0.22**	–0.02	–0.09	0.18**
2. PED	1–5	1.58	0.76		–0.10	–0.05	–0.02	–0.29**	0.31**	–0.20**	0.28**
3. CE majority friends	0–1	0.33	0.47			0.03	–0.19*	0.22**	–0.02	0.03	–0.08
4. CE minority friends	0–1	0.58	0.49				0.15**	0.11	–0.14*	0.04	–0.02
5. SE friends	0–1	0.50	0.50					0.02	–0.03	0.02	0.08
6. Intergroup climate	1–5	3.83	1.06						–0.20**	0.34**	–0.13*
7. Depressive symptoms	1–5	1.78	0.79							–0.51**	0.13*
8. General life-satisfaction	1–5	3.75	0.91								–0.19**
9. Disruptive behavior	1–5	2.14	0.78								

Gender was coded 0 = girls, 1 = boys. PED = perceived ethnic discrimination. CE = cross-ethnic. SE = same-ethnic.

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

having depressive symptoms was associated with more disruptive behavior and both of these outcomes were associated with lower general life satisfaction.

### Multilevel models

In a first step, the intraclass correlation (ICC), which reflects the proportion of the total variance in the outcome variable that is attributable to clustering, was calculated for each outcome variable. The ICCs for depressive symptoms, general life satisfaction, and disruptive behavior were 0.05, 0.04, and 0.07, respectively, indicating relatively little variance at the classroom-level (see Table A1 of the online supplement for the ICCs of all other variables). Next, we ran separate multi-level models for each outcome of socioemotional adjustment (i.e., depressive symptoms, general life-satisfaction, and disruptive behavior). Tables 2, 3, and 4 show the results of the multi-level models for depressive symptoms, general life-satisfaction, and disruptive behavior, respectively. In the tables, the coefficients for individual level variables (gender, PED, different types of friendships) are presented first. Then, coefficients for the interaction terms involving PED and cross-ethnic friendship type are shown. Further down, the coefficients for classroom-level variables are displayed along with explained variances.

The multi-level model for depressive symptoms (Model 1, Table 2) shows that there is a significant PED  $\times$  cross-ethnic majority friendships interaction effect ( $b = 0.30$ ,  $p < .05$ ). To follow up on this interaction, we compared simple slopes of PED on depressive symptoms for those with and without cross-ethnic majority friends. Simple slopes indicated that for Turkish-heritage early-adolescents without cross-ethnic majority friends, PED was only marginally significantly associated with depressive symptoms,  $\beta = 0.22$ ,  $p = .077$ . However, for Turkish-heritage early-adolescents with cross-ethnic majority friends, PED was associated with significantly more depressive symptoms,  $\beta = 0.52$ ,  $p < .001$ . Thus, having cross-ethnic majority friends exacerbated the effect of PED on increasing depressive symptoms (contrary to hypothesis 1). No other effects were significant. Model 2 shows that the three-way PED  $\times$  cross-ethnic majority friendships  $\times$  intergroup climate interaction was significant ( $b = -0.33$ ,  $p < .001$ ).<sup>1</sup> To understand this interaction, we computed simple slopes at different values of the two moderators, cross-ethnic majority friendships (none vs. at least one) and perceived intergroup climate ( $-1$  vs.  $+1$  SD from the mean). The simple slopes showed (see Fig. 1) that the positive association between PED and depressive symptoms was increased for early-adolescents with cross-ethnic majority friends when perceived intergroup climate was less positive ( $\beta = 0.59$ ,  $p = .007$ ) but not as strongly when it was more positive ( $\beta = 0.44$ ,  $p = .025$ ; partly

**Table 2**

Multi-level model predicting depressive symptoms from perceived discrimination, friendship type, and proportion of immigrant and Turkish early-adolescents within classrooms.

	Model 1		Model 2	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
Level 1 – Individual				
Gender	–0.09	0.06	–0.15	0.04
PED	0.22	0.13	0.26	0.22
CE majority friends	0.04	0.05	0.08	0.07
CE minority friends	–0.11	0.07	–0.13	0.11
SE friends	–0.06	0.07	–0.04	0.07
Intergroup Climate			–0.15	0.12
PED $\times$ CE majority friends	0.15*	0.07	0.12	0.08
PED $\times$ CE minority friends	0.07	0.12	0.05	0.17
PED $\times$ Intergroup Climate			0.29	0.08
CE majority friends $\times$ Intergroup Climate			–0.05	0.08
CE minority friends $\times$ Intergroup Climate			0.03	0.09
PED $\times$ CE majority friends $\times$ Intergroup Climate			–0.15**	0.04
PED $\times$ CE minority friends $\times$ Intergroup Climate			–0.22*	0.10
Level 2 – Classroom				
Proportion of other (non-Turkish) ethnic minority students	–0.23	0.73	–0.25	1.96
Proportion of ethnic majority students	–1.03	2.83	–1.09	7.57
Explained Variance ( $R^2$ )				
Level 2 (classroom)	0.79		0.87	
Level 1 (individual)	0.15		0.21	

$n = 243$  Turkish-heritage ethnic minority early-adolescents,  $n = 70$  classrooms. Gender was coded 0 = boy, 1 = girl. PED = perceived ethnic discrimination; CE = cross-ethnic; SE = same-ethnic. Reported regression coefficients are standardized.

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

supporting hypothesis 2).

The three-way PED  $\times$  cross-ethnic minority friendships  $\times$  intergroup climate interaction was also significant ( $b = -0.23$ ,  $p = .019$ ). The simple slopes showed (see Fig. 2) that the positive association between PED and depressive symptoms was increased for early-adolescents with cross-ethnic minority friends when perceived intergroup climate was less positive ( $\beta = 0.31$ ,  $p = .027$ ) but not when it was more positive toward friendships between ethnic majority and minority youth ( $\beta = 0.36$ ,  $p = .099$ ; partly supporting hypothesis 2).

The multi-level model predicting general life satisfaction (Model 1, Table 3) showed a significant PED  $\times$  cross-ethnic majority friends interaction ( $b = -0.45$ ,  $p < .001$ ). Simple slopes suggested that for Turkish-heritage early-adolescents without cross-ethnic majority friends, the association between PED and general life satisfaction was

<sup>1</sup> These variables were all entered at the individual level (level 1). We also tried examining intergroup climate at the classroom level but there were no significant cross-level interactions involving intergroup climate.

**Table 3**

Multi-level model predicting general life-satisfaction from perceived discrimination, friendship type, and proportion of immigrant and Turkish early-adolescents within classrooms.

	Model 1		Model 2	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
Level 1 – Individual				
Gender	−0.04	0.06	0.01	0.07
PED	−0.06	0.11	0.02	0.13
CE majority friends	−0.03	0.05	−0.04	0.08
CE minority friends	0.01	0.06	−0.02	0.07
SE friends	0.02	0.06	0.02	0.06
Intergroup Climate			0.36**	0.11
PED × CE majority friends	−0.19**	0.06	−0.17*	0.06
PED × CE minority friends	−0.09	0.10	−0.20	0.11
PED × Intergroup Climate			−0.20	0.11
CE majority friends × Intergroup Climate			0.02	0.07
CE minority friends × Intergroup Climate			−0.12	0.09
PED × CE majority friends × Intergroup Climate			0.11	0.06
PED × CE minority friends × Intergroup Climate			0.05	0.10
Level 2 – Classroom				
Proportion of other (non-Turkish) ethnic minority students	−0.31	0.57	−0.39	0.95
Proportion of ethnic majority students	0.49	0.44	0.43	0.98
Explained Variance ( $R^2$ )				
Level 2 (classroom)	0.56		0.57	
Level 1 (individual)	0.09		0.20	

$n = 243$  Turkish-heritage ethnic minority early-adolescents,  $n = 70$  classrooms. Gender was coded 0 = boy, 1 = girl. PED = perceived ethnic discrimination; CE = cross-ethnic; SE = same-ethnic. Reported regression coefficients are standardized.

\*  $p < .05$ .

\*\*  $p < .01$ .

not significant,  $\beta = -0.07$ ,  $p = .595$ . However, for Turkish-heritage early-adolescents with cross-ethnic majority friends, PED was significantly associated with lower general life satisfaction,  $\beta = -0.52$ ,  $p = .001$ . Again, having cross-ethnic majority friends was associated with an exacerbated negative relation between discrimination by classmates and life satisfaction (contrary to hypothesis 1). In Model 2, The PED × cross-ethnic majority friendships × intergroup climate interaction on general life satisfaction was marginally significant ( $b = 0.27$ ,  $p = .075$ ). The simple slopes showed that the negative association between PED and general life satisfaction was (by trend) increased for early-adolescents with reciprocated German majority friends when perceived intergroup climate was less positive ( $\beta = -0.44$ ,  $p = .084$ ) but not when it was more positive ( $\beta = -0.29$ ,  $p = .148$ ; partly supporting hypothesis 2).

The multi-level model predicting disruptive behavior (Model 1, Table 4) showed significant main effects for gender ( $b = 0.22$ ,  $p < .05$ ) and PED ( $b = 0.31$ ,  $p < .01$ ), signifying that boys were more likely than girls to show disruptive behavior and that PED was positively associated with more disruptive behavior. However, neither the PED × cross-ethnic majority friendships nor the PED × cross-ethnic minority friendships interaction (Model 1), nor the three-way interactions with intergroup climate (Model 2) were significant. Thus, neither form of cross-ethnic friendships buffered against the impact of PED on disruptive behavior (contrary to hypothesis 1). There was also no buffering effect for disruptive behavior when intergroup climate was positive (contrary to hypothesis 2).

None of the effects at the classroom level were significant in any of the models. We tested for random effects for all individual predictor variables. None of the random slopes were significant, suggesting that there is no variance of slopes between classrooms. Thus, there was no variance left to explain with cross-level interactions and the final

**Table 4**

Multi-level model predicting disruptive behavior from perceived discrimination, friendship type, and proportion of immigrant and Turkish early-adolescents within classrooms.

	Model 1		Model 2	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
Level 1 – Individual				
Gender	0.15*, **, ***	0.06	0.16*	0.07
PED	0.31*	0.12	0.33*	0.13
CE majority friends	−0.03	0.06	−0.04	0.07
CE minority friends	−0.01	0.06	−0.02	0.07
SE friends	0.08	0.06	0.07	0.06
Intergroup Climate			−0.16	0.17
PED × CE majority friends	0.00	0.06	−0.10	0.08
PED × CE minority friends	−0.04	0.16	0.05	0.14
PED × Intergroup Climate			0.15	0.13
CE majority friends × Intergroup Climate			0.00	0.08
CE minority friends × Intergroup Climate			0.15	0.14
PED × CE majority friends × Intergroup Climate			0.04	0.07
PED × CE minority friends × Intergroup Climate			0.01	0.13
Level 2 – Classroom				
Proportion of other (non-Turkish) ethnic minority students	−0.34	0.45	−0.24	0.47
Proportion of ethnic majority students	−0.24	0.53	−0.27	0.47
Explained Variance ( $R^2$ )				
Level 2 (classroom)	0.06		0.04	
Level 1 (individual)	0.12		0.18	

$n = 243$  Turkish-heritage ethnic minority early-adolescents,  $n = 70$  classrooms. Gender was coded 0 = boy, 1 = girl. PED = perceived ethnic discrimination; CE = cross-ethnic; SE = same-ethnic. Reported regression coefficients are standardized.

\*  $p < .05$ .

\*\*  $p < .01$ .

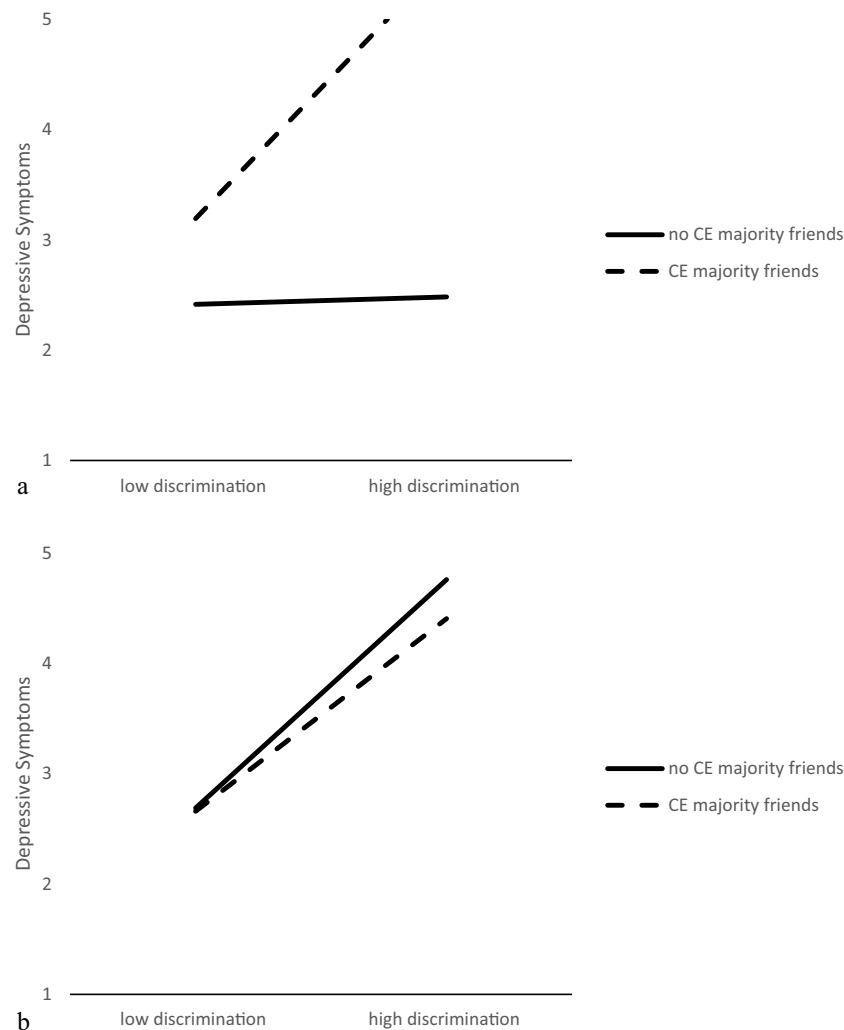
\*\*\*  $p < .001$ .

models are presented with fixed effects for all individual-level predictor variables.

## Discussion

In this study, we examined the interplay between PED as a risk factor, and cross-ethnic friendships as a protective factor for the socioemotional adjustment of ethnic minority early-adolescents in the context of culturally diverse classrooms. Specifically, we expected that both types of cross-ethnic friendships (with majority vs. with other minority youth) would buffer the negative effect of PED on life satisfaction, as well as the positive effects on depressive symptoms and disruptive behavior (hypothesis 1). We further expected that the moderating (buffering) effect of these friendships would depend on how much support there was for such friendships in the classroom (as measured by the classroom intergroup climate; hypothesis 2).

Higher rates of PED were correlated with more depressive symptoms and disruptive behaviors, and lower general life satisfaction. However, in the multilevel models where additional variables and covariates were accounted for, these significant relations did not emerge. There were few direct associations of cross-ethnic friendships with socio-emotional adjustment, except that cross-ethnic friendships with other ethnic minority youth were associated with lower depressive symptoms. In addition—and contrary to hypothesis 1—we did not find evidence for a buffering effect of either type of cross-ethnic friendships. Conversely and unexpectedly, we found that having cross-ethnic friendships with ethnic majority peers instead *increased* the relation between PED and the negative manifestations of two out of three outcomes (life satisfaction and depressive symptoms). However, the PED-exacerbating effect of majority cross-ethnic friends was reduced when



**Fig. 1.** a. Three-way interaction: PED and depressive symptoms moderated by CE majority friends when intergroup climate is not supportive/negative. b. Three-way interaction: PED by classmates and depressive symptoms moderated by CE when intergroup climate is supportive/positive.

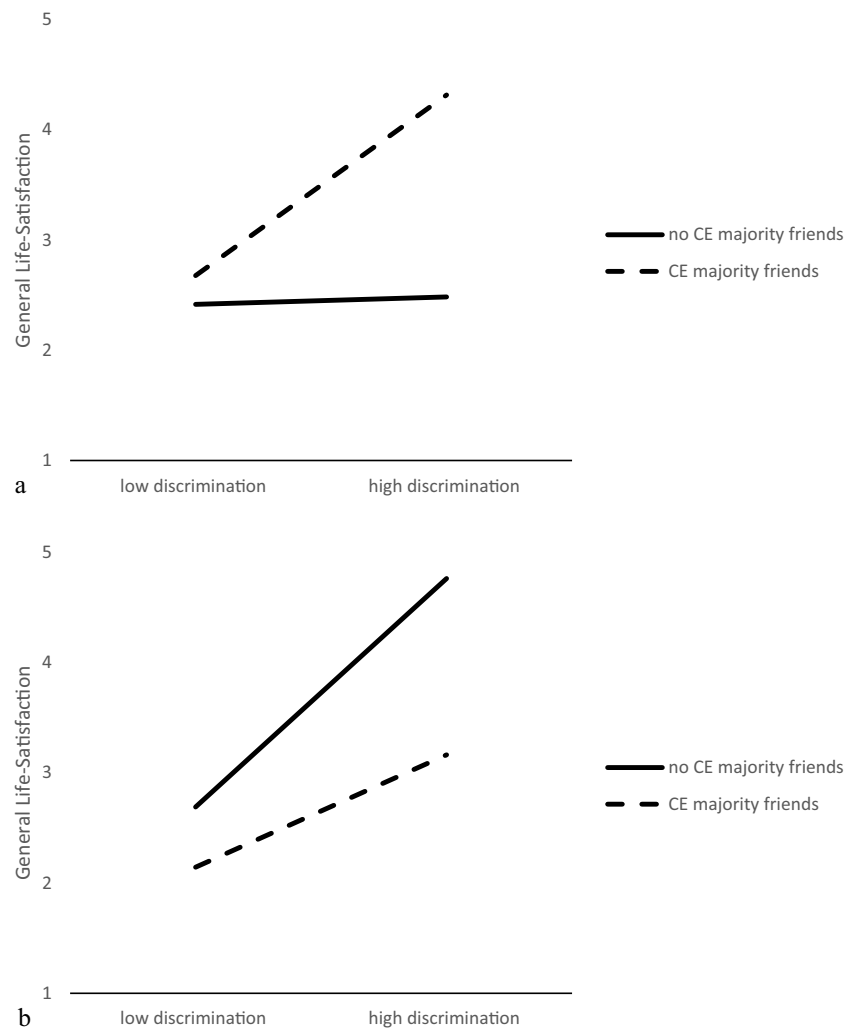
adolescents perceived support for intergroup contact between minority and majority students in the classroom (partly supporting hypothesis 2).

Thus, being included by the ethnic majority group through reciprocated friendships was actually associated with *more negative* outcomes for Turkish-heritage early-adolescents, especially when there was low support for this type of contact or friendship in the classroom. It is possible that PED could serve as a source of distress in cross-ethnic friendships with majority peers. For instance, how does the majority friend respond to this discrimination—do they acknowledge it, intervene, or do nothing—or is it possible that the friend is also a source of discrimination or micro-aggressions (e.g., Douglass, Mirpuri, English, & Yip, 2016)? This may be especially painful when there is no support for this type of friendship in the classroom and one's majority friends are their only bridge to ethnic majority youth. To what extent cross-ethnic friendships are supported in one's immediate environment may also be especially important when there is not much support for multiculturalism and interethnic relations in the broader societal context, as it is the case in Germany (Zick et al., 2001).

Our study also extended the previous work of Bagci et al. (2014) by controlling for same-ethnic friendships and distinguishing between different types of cross-ethnic friendships. We also employed a more robust measure of cross-ethnic friendships (at least one reciprocated as opposed to nominated friendships). A measure of cross-ethnic friendship nominations rather than reciprocations may simply tap into

general perceived peer support (i.e., perceiving oneself as having friends vs. not having friends). Our findings also point to possible negative side-effects of cross-ethnic friendships (Jugert & Feddes, 2017), especially when they are not supported by the social context. Still, other results could emerge if cross-ethnic friendships were operationalized differently. For example, the measure could be based on the total number of reciprocated friendships or on the proportion of cross- to same-ethnic friendships.

Moreover, as Bagci et al.'s (2014) study was conducted in one of the most culturally diverse regions in Europe, it is likely that most of the cross-ethnic friendships the children in that study reported were actually with other minority children. Although we could not confirm a buffering effect of cross-ethnic minority friends in our study, Bagci et al. (2014) at least showed some direct positive associations with socio-emotional adjustment. It is therefore possible that in a more supportive and multicultural context, cross-ethnic minority friendships may show a PED-buffering effect. Yet, as our results suggest, a different (and even contrary) picture may emerge when looking at majority cross-ethnic friendships. Thus, it is an important implication of our study that researchers should differentiate between different types of cross-ethnic friendships (i.e., with ethnic majority or with peers from other ethnic minorities) in order to fully understand their effects. Future studies should explore the various types of cross-ethnic friendships with varying assessments of cross-ethnic friendship.



**Fig. 2.** a. Three-way interaction: PED and general-life satisfaction moderated by CE majority friends when intergroup climate is not supportive/negative. b. Three-way interaction: PED by classmates and general life-satisfaction moderated by CE when intergroup climate is supportive/positive.

### Limitations and suggestions for future research

The cross-sectional nature of our data makes causal inferences about the relationships between PED, cross-ethnic friendships, and socio-emotional adjustment impossible. Future research should use longitudinal designs to verify causal directionality. Our measures were also all self-report; future research should assess multi-source data collection to reduce the potential of shared method variance. Our measure of classroom climate focused specifically on attitudes and norms about ethnic majority-ethnic minority cross-ethnic friendships, and did not assess a climate in favor of any cross-ethnic friendships in general, or cross-ethnic friendships with other ethnic minority youth, in particular. Even though this more focused measure of intergroup climate also interacted with minority cross-ethnic friendships to buffer against depressive outcomes of PED, future research should broaden the measure of classroom climate to include these multiple conceptualizations of intergroup climate. Perhaps, broader support for intergroup relations may help the buffering effects of cross-ethnic friendships with other ethnic minority youth to manifest for other outcomes as well. In addition, we focused on a single ethnic minority group (Turkish-heritage) in Germany and questions remain as to whether other ethnic minority groups (e.g., ethnic German diaspora immigrants) or more recent immigrants (e.g., refugees from Syria) in Germany, or groups in other countries have similar experiences. Our friendship measure also only captured friendships within classrooms while research shows that

friendships outside of school may also be important (Svensson, Stattin & Kerr, 2011). The measure of PED was left-skewed ( $M = 1.58$ ,  $SD = 0.76$ ; range 1–5), suggesting that many preadolescents in our sample did not experience (personal) discrimination. However, a comparison with previous studies that have used similar measures suggests that this is a common finding (Bagci et al., 2014; Bayram Özdemir & Stattin, 2014; Brenick et al., 2012; Greene, Way, & Pahl, 2006). Moreover, the downstream consequences of PED are severe and thus it is important to understand which factors may buffer against PED even if it concerns only a limited number of individuals.

Moreover, we were not able to explain the psychological processes that may account for the negative effects of cross-ethnic friendships with ethnic majority peers. Future studies should examine why cross-ethnic friendships with ethnic majority peers may have these negative side effects and how they might be minimized. Previous literature suggests that ethnic minority students with cross-ethnic friendships are more likely to also identify more strongly with the majority culture (e.g., Schachner, van de Vijver, Brenick, & Noack, 2016). Being more open toward the majority culture and actually engaging in cross-ethnic friendships, but at the same time identifying with one's heritage culture may make the experience of ethnic discrimination particularly hurtful (Baysu, Phalet, & Brown, 2011). Therefore, future studies should examine ethnic minority youth's orientation toward and identification with majority and minority groups in order to better understand the processes underlying the differential effects of multiple types of cross-ethnic friendships.



## Implications for practice

Our study has several applied implications. First, it shows the importance of a positive intergroup climate and supportive norms concerning interethnic contact, specifically between majority and minority students (Brenick & Halgunseth, 2017; Brenick & Romano, 2016; Schachner, Noack, et al., 2016). Such norms not only facilitate the formation of cross-ethnic friendships (Schachner et al., 2015), but may also prevent potentially negative effects of such friendships. Supportive norms for interethnic contact can be fostered through cooperative learning techniques, such as the jigsaw classroom. They have been shown to be effective in improving interethnic relations (Oortwijn, Boekaerts, Vedder, & Fortuin, 2008) and academic achievement (Johnson, Johnson, & Stanne, 2000) amongst ethnic minority and majority students in late childhood and early adolescence.

Second, teachers need to feel better prepared to deal with cultural diversity in the classroom. On the one hand, the goal of any training measures should be to improve teachers' own attitudes toward cultural diversity and ethnic minority students, which can reduce feelings of discrimination by ethnic minority students (Brown & Chu, 2012). It also helps teachers to feel more competent in teaching diverse students and be more willing to adapt their teaching style to those students (Hachfeld, Hahn, Schroeder, Anders, & Kunter, 2015). On the other hand, such training should also help teachers feel more confident in talking about issues of cultural diversity with their students and promoting a classroom climate where discrimination and ways to prevent and deal with it can be discussed more openly. Experiential learning with representatives of culturally diverse communities which takes place during teacher training at university seems to be particularly effective in achieving these goals (Civitillo, Juang, & Schachner, in press).

## Conclusion

Our findings suggest that inclusivity should be conceptualized as more complex than a homogeneous minority group being included into a majority group. The primary novel contribution of this study is, first and foremost, the differential effects of two different types of cross-ethnic friendships that might emerge in diverse contexts (i.e., cross-ethnic majority compared to cross-ethnic minority friends). When considering that cross-ethnic friendships need not always be friendships between ethnic majority and ethnic minority individuals, it is possible to identify unique effects of inter-minority and minority-majority cross-ethnic friendships.

The second novel contribution of this study is the importance of the social-ecological context in which diverse friendships take place (Spencer, 2006). It is essential to look beyond dyadic friendships to the larger context in which they occur. Our findings specifically highlight the need for diverse classrooms to establish norms not just rejecting ethnic discrimination, but also actively promoting inclusivity across group boundaries (see Brenick & Halgunseth, 2017). Otherwise, the potential benefits of cross-ethnic friendships may be weakened, or even at times, prove detrimental to ethnic minority youth. If norms of inclusion are facilitated in diverse contexts and at different levels, this may allow both types of cross-ethnic friendships to flourish.

## Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.appdev.2018.04.006>.

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