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Abstract

This study investigated how students' ethnic pride was related to variation in ethnic composition between classrooms as well as within the same classroom over time. Predictions derived from optimal distinctiveness theory (ODT) were tested among 13- to 14-year-old ethnic majority and minority students ($N = 1,123$). Lending support to ODT, a curvilinear relation between the share of same-ethnicity classmates and students' ethnic pride was found in a cross-sectional analysis, with ethnic pride peaking in classrooms with approximately 50% same-ethnicity classmates. In line with ODT, longitudinal analyses revealed ethnic pride decreased for students who moved away from a share of 50% same-ethnicity classmates. Contrary to ODT, however, ethnic pride also decreased for students who moved closer to this point of optimal distinctiveness.

Keywords

adolescents, ethnic composition, ethnic diversity, ethnic identity, optimal distinctiveness theory

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Due to mass migration in the past decades, many adolescents in Western societies nowadays grow up in ethnically diverse schools. Scholars have studied how increased diversity at the classroom level is related to adolescents' attitudes and behaviors, such as support for multiculturalism (van Geel & Vedder, 2010), interethnic attitudes (Janmaat, 2014; Killen, Kelly, Richardson, Crystal, & Ruck, 2010; Stark, Mäs, & Flache, 2015), and interethnic contact (van Houtte & Stevens, 2009; for an overview, see Thijs & Verkuyten, 2014). The presence of out-group members in adolescents' daily environments such as school also may affect to what extent students identify with and

are proud of their ethnic ingroup. Still, little is known about effects of classroom ethnic diversity on adolescents' ethnic identity development. On the one hand, the presence of outgroup members might strengthen ethnic identification

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if it makes students more aware of belonging to a particular ethnic group. On the other hand, it could also weaken ethnic identification by challenging perceptions of uniqueness and value of the ingroup.

The current study addresses the question how ethnic diversity relates to adolescents' ethnic identification. More precisely, it examines how ethnic classroom composition is associated with adolescents' ethnic pride. *Ethnic pride* forms a key dimension of ethnic identification in capturing positive feelings towards one's own ethnic group (Rivas-Drake et al., 2014). Understanding how the experience of ethnic diversity affects adolescents' ethnic pride and its development is of great importance, because this affective dimension of ethnic identification has been found to influence key outcomes such as ingroup bias, psychosocial adjustment, and mental health among adolescents (Ashmore, Deaux, & McLaughlin-Volpe, 2004; Rivas-Drake et al., 2014; Schwartz et al., 2014; Umaña-Taylor et al., 2014).

Research on ethnic identity in adolescence has provided much insight into the phases of development of ethnic identity and the role of socialization within the family (see for a review Hughes et al., 2006). However, whereas reviews of the field point out that the school context might be relevant for ethnic identity development, there still is limited knowledge about how the school context in general (Umaña-Taylor et al., 2014) and how the ethnic composition of schools and classrooms in particular affect adolescents' ethnic identification (Kiang, Witkow, Baldelomar, & Fuligni, 2010; Yip, Seaton, & Sellers, 2010).

A further important caveat is that while most previous research on ethnic identification focused on ethnic minorities (Brewer, Gosalkorale, & van Dommelen, 2012), the challenge of ethnic diversity for adolescents' ethnic identity development actually arises for both ethnic minority and majority group members. It has long been recognized that descendants of immigrants face the struggle of combining ethnic identification with the national identification of their host countries (Phinney, Berry, Vedder, & Liebkind, 2006; Verkuyten & Martinovic, 2012). Yet, increased

ethnic diversity may also affect the ethnic identities of native majority group members (see e.g., Agirdag, van Houtte, & van Avermaet, 2011). For instance, their identity may become especially salient in contexts in which they no longer are the numeric majority in their classroom. Rising diversity thus may challenge their perception of belonging to a societally dominant group, or even evoke feelings of ethnic threat that strengthen orientation towards the ingroup (Moody, 2001; Thijs & Verkuyten, 2014). This raises the question of how ethnically diverse contexts affect ethnic identification of ethnic majority group members as well.

In this study, we test predictions based on a theory that directly links ethnic identification to context diversity. *Optimal distinctiveness theory* (ODT; Brewer, 1991; Leonardelli, Pickett, & Brewer, 2010) explicitly acknowledges that contexts provide the frame of reference for comparison and differentiation for identity development (Brewer, 1991, p. 476; Leonardelli et al., 2010, p. 68; Umaña-Taylor et al., 2014, p. 31). ODT further makes clear predictions about how the share of same-ethnicity peers in a given setting should affect the strength of identification with the group category. The key argument of ODT is that individuals have both a need for inclusion, that is, belonging to a social group, and a need for differentiation, that is, being different from others. Identification is expected to be strongest if the relative size of the ingroup in a context is optimally balanced such that the ingroup at the same time is large enough to satisfy the need for inclusion but small enough to satisfy the need for differentiation.

So far, ODT has primarily been tested in experimental research, but only rarely in a natural setting and not at all in classrooms with varying ethnic compositions. In addition, although ODT allows making predictions about how changes in ethnic composition affect ethnic identity development, we are not aware of longitudinal tests of such predictions. Finally, by assuming that the share of same-ethnicity peers within a given context affects the fundamental human needs that drive group identification, ODT is applicable to

both societal majority and minority group members, which is an important but hitherto underutilized strength of the theory.

In sum, by investigating whether variation in ethnic composition between classrooms and over time is related to students' ethnic pride, the current research makes three key contributions. First, our study tests predictions of ODT in a *natural setting*, thus advancing our understanding of ODT that so far is primarily based on experimental research. Second, going beyond the mainly cross-sectional research on ODT, we use the theory to develop and test *longitudinal* predictions about how changes in ethnic classroom composition affect changes in students' ethnic pride. Third, based on ODT it is examined how ethnic classroom diversity affects ethnic pride among both *ethnic minority and native majority* students, thus assessing whether ODT is general theory that applies to both groups.

Optimal Distinctiveness Theory

Optimal distinctiveness theory assumes that social identification is a means to satisfy two fundamental and competing human needs (Brewer, 1991; Leonardelli et al., 2010): The need for *inclusion*, that is, the desire to belong to a social group, and the need for *differentiation*, that is, the desire for being distinct from others. The key assumption of ODT is that group identification is particularly strong if membership of a group satisfies both needs simultaneously by striking the *optimal balance* between them.

An important factor for the satisfaction of these two needs is the relative size of a group within the context relevant for group identification. Group identification will be low if the ingroup is too small to satisfy the need to belong to a group (inclusion), or too large that it cannot satisfy the need to be distinct (differentiation). The theory assumes that if a group becomes either too small or too large, the associated loss of overall satisfaction due to the respective need that is less well satisfied will not be sufficiently compensated by the related increase in satisfaction of the other need. For example, in a very

small ingroup, members may feel very distinct (from the larger outgroup), but the satisfaction they derive from this is not large enough to compensate for the lack of inclusiveness they experience. The balance is thus optimal when a group is sufficiently large to satisfy the need for inclusion and sufficiently small to satisfy the need for differentiation at the same time.

While ODT does not state where exactly the point of "optimal distinctiveness" lies, it suggests that smaller groups offer higher levels of distinctiveness than larger ones and that larger groups yield higher levels of belongingness (Hornsey & Jetten, 2004; Leonardelli & Loyd, 2016). Which relative size of the ingroup is perceived as optimal arguably depends on many characteristics of the specific context addressed in an empirical study (Leonardelli et al., 2010). Yet even though we cannot a priori determine the point of optimal distinctiveness, based on ODT we can formulate a prediction that should hold irrespective of where exactly the point is located in a given setting: Balancing the two needs of inclusion and differentiation should result in an *inverted U-shaped*, or *curvilinear*, relation between the relative ingroup size and the strength of identification with the ingroup (Brewer, 1991; Leonardelli et al., 2010).

While empirical research has provided supportive evidence for the predicted curvilinear relation between relative group size and group identification across different settings (Leonardelli et al., 2010), only few studies addressed the school context. Moreover, most studies *dichotomized* context by distinguishing only between small and large relative group sizes (see Badea, Jetten, Czukor, & Askevis-Leherpeux, 2010, for a similar critique). Yet, ODT conceptualizes group inclusiveness as a *continuum* ranging from situations in which there is only a single member of a particular group to contexts in which the whole population belongs to the same group (Brewer, 1991). Research that restricts its focus to the extremes of the distribution might miss what happens when groups are medium-sized. This is rather unfortunate, because ethnic groups in ethnically diverse schools and classrooms often are medium-sized (e.g., Leszczensky & Pink, 2015; Moody,

2001; Smith, Maas, & van Tubergen, 2015), and ODT predicts strongest ingroup identification in precisely such contexts.

Badea et al. (2010) found support for the curvilinear relations predicted by ODT by testing the effect of perceived individual need for inclusion and differentiation on group identification among university students. But like most tests of ODT, this study did not assess effects of actual variation in relative group sizes on group identification. Some studies did test effects of natural variation in relative group sizes, but these were either not specifically designed to test ODT, or did not focus on ethnic identity. Nevertheless, this work can be seen as providing some support for ODT predictions. Lau (1989), for instance, found that Blacks in neighborhoods where 40–70% of the residents were Black, identified more strongly with Blacks as a social category than did residents in areas with either lower or higher shares of Blacks. Bearman and Brückner (2001) found that the extent to which adolescents lived up to a virginity pledge taken at school was highest in schools with “some, but not too many, pledgers” (2001, p. 859) and explained this with pledges being linked to an identity movement. Finally, Abrams (2009) found an inverse U-shaped pattern with respect to young adults’ commitment to their “music identity,” where identification with musical styles was highest for styles that had intermediate popularity in a national random sample. This work lends support to the expectation that ODT can be a valuable tool to address effects of group composition on identification with a group.

To sum up, while ODT has not yet been used to examine how ethnically diverse classrooms are related to ethnic identification or ethnic pride, the theory predicts an inverted U-shaped relation between the relative size of an ethnic group in the classroom and the ethnic pride of students of the corresponding group (Hypothesis 1). Importantly, given that the underlying needs of inclusion and differentiation are universal, this association should hold for both ethnic minority and majority students, as both of them have to satisfy the simultaneous needs of inclusion and

differentiation. Still, the context for the development and content of ethnic identity are different for minority and majority group members (García Coll et al., 1996). For example, previous research has shown that most ethnic minority groups identify more strongly with their ethnic groups than do native ethnic majority group members (Verkuyten, 2005). This pattern is in line with the notion that affirmation of one’s ethnic identity may be stronger for members of ethnic minorities in order to strengthen their self-concept in the face of real or perceived experiences of discrimination (Umaña-Taylor et al., 2014). When testing for an inverted U-shaped relation, we therefore control for belonging to the ethnic majority or minority group to assess how the societal ethnic minority status affects ethnic pride as well as to separate this effect from the general inverted U-shaped pattern that ODT predicts for both minority and majority group members. We further estimate separate models for both groups to assess whether the inverted U-shape predicted by ODT indeed holds for both groups.

Optimal Distinctiveness Theory and Changes in Ethnic Classroom Composition

Even though the balancing of competing needs proposed by ODT points to a dynamic process, earlier research did not exploit the potential of ODT for explaining *changes* in ethnic identification due to changes in relative group size within a given context. Depending on the initial ethnic composition within the classroom, based on ODT one can in fact derive longitudinal predictions about how changes in ethnic composition should affect ethnic identity development. ODT therefore is helpful for studying how variation in ethnic composition over time is related to students’ ethnic identity development.

All other things being equal, ODT implies that the effects of changes in classroom composition depend on whether the share of same-ethnicity classmates of a student moves closer to or away from the share at which the needs for inclusion

and differentiation are optimally balanced. Given that there is no strong theoretical guidance as to which exact relative group size individuals perceive as optimally distinctive in the setting under study, we will first empirically identify this “point of optimal distinctiveness” in our particular application. That is, we first assess at which share of same-ethnicity classmates ethnic pride peaks in our cross-sectional analysis.

Next, we derive two longitudinal hypotheses from ODT about how changes in ethnic classroom composition affect changes in students’ ethnic pride. First, we expect that ethnic pride *increases* over time for students whose share of same-ethnicity classmates moved *closer* to the point of optimal distinctiveness (Hypothesis 2). This is because for those students the ethnic classroom composition at the second time point should better match the optimal balance of the needs for inclusion and differentiation than that at the first time point, which should result in stronger ethnic pride given the theoretical core assumptions of ODT. Second, we expect that ethnic pride *decreases* over time for students whose share of same-ethnicity classmates moved *away* from the point of optimal distinctiveness (Hypothesis 3).

Method

Data

We use data from the secondary-school module of the Arnhem School Study (TASS), a longitudinal study of students’ social networks and interethnic attitudes in the midsized city of Arnhem, the Netherlands (Stark, 2015; Stark & Flache, 2012). Data were collected in the first and second year of secondary education. Dutch students enter these middle schools at the age of 12, and they spend the whole day with the same classmates during this important period of ethnic identity development. Sixty-one first-year school classes of 12 schools participated, which amounts to almost 90% of all first-year school classes in Arnhem.

We use the final two of four waves of the secondary school module, as only these included measures of ethnic pride. The first of these two waves was collected at the end of the first school

year in June 2009 when students were about 13 years old; the second one was collected 1 year later in May 2010. An important point for our analysis is that the first year in Dutch secondary schools is a so-called “bridge year.” Before this year, a preliminary assignment of students to academic tracks has been made, but in the “bridge year” most schools still combine different but relatively similar academic levels within the same classrooms. Only after the end of this “bridge year,” which occurred between the first and the second wave of our study, most schools make a definite assignment of students to tracks. As a consequence, many students in the sample were transferred between classes within the same school, thus experiencing changes in ethnic classroom composition in an otherwise stable setting. This circumstance allows us to longitudinally test ODT by estimating effects of changes in ethnic classroom composition on the development of ethnic pride.

The response rate in Wave 1 was 87.62%. Of the students who were eligible to participate in Wave 1, 67.83% did also complete the questionnaire in Wave 2. The main reason for this drop in response was that only 42 of the 61 school classes participated in Wave 2. In total, 1,197 students participated in our first wave, and 926 in our second. Excluding cases with missing information on key variables left us with 1,123 students in Wave 1 and 910 students in Wave 2. We further restricted the longitudinal analysis to 727 students who provided information on ethnic pride at both points in time.

In both waves, almost 70% of the students were native Dutch ethnic majority students, and 30% ethnic minority students. More than 90% of the ethnic minority students were of non-Western descent; most of them came from Turkey (29%), Morocco (9%), Surinam (9%), Afghanistan (7%), or Indonesia (6%). There were slightly more girls than boys in the sample (53%). Average classroom size was 22.2 students in Wave 1 and 25.6 students in Wave 2.

Procedure

In each school class, students simultaneously completed online questionnaires in their schools’

computer lab. Teachers read instructions to the students and supervised the completion of the questionnaire, which took 30 minutes on average.

Measures

Ethnic pride (Wave 1 and Wave 2). Ethnic pride was captured by the question “How proud are you to be [parents’ ethnic group]?” Possible answers ranged from 1 (*absolutely not proud*) to 5 (*very proud*). While previous research on ODT has used a range of different measures for ingroup identification, we focus on ethnic pride because it has been found to capture a key dimension of identification with ethnicity as a group category that is known to be of high psychological importance in multiethnic contexts (Rivas-Drake et al., 2014). Moreover, similar measures have been used in previous studies on ethnic ingroup identification (e.g., Munniksmä, Verkuyten, Flache, Stark, & Veenstra, 2015; Rivas-Drake et al., 2014).

Ethnic majority and minority students (Wave 1 and Wave 2). Students indicated the countries of birth of their parents. Students were classified as *ethnic majority* if both parents were born in the Netherlands. If at least one parent was born abroad, students were coded as *ethnic minority* students. This is common practice in Dutch research (e.g., Stark, Mäs, & Flache, 2015), where parents’ birthplace is the main determinant of children’s self-identification (Verkuyten, 2005).

Share of same-ethnicity classmates (Wave 1 and Wave 2). For each student we calculated the proportion of classmates belonging to the same ethnic group, expressed by numbers between 0 and 1. For Dutch ethnic majority group students, the variable therefore captures the percentage of fellow native Dutch students; for ethnic minority students, the variable expresses the share of classmates descending from the same country (e.g., Turkey, Morocco, or Afghanistan).

Changes in ethnic classroom composition. For each student we calculated whether the share of

same-ethnicity classmates between Wave 1 and Wave 2 moved closer to or away from the point of optimal distinctiveness that we established in our cross-sectional analysis. We then created two continuous variables: one measuring how many percentage points a student moved *closer* to that point and one for how many percentage points a student moved *away* from it. Both variables were coded 0 if ethnic classroom composition either did not change or changes occurred in the respective opposite direction. By contrast, a value of, for example, 0.2 would indicate that the share of same-ethnicity classmates moved 20 percentage points closer to (or away from) the empirically identified point of optimal distinctiveness.

Statistical Analysis

To test our cross-sectional hypothesis we estimated random effects multilevel models (Raudenbush & Bryk, 2002; Snijders & Bosker, 2011), because students were nested in school classes, and ethnic pride may partly depend on unobserved factors at the classroom level (e.g., varying normative teaching about ethnic diversity or school climate). We predicted the strength of students’ ethnic pride by the percentage of same-ethnicity classmates, accounting for the expected nonlinearity of the effect of same-ethnicity classmates by also adding the quadratic term. Doing so allows us to address Hypothesis 1.

For testing our longitudinal hypotheses we estimated the effects of changes in ethnic composition using a “first difference approach” (Allison, 2009; Halaby, 2004). That is, we tested whether changes in the proportion of same-ethnicity classmates closer to or away from the point of optimal distinctiveness identified in the cross-sectional analysis were related to changes in students’ ethnic pride from Wave 1 to Wave 2. This is done by subtracting for each student the value of ethnic pride at Wave 1 from the one of Wave 2, so that each student serves as his or her own control (Allison, 2009; Halaby, 2004). Estimators are thus neither biased by time-invariant individual characteristics such as sex, socioeconomic status, or ethnic background, nor by stable

Table 1. Overview of variables for Wave 1 and Wave 2.

Variable	Min	Max	<i>M</i>	<i>SD</i>	Valid <i>n</i>
Ethnic pride (W1)	1	5	4.06	1.06	1,123
Ethnic pride (W2)	1	5	4.09	1.04	910
Share of same-ethnicity classmates (W1)	0	1	0.48	0.32	1,123
Share of same-ethnicity classmates (W2)	0	1	0.47	0.33	910
Ethnic majority students (W1)	0	1	0.69	–	1,123
Ethnic majority students (W2)	0	1	0.69	–	1,123
Girl (W1)	0	1	0.53	–	910
Girl (W2)	0	1	0.53	–	910

Table 2. Shares of same-ethnicity classmates for all students, ethnic majority students, and ethnic minority students (Wave 1).

Same-ethnicity classmates	All students	Ethnic majority students	Ethnic minority students
0%	17%	0%	53%
1 to 10%	8%	0%	25%
11 to 20%	3%	0%	10%
21 to 30%	3%	1%	7%
31 to 40%	5%	6%	2%
41 to 50%	8%	12%	0%
51 to 60%	11%	14%	4%
61 to 70%	12%	18%	0%
71 to 80%	11%	17%	0%
81 to 90%	20%	29%	0%
90 to 100%	2%	3%	0%
<i>N</i>	1,123	773	350

differences between schools such as overall school climate or policies of teaching ethnic diversity. Variation between schools is thus controlled for, since changes in ethnic classroom composition in our sample only occurred within the same schools.

Results

Descriptive Statistics

Mean ethnic pride was about 4.1 in both waves (Table 1). At both waves, ethnic minority students felt prouder of their ethnic ingroup than did ethnic majority students: respectively, $M = 4.24$, $SD = 1.11$ vs. $M = 3.98$, $SD = 1.03$, $t(1121) = 3.77$, $p < .001$ in Wave 1; $M = 4.27$, $SD = 1.10$ vs.

$M = 4.00$, $SD = 1.00$, $t(908) = 3.61$, $p < .001$ in Wave 2. This pattern echoes prior studies of adolescents' ethnic identification in the Netherlands (Verkuyten, 2005).

The percentage of same-ethnicity classmates differed considerably between ethnic majority and minority students (Table 2). This reflects the majority–minority proportion in the sample as well as in the population. More than half of ethnic minority students were the only students of their ethnic group in their school class. There was only one classroom in which one single ethnic minority group made up more than half of the student body. The opposite was true for Dutch native ethnic majority students, who constituted the majority group in most classrooms. Two thirds of these students attended classes in

Table 3. Multilevel regression coefficients predicting the effect of the share of same-ethnicity classmates on students' ethnic pride (Wave 1).

Parameter	Model 1: All students		Model 2: Ethnic majority		Model 3: Ethnic minority	
	B	(SE)	B	(SE)	B	(SE)
Constant	3.98***	(0.08)	3.91***	(0.32)	3.98***	(0.09)
Girl	0.20**	(0.07)	0.26**	(0.08)	0.07	(0.11)
Ethnic majority student	-0.65***	(0.12)	-	-	-	-
Share of same-ethnicity classmates	3.40***	(0.46)	1.33	(1.12)	5.17***	(1.10)
Share of same-ethnicity classmates squared	-3.60***	(0.44)	-2.01*	(0.91)	-6.96***	(1.88)
N	1,123		773		350	

Note. Standard errors in parentheses. The share of same-ethnicity classmates was rescaled from 0 to 100 to range from 0 to 1 to get more accessible coefficients. The share of same-ethnicity classmates was squared in order to test a curvilinear association. + $p < .1$. * $p < .05$. ** $p < .01$. *** $p < .001$.

which more than 80% of the student body were fellow majority group members. Only one fifth of ethnic majority students found themselves located in classes in which they were the numerical minority group.

These unequal shares of ethnic majority and minority students have an important consequence for the test of ODT. Empirically, only native Dutch majority students had very large ingroups in our sample, whereas only ethnic minority students had very small ingroups. We thus could effectively test one side of the empirical distribution for either group. Combining both groups and controlling for majority/minority status, however, allows to test ODT's predictions for both sides of the distribution. In addition, in what follows we also refer to separate analyses for both groups to further examine whether generalizing ODT to ethnic majority and minority members is justified.

From Wave 1 to Wave 2, ethnic classroom composition changed for almost three out of four students (72%). Shifts closer to and away from the point of optimal distinctiveness (calculated in the cross-sectional analysis in the following lines) were almost evenly distributed; 234 students moved closer to the point, and 293 moved away from it. For both native Dutch majority students and for ethnic minority students, changes in both directions occurred quite frequently. More precisely, of all changes

observed in the majority subsample, 175 led closer to the point of optimal distinctiveness, while 238 led away from it. In the minority subsample, 59 students experienced a change that shifted closer to their point of optimal distinctiveness, while for 55 the change was in the other direction. Finally, increases and decreases of the proportion of same-ethnicity classmates were also almost evenly distributed.

Cross-Sectional Test of Optimal Distinctiveness Theory

The model for all students is consistent with Hypothesis 1 (Table 3, Model 1). The percentage of same-ethnicity classmates in Wave 1 was related to students' ethnic pride in a nonlinear way, as shown by the positive main effect ($B = 3.40$, $SE = 0.46$, $p < .00$) and the negative squared term ($B = -3.60$, $SE = 0.44$, $p < .00$). As Figure 1 illustrates, ethnic pride peaked when a little bit less than half of the classmates belonged to the same ethnic group. Calculating the maximum of the curve by $-\frac{3.40}{2 * (-3.60)} * 100$ yields the optimally distinctive point at a share of 47% same-ethnicity classmates. Lending support to ODT, ethnic pride thus was weaker when the ingroup was either larger or smaller than at this empirically identified point of optimal distinctiveness.

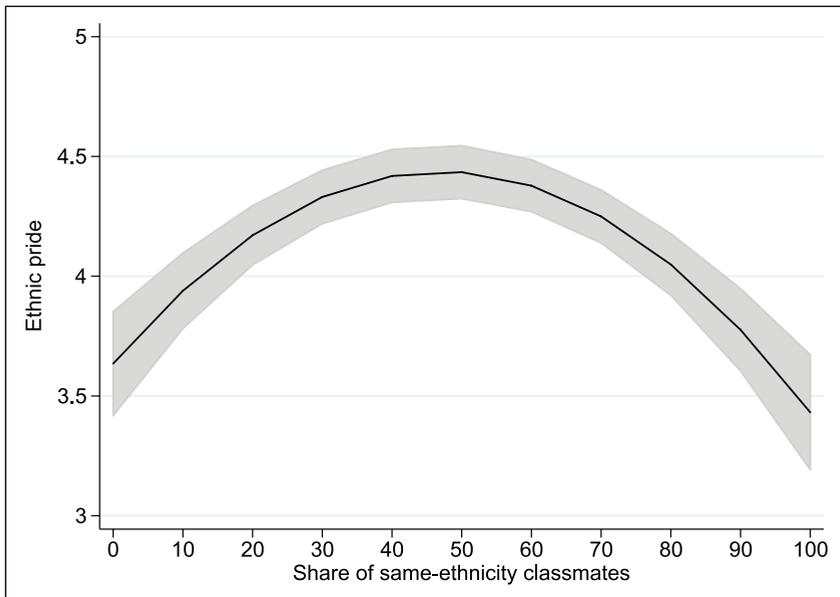


Figure 1. Predicted values showing the effect of the share of same-ethnicity classmates on ethnic pride (Wave 1, 95% CIs).

Separate models for ethnic majority and minority students further show that the inverse U-shaped relation that we found for the whole sample holds for both groups. For ethnic majority students (Table 3, Model 2), the main effect of the proportion of same-ethnicity classmates on ethnic pride was positive, though not statistically significant ($B = 1.33$, $SE = 1.12$, $p = .23$), and the squared term was negative ($B = -2.01$, $SE = 0.91$, $p < .05$). For ethnic minority students (Table 3, Model 3) the fraction of same-ethnicity classmates was also related to the strength of ethnic pride in a nonlinear way ($B = 5.17$, $SE = 1.10$, $p < .00$ and $B = -6.96$, $SE = 1.88$, $p < .00$, respectively).

Figures 2 and 3 illustrate the association between ethnic classroom composition and ethnic majority and minority students' ethnic pride. Most importantly, the estimated curves show that the expected inverse U-shaped association held for both minority and majority students. This finding supports the notion that ODT is applicable to both groups. The widths of the confidence intervals, however, indicate that observations with a large share of same-ethnicity

classmates are sparse for minority youth and observations with a low share are sparse for majority youth (see also Table 2). We therefore use the results for the entire population in order to assess the point of optimal distinctiveness, as this estimation is more reliable as it uses the whole range of empirical observations, thus covering both ends of the curve.

As a robustness check, we estimated the very same three cross-sectional models reported before for Wave 2 as well. The results provide further support for ODT's predictions, as the inverted U-shape also showed in the overall sample (see Table A1 and Figure A1 in the online Appendix). The point of optimal distinctiveness, though, was somewhat higher in Wave 2, at 57%. For ethnic majority students, the relation between ethnic pride and ethnic classroom composition was linear and negative. This finding is also consistent with ODT, however, given that for most majority students the share of same-ethnicity classmates far exceeded the point of optimal distinctiveness, so that a negative slope would be expected.

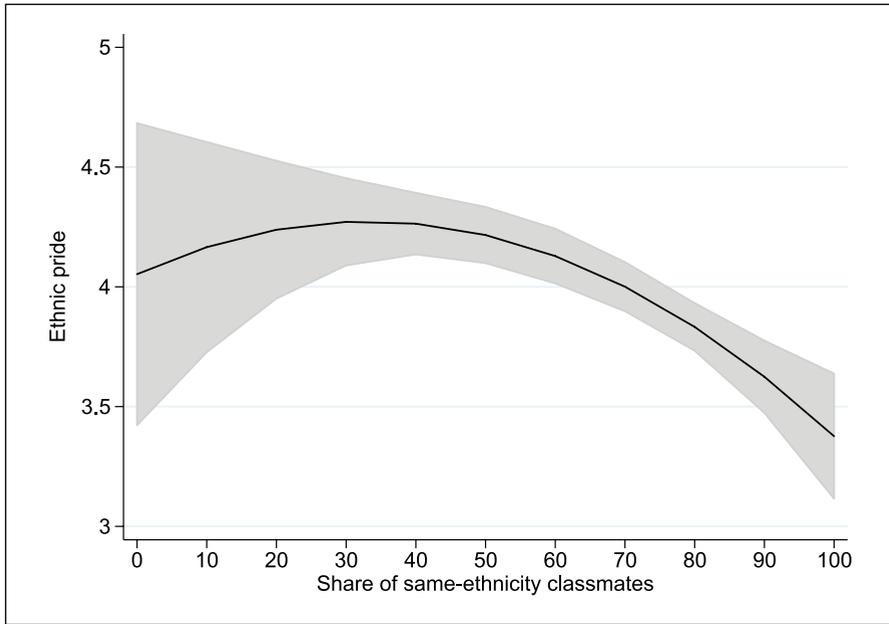


Figure 2. Predicted values showing the effect of the share of same-ethnicity classmates on ethnic pride of ethnic majority students (Wave 1, 95% CIs).

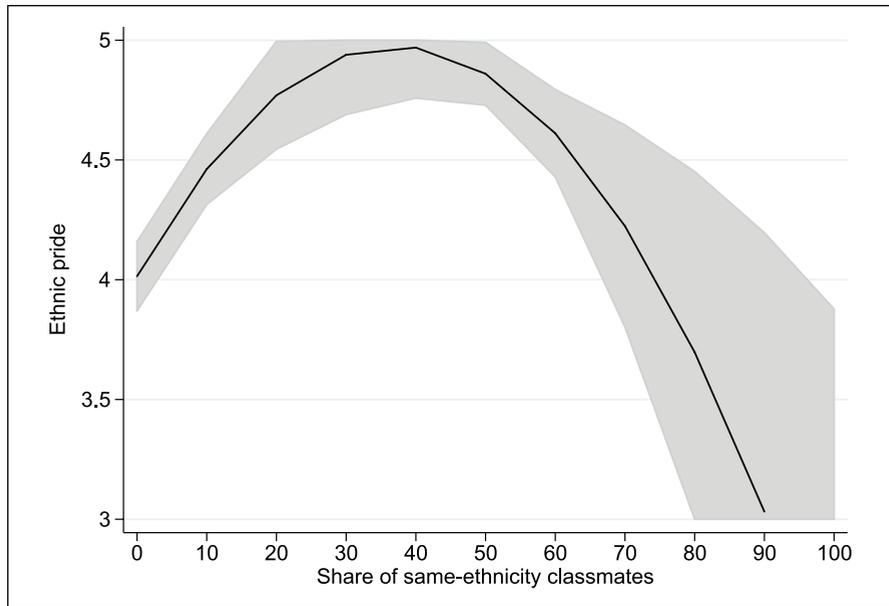


Figure 3. Predicted values showing the effect of the share of same-ethnicity classmates on ethnic pride of ethnic minority students (Wave 1, 95% CIs).

Table 4. The effect of moving closer to or away from the point of optimal distinctiveness (47% same-ethnicity classmates) on students' ethnic pride development.

Parameter	Model 1: All students		Model 2: Ethnic majority		Model 2: Ethnic minority	
	<i>B</i>	(<i>SE</i>)	<i>B</i>	(<i>SE</i>)	<i>B</i>	(<i>SE</i>)
	Constant	0.11*	(0.05)	0.11	(0.08)	0.08
Moving closer to 47% same-ethnicity classmates	-1.64 ⁺	(0.98)	-1.11	(1.05)	-2.21	(2.27)
Moving away from 47% same-ethnicity classmates	-1.51*	(0.60)	-1.53	(0.96)	-2.04 ⁺	(1.23)
<i>N</i>	727		496		231	

Note. Robust standard errors in parentheses. Moves closer to or away from 47% same-ethnicity classmates were rescaled from 0 to 100 to range from 0 to 1 to get more accessible coefficients.

+ $p < .1$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Longitudinal Test of Predictions Derived From Optimal Distinctiveness Theory

Based on the cross-sectional results for the entire population, we first use a share of 47% of same-ethnicity classmates as the point of optimal distinctiveness in the longitudinal analysis. The peak of ethnic pride at this point suggests an optimal balance between the needs of inclusion and differentiation for the students in Wave 1 of our sample. Accordingly, in our longitudinal model we estimated how changes in students' ethnic pride were related to changes between Wave 1 and Wave 2 that moved students either closer to or away from a share of 47% same-ethnicity classmates. As a robustness test, we further estimated the longitudinal models using the point of optimal distinctiveness identified in Wave 2 (57%). As the key conclusions were the same (see Table A2 in the online Appendix), we continue to report the results based on shifts towards or away from a share of 47% of same-ethnicity classmates.

The results for the whole sample reported in Table 4 (Model 1) are partly in line with the longitudinal hypotheses we derived from ODT. Contrary to Hypothesis 2, ethnic pride decreased for students for whom the share of same-ethnicity classmates moved closer to the empirically identified point of optimal distinctiveness ($B = -1.64$, $SE = 0.98$, $p < .10$). In line with Hypothesis 3, however, ethnic pride also decreased for students whose share of same-ethnicity classmates shifted away from that point ($B = -1.51$, $SE =$

0.60, $p < .05$). Taken together, these results thus indicate that *any* change in the ethnic classroom composition led to a decrease in ethnic pride compared to students who experienced no such change.

In the overall sample, we found no discernable difference between mean ethnic pride in Wave 1, $M = 4.06$, $SD = 1.05$, and mean ethnic pride in Wave 2, $M = 4.10$, $SD = 1.01$, $t(726) = -1.13$, $p = .26$. How can this be reconciled with our result that both changes that led closer to the point of optimal distinctiveness and changes that led away from it are associated with less ethnic pride over time? One possible reason is that ethnic pride increased over time only for those students who were in classrooms in which the share of same-ethnicity classmates did not change for them. This interpretation is supported by the constant of Model 1 in Table 4 ($B = 0.11$, $SE = 0.05$, $p < .05$). The increase in ethnic pride in the group of students attending classrooms with stable ethnic composition may have compensated for the decrease among students who experienced a change of ethnic composition, making it appear as if ethnic pride did not change over time in the overall sample.

As in the cross-sectional analysis, we also estimated our longitudinal model separately for ethnic majority and minority group members (Table 4, Models 2 and 3). All coefficients point into the same direction, thus again supporting the notion that the general associations do not differ between both groups. Due to the reduced sample size in

the separate models, however, only one effect reached conventional level of statistical significance.

We further took into account the nonlinearity of ODT by also adding squared terms for the variables indicating how much students moved away from or closer to the point of optimal distinctiveness. As Figures A2 and A3 in the online Appendix show, large changes in ethnic classroom composition (above 20 percentage points) seemed to have been related to respective changes in ethnic pride that are consistent with ODT. For example, students' ethnic pride increased if they moved 20 percentage points or more closer to a share of 47% same-ethnicity classmates. However, as indicated by the huge confidence intervals that these figures show for large changes, one has to bear in mind that these results are driven by only a handful of empirical observations, as most students did not experience changes of this magnitude in the ethnic classroom composition.

Finally, to make sure that our results were not driven by minor changes in ethnic classroom composition, we estimated our longitudinal models using a dummy-coded measure of change in ethnic classroom composition. For this robustness check, we created two respective dummy variables for moving closer to and away from the point of optimal distinctiveness. Both dummies were coded 1 if the share of same-ethnicity classmates brought a student closer to or away from the point of optimal distinctiveness by more than 5 percentage points, and 0 otherwise, which applied to 105 and 96 students in the sample, respectively. The rationale for this test was that changes of less than 5 percentage points might be so trivial that they may not affect students' perceptions of relative group size. The substantive results (available upon request) were similar to those using the continuous measure.

Discussion

In many societies, adolescents are increasingly exposed to ethnic diversity in school. The current study adds to research on the consequences of

this ethnic diversity by testing both cross-sectional and longitudinal predictions derived from Brewer's (1991) optimal distinctiveness theory (ODT) about how ethnic diversity experienced in the classroom is related to adolescents' ethnic pride.

Lending support to ODT, for both observed points in time our cross-sectional analysis revealed an inverted U-shaped relation between the share of same-ethnicity classmates and adolescents' ethnic pride. In Wave 1, ethnic pride peaked at a share of 47% of same-ethnicity classmates, which suggests that in the context that we studied the competing needs for inclusion and differentiation were best balanced in classrooms in which the proportion of same-ethnicity and outgroup members was roughly equal. In Wave 2, the point of optimal distinctiveness was 10 percentage points higher, thus being located at 57%.

These empirically identified points of optimal distinctiveness are broadly in line with studies conducted in other contexts with natural variation in relative group size (Leonardelli et al., 2010). The change of the exact location of the point between Wave 1 and Wave 2 further stresses that which precise share of ingroup members is perceived as optimally distinctive arguably depends on the context. For example, manipulating relative group size in the lab, Leonardelli and Loyd (2016) recently showed that individuals considered smaller groups (20% ingroup members) as more optimally distinctive than larger ones (45%). In real-life settings, however, not only the relative but also the absolute size of groups might matter for these perceptions. In fact, in the relatively small classrooms that we studied, a share of 20% same-ethnicity classmates would come down to four to five students, and such a number might be too low to fulfill the need of inclusion, thus resulting in a higher point of optimal distinctiveness. In addition, between the two waves of study ethnic classroom composition changed for a substantial amount of students. Leonardelli et al. (2010, p. 68) suggest that the need for inclusion might be particularly salient in new social contexts. The point of optimal distinctiveness in Wave 2 therefore may have

been higher than that in Wave 1 because many students faced a new environment in which their need of inclusion temporarily outweighed their need of differentiation, thus resulting in a larger share of ingroup members that was perceived as optimally distinctive.

Importantly, our results held for ethnic minority as well as ethnic majority group students, suggesting that both minority and majority students feel better about their ethnic background when there is no clear numerically dominant group in the classroom. The theoretical core prediction of ODT was thus supported for both groups, which indicates that ODT meets the call for general models of ethnic identification that apply to more than one specific ethnic group (Schwartz et al., 2014).

ODT may further help to explain findings of cross-sectional studies that link school context and ethnic group identification. For instance, Agirdag et al. (2011) found that native Belgian students' ethnic identification was stronger in schools in which their numerical majority position was less pronounced due to higher shares of ethnic minority students in that school. In the United States, Supple, Ghazarian, Frabutt, Plunkett, and Sands (2006) found adolescent Latinos' affirmation of their ethnic identity to be positively associated with the percentage of Latinos in the neighborhood. Both studies are in line with the ODT prediction that the numerical share of a group is negatively associated with ingroup identification for a numerical majority (native Belgian students in Belgium) and positively for a numerical minority (Latinos in the United States).

Moving beyond previous work on ODT, our study also derived longitudinal hypotheses about the effects of changes in ethnic classroom composition. We found that ethnic pride decreased both for students whose classroom composition moved closer to and for students whose classroom composition moved away from the empirically identified point of optimal distinctiveness. In comparison to students who did not experience a change in the ethnic composition of their classroom, experiencing *any* change thus was

related to declining ethnic pride. We did not find ethnic pride to either increase or decrease in the complete sample because there were two counterbalancing trends: Students' ethnic pride increased in classrooms over time where the ethnic composition was stable, whereas students' ethnic pride decreased in classrooms in which ethnic composition changed. The increase in ethnic pride in stable contexts is consistent with earlier studies on ethnic identity development which suggest that there is a general trend towards stronger ethnic identification in early adolescence due to increasing cognitive capacities and social knowledge in this developmental period (e.g., French, Seidman, Allen, & Aber, 2006; Kiang et al., 2010; Pahl & Way, 2006; Umaña-Taylor, Gonzales-Backen, & Guimond, 2009).

The result that any change in the share of same-ethnicity peers was associated with decreasing ethnic pride cannot readily be reconciled with ODT. For two reasons, however, our results do not strictly contradict ODT. First, while we tested observable longitudinal implications of ODT, our study did not provide a direct test of the underlying psychological mechanisms posited by ODT. Second, our empirical test relied on the assumption that changes in ethnic classroom composition were not accompanied by other changes that affected ethnic pride in a way that overrides the effects of relative group size. While our statistical approach controlled for unobserved stable individual and school characteristics, however, changes within or between classrooms were not accounted for.

A related possible explanation for our findings that we believe may be of interest for future work is that changing composition of classrooms may blur ethnic boundaries that have developed in the perception of students in a period of classroom stability, because some peers may leave the classroom or new peers enter the classroom. This may encourage students to reassess their perception of their own and other ethnic groups in the classroom context. One reason for this can be that the perception of the positive or negative characteristics of ethnic groups as a whole and thus identification with them may be affected by

interpersonal experiences with members of that group (Stark, Flache, & Veenstra, 2013). When new students enter the classroom or students leave the classroom, this could generate new interpersonal experiences which make it less clear for students whether they can still assess their own ethnic group relative to others in the same way they did before. As a consequence, change may entail declining ethnic pride at least for a transition period until students' interpersonal experiences have been realigned with their perceptions of ethnic groups in their classroom. We believe that future work should study in more detail the relation between changes in classroom composition, individual contact experiences, and ethnic identification of adolescents.

Our study is not without limitations. First of all, while a large proportion of the students in our sample experienced a change of ethnic classroom composition, the number of classrooms and the total size of studied changes were relatively low, especially for conducting subgroup analysis. While the number of observations was sufficient to test our longitudinal hypotheses, additional longitudinal tests of ODT with larger numbers of students who experience contextual change in classroom composition or ethnic composition in other salient contexts are desirable. A second shortcoming is our measurement of ethnic pride that is based on only one item. Whereas our data gave us the opportunity to test ODT with more and better systematic variation in the share of same-ethnicity classmates than previous research, our data restricted our choice of measurements of ethnic pride. Future studies may use more precise measures (see Rivas-Drake et al., 2014) and also investigate the relation between ethnic classroom composition and other dimensions of ethnic identity, such as self-categorization or salience (Ashmore et al., 2004). A third shortcoming is the uneven distribution of the share of same-ethnicity classmates between native majority and ethnic minority students in our sample. While we found support for cross-sectional ODT predictions in a model that generalized across both groups in the sample and controlled for differences between them, future work is warranted that assesses a

wider range of classroom compositions both for majority and minority students.

We believe that our results also point to a potentially important link between research on ethnic identity and research on social networks in classrooms that merits more exploration in future work. Social network research has found that ethnic friendship homophily is most pronounced in ethnically or racially heterogeneous classrooms (e.g., Moody, 2001). While this is partially due to increased opportunity for minority students to form ingroup friendships, scholars also attribute this finding to a perception of ethnic threat (Munniksma, Scheepers, Stark, & Tolsma, 2016; Thijs & Verkuyten, 2014). Our study suggests an alternative possibility. Students in schools with mixed ethnic composition may satisfy their need for inclusion by identifying more strongly with their ingroup. This increased ethnic identity may then translate into stronger preferences for same-ethnic friends. While scholars have recently begun to study the link between ethnic identity and friendship formation in classrooms (Leszczensky, Stark, Flache, & Munniksma, 2016; Munniksma et al., 2015), this research has not yet considered the role of relative group size and ethnic composition. We believe that future studies of ethnic homophily in friendship networks would benefit from considering the link between relative group size, ethnic identity, and friendship formation suggested by ODT.

In conclusion, this study provides evidence that both ethnic majority and minority students' ethnic pride was robustly related to the share of same-ethnicity classmates at two different time points during adolescents' school career. As expected by ODT, students' ethnic pride was strongest in classrooms with about 50% same-ethnicity classmates, and it was less pronounced in classes with either higher or lower shares of same-ethnicity classmates. At the same time, though, we also found that ODT could at best partially account for how changes in the share of same-ethnicity classmates were associated with changes in ethnic pride.

A more practical implication of the findings of this study follows from the fact that ODT

allows linking the development of group identification to contexts in which, in principle, ethnic composition can be and is influenced by various policies. Most prominently, policies of desegregation in the US (Logan, Oakley, & Stowell, 2008) and other countries (Peters & Walraven, 2011) aim to increase the ethnic diversity of schools. Our cross-sectional results suggest that such policies may increase ethnic identification of ethnic minority children, for whom an increased number of same-ethnicity peers may better satisfy their need for inclusion. At the same time, desegregation may also increase ethnic identification of native majority children as a decreased number of fellow majority group members may better satisfy their need for differentiation. While desegregation policies are mainly motivated by the goals to improve intergroup relations by fostering interethnic contact and avoid negative consequences of minority concentration on educational achievements, our study points to strengthened ingroup identification of both majority and minority students as a hitherto overlooked possible side effect of desegregation. We believe that this possibility further underlines the need for future research to delve deeper in the way how ethnic identity is affected by ethnic composition as an important element of the classroom context. Our study has hopefully helped to pave the way for such efforts.

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