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No integration paradox among adolescents

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ABSTRACT

Previous studies have discovered a somewhat paradoxical empirical pattern whereby members of some higher educated first- and second-generation migrant groups in the Netherlands, who are structurally better integrated, harbour more negative attitudes toward natives than their lower educated counterparts, a.k.a. 'the integration paradox'. This finding goes against intergroup contact theory which predicts that the greater contact with natives among highly educated migrants should improve their attitudes toward natives. Here we ask whether this negative relationship between education and attitudes toward natives can already be observed at an earlier stage in the lives of immigrants, in adolescence. In survey data on Dutch first- and second-generation immigrant adolescents, we find no integration paradox: Instead, education positively predicts attitudes toward natives. This positive relationship can largely be attributed to the greater opportunity for befriending native peers in higher educational tracks, which in turn produces more favourable attitudes toward natives, consistent with contact theory. We conclude that if the integration paradox is a robust phenomenon in adulthood, it is either restricted to migrants who do not grow up in the Netherlands, or the attitudes of immigrants radically change after they finish high school.

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Introduction

Classic assimilation theory, predicting straight-line assimilation to a dominant majority culture, has been the source of much contemporary debate, with many emphasising categorical differences in experiences across ethnic groups, generations, and destination and origin countries (Rumbaut and Portes 2001; Van Tubergen and Kalmijn 2005; Brown and Bean 2006; Waldinger 2007; Telles and Ortiz 2008), while revisionists maintain that a general tendency for immigrants and their children to gradually become structurally and culturally assimilated exists (Gordon 1964; Alba and Nee 2003). A different prediction from classic work is much less controversial, namely the expectation from intergroup contact theory that contact between ethnic groups generally improves attitudes toward members of the other group (Allport 1979). This thesis has found robust support in many studies (e.g. Pettigrew and Tropp 2006; Ten Teije, Coenders, and Verkuyten 2013; Munniksma et al. 2015). In this light, it comes as a surprise that recent studies

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have identified what has come to be referred to as an 'integration paradox' (Buijs, Demant, and Hamdy 2006), whereby highly educated migrants would harbour more hostile attitudes toward native Dutch than their lower-educated counterparts (Tolsma, Lubbers, and Gijsberts 2012; Ten Teije, Coenders, and Verkuyten 2013; de Vroome, Martinovic, and Verkuyten 2014). Because better educated migrants tend to have greater contact with natives (Martinovic, Van Tubergen, and Maas 2009), they would be expected to hold more *positive* attitudes towards the native population instead (Allport 1979). Empirical studies of the integration paradox vary in the outcome measures they consider and empirical support varies by measure and ethnic group. As such, they have linked the educational level of immigrants from various ethnic groups not just to more negative attitudes toward natives but also to higher perceived discrimination (Gijsberts and Vervoort 2009; Ten Teije, Coenders, and Verkuyten 2013; van Doorn, Scheepers, and Dagevos 2013; de Vroome, Martinovic, and Verkuyten 2014; Huijnk and Andriessen 2016), lower perceived acceptance (Gijsberts and Vervoort 2009; Ten Teije, Coenders, and Verkuyten 2013; de Vroome, Martinovic, and Verkuyten 2014), and greater identification to the own ethnic group for some (Tolsma, Lubbers, and Gijsberts 2012) but not others (Huijnk and Andriessen 2016), and found education not to predict opposition to ethnically mixed relationships or origin country identification among second generation migrants (Tolsma, Lubbers, and Gijsberts 2012).

Two primary mechanisms have been proposed to explain the integration paradox, namely (1) relative deprivation and (2) cognitive sophistication of the higher educated. *Relative deprivation* incorporates the perception that someone, or the group he or she belongs to, is at an unfair disadvantage compared to referents (Smith et al. 2012). Higher educated immigrants can have more negative feelings toward natives, when they feel discriminated and relatively deprived as they do not have the same labour market positions as higher educated natives (Ten Teije, Coenders, and Verkuyten 2013; de Vroome, Martinovic, and Verkuyten 2014). Relative deprivation would be stronger among higher educated immigrant adolescents, since they are more directly exposed to natives and their positive experiences in native-dominated environments. The *cognitive sophistication* argument is that as a result of a more society-critical perspective fostered in higher education, immigrants are more attuned to perceiving discrimination and thus more readily develop negative attitudes toward natives.

Here we ask whether the negative relationship between education and attitudes toward natives found among adult immigrants can already be observed at an earlier stage in their lives, in adolescence. All previous studies on the integration paradox study adult first- and second-generation immigrants (Tolsma, Lubbers, and Gijsberts 2012; Ten Teije, Coenders, and Verkuyten 2013; van Doorn, Scheepers, and Dagevos 2013; Vroome et al. 2014). By shifting focus to adolescents, we seek to accomplish two things. First, it enables us to determine whether the integration paradox originates in early-life experiences or emerges in later life: Were higher educated migrants always more critical of natives or only as adults, e.g. after they enter the labour market? Second, the educational context provides leverage for empirically separating out the operation of the relative deprivation, cognitive sophistication and contact mechanisms. School data measures the contextual effect of education, i.e. the share of natives in class, on favourable attitudes toward natives. Precise information on exposure to and friendships with native children in school allows us to precisely capture the contact theory mechanism. Children at

higher educational tracks are more often surrounded by natives, which increases opportunities for contact with native peers, and thus higher educated immigrants have more contact with them compared to lower educated immigrants.

Theory

Figure 1 combines into a conceptual model the three theoretical mechanisms that on the basis of previous studies may be expected to undergird the relationship between education level and positive attitudes toward natives among immigrant adolescents: relative deprivation, cognitive sophistication, and intergroup contact.

Relative deprivation

The concept of relative deprivation was introduced by Samuel Stouffer a half-century ago, arguing that comparisons with referents produced feelings of relative deprivation (Stouffer et al. 1949). The concept can be summarised as the feeling to be at an unfair disadvantage compared to others (Verkuyten 2016). Smith et al. (2012) described the process of relative deprivation as consisting of three steps: An individual must make comparisons with a referent, then perceive that he/she or the group one belongs to is at a disadvantage, and then see this disadvantage as unfair. This can result in anger and frustration toward the advantaged group. Feelings of relative deprivation can be linked to negative attitudes towards outgroups, since it has been found that persons who perceive more group relative deprivation have more prejudiced outgroup attitudes (Pettigrew et al. 2008).

Theory suggests that higher educated immigrants can feel relatively more deprived compared to lower educated immigrants, which can be mostly attributed to the environment in which group comparisons are made (Verkuyten 2016). In higher educational tracks, immigrant adolescents are more likely to be surrounded by natives than lower educated minorities, since the majority group is generally higher educated than minority groups (Tolsma, Lubbers, and Gijsberts 2012). Heterogenous school classes in terms of ethnicity have been found to exhibit higher levels of victimisation (Vervoort, Scholte, and Overbeek 2010), intensify adolescents' perceptions of 'us' and 'them', and increase inequality between groups (Graham and Juvonen 2002).

A higher proportion of natives at higher education levels makes the native majority a more relevant comparison group, simply because there are more contact opportunities

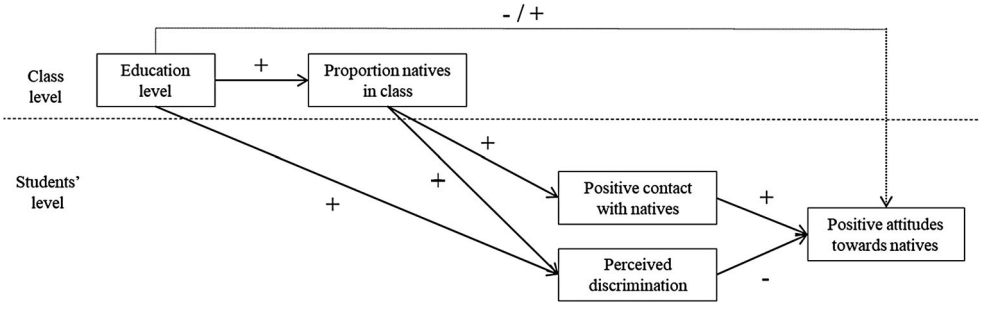

Figure 1. Conceptual model.

and actual contact (Verkuyten 2016). Comparisons with native adolescents are more easily made and might turn out unfavourable, as research among adults has found that immigrants are more likely to have temporary jobs and lower levels of employment compared with similarly educated natives (Alba and Nee 2003). Native adolescents may be preferentially hired for after-school jobs. In addition, minority students might be more likely to experience themselves to be (ethnically) different when they are embedded in classes with a large native majority (Geven, Kalmijn, and van Tubergen 2016). Processes of discrimination could occur between peers in class, during the search for a side job or internship, or in public space. Besides classmates, teachers can play a role in the perception of discrimination. Teachers can affect the forming of interethnic attitudes, as good contact with Dutch teachers among immigrants was found to be related to more positive attitudes towards native classmates (Thijs and Verkuyten 2012).

In sum, because of these comparisons and perceived discrimination, higher educated immigrant adolescents may be expected to feel more relatively deprived and have, in turn, less positive feelings towards the majority than lower educated immigrant adolescents (de Vroome, Martinovic, and Verkuyten 2014; Verkuyten 2016). Therefore, it can be expected that *the higher the education level of immigrant adolescents, the higher the proportion of natives in class, the more discrimination they perceive, and the more negative their attitudes toward natives are (hypothesis 1).* Hypothesis 1 is represented in Figure 1 by the three-step path connecting educational level to proportion natives in class, to perceived discrimination, and finally to positive attitudes toward natives. The path produces a negative overall relationship between educational level and attitudes.

Cognitive sophistication

The second mechanism proposed to explain the integration paradox involves the idea of a critical view that education brings, predicting a negative educational effect on positive feelings toward natives. In school settings, adolescents at higher education levels can be exposed to school environments with a more society-critical perspective on discrimination. Education can bring a higher cognitive sophistication, as it enables to develop knowledge and awareness about inequalities in society (Verkuyten 2016). Due to this more critical view, the higher educated would be more aware of their disadvantaged position and unequal opportunities in society (Wodtke 2012).

Research among Black and Hispanic adults in the United States showed that higher levels of education are accompanied by a stronger awareness of discrimination against minorities (Wodtke 2012). Higher educated immigrants also turned out to be more informed about the political debate with respect to ethnic inequality and discrimination, stimulating the awareness of relative deprivation (Kane and Kyyro 2001; van Doorn, Scheepers, and Dagevos 2013). In addition, higher educated minorities also tend to be more sensitive to ethnic rejection (Ten Teije, Coenders, and Verkuyten 2013).

Especially the perception of an ethnic group's position in society is of importance, as people can be advantaged in fact while experiencing their group is relatively deprived (Leach, Iyer, and Pedersen 2007). The effect of perceived *group* discrimination was found to be stronger in the integration paradox than perceived *personal* discrimination (Ten Teije, Coenders, and Verkuyten 2013; van Doorn, Scheepers, and Dagevos 2013),

which supports the idea the integration paradox can occur without feeling personally discriminated.

Given the cognitive sophistication of higher educated adolescents, our second hypothesis is as follows: *The higher the education level of immigrant adolescents, the more discrimination they perceive, and the more negative their attitudes toward natives are (hypothesis 2).* Hypothesis 2 is represented in Figure 1 by the two-step path connecting educational level to perceived discrimination, to positive attitudes toward natives. The path produces a negative overall relationship between educational level and attitudes.

Intergroup contact

In contrast to the previous two mechanisms, the intergroup contact mechanism (Allport 1979; Pettigrew and Tropp 2006) yields a positive educational effect on favourable attitudes toward natives. Intergroup contact is thought to reduce prejudice about the outgroup and increase positive feelings towards that outgroup (Allport 1979). The prejudice-reducing effect of intergroup contact operates through enhancing knowledge about the outgroup, reducing anxiety about intergroup contact, and increasing empathy (Pettigrew and Tropp 2008).

Allport (1979) postulated four optimal conditions under which positive intergroup contact reduced prejudice and in turn increased positive attitudes towards an outgroup, namely (1) equal status between the groups, (2) intergroup cooperation, (3) common goals, and (4) support of authorities, law or custom. The meta-analysis of the intergroup contact theory by Pettigrew and Tropp (2006) found that intergroup contact typically leads to a decrease in intergroup prejudice among different populations in a variety of contexts, and more so when some of the above conditions are met.

At higher education levels, school classes have a greater share of native adolescents and therefore there are more opportunities for minority students to have interethnic contact. Indeed, Bubritzki et al. (2018) found a positive effect of the share of natives in class on positive interethnic attitudes. A critical aspect of intergroup contact theory is its focus on actual contact, rather than mere exposure (Smith et al. 2016), so the distinction between the share of natives in class and actual friendships with natives as positive contact is important to make. Studies have shown that better educated immigrants have more opportunities for contact with majority members (Kalmijn and Van Tubergen 2006), and more actual positive contact with them (Kalmijn and Van Tubergen 2006; Martinovic, Van Tubergen, and Maas 2009; Ten Teije, Coenders, and Verkuyten 2013).

In line with intergroup contact theory, more positive contact has been found to be associated with more positive attitudes towards the native majority, partly because immigrants perceived more acceptance and less discrimination (Ten Teije, Coenders, and Verkuyten 2013). Research among ethnic minority adolescents showed that friendships with majority group peers, improved their attitudes towards the majority outgroup over time (Munniksma et al. 2015). Janmaat (2014) found this effect for native students as well, showing that 14-year-old native students had more inclusive views on immigrants when they were in classes with more minority students. All in all, a higher share of natives in class can lead to a decrease in prejudice and more positive feelings toward natives, following the intergroup contact theory. This brings us to the third hypothesis: *The higher the education level of immigrant adolescents, the higher the proportion of*

natives in class, the more positive contact with natives is, and the more positive their attitudes toward natives are (hypothesis 3). Hypothesis 3 is represented in Figure 1 by the three-step path connecting educational level to proportion natives, to positive contact, to positive attitudes toward natives. The path produces a positive overall relationship between educational level and attitudes toward natives.

Data and method

Data

To study the integration paradox among immigrant adolescents and the mechanisms that undergird it, we make use of the Dutch data from the first wave of the Children of Immigrants Longitudinal Survey in four European Countries (CILS4EU) (Kalter et al. 2016). Data were collected among adolescents, their parents and teachers in Germany, England, Sweden, and the Netherlands at approximately 100 schools in each country. The first wave was collected between October 2010 and June 2011 among 14/15-year-old pupils. For the Netherlands this meant students who were in the third grade of secondary school.

Schools were selected using a probability proportional to their size, and schools with a high number of immigrant children attending the school were oversampled. When schools refused to participate, a school of similar type, region and level of ethnic diversity was chosen as a replacement. In the Netherlands, the school response rate before replacement was 34.9% and after replacement 91.7%. When schools decided to participate, two school classes were randomly selected if more than two classes were available, otherwise the only one or two classes in the relevant age group were selected. The response rate among students was 91.1%. This resulted in data from 100 Dutch schools, covering 222 school classes and 4,363 students.

The sample for the analyses exclusively consisted of adolescents with an immigrant background ($N = 1{,}318$). According to a widely used definition in the field of ethnic and migration studies (CBS 2001; Leszczensky et al. 2016), immigrant adolescents were included when they or at least one of their parents were born outside the Netherlands, covering first and second-generation immigrants. Immigrant adolescents were coded to their parents' country of origin, and when both parents were born in the Netherlands and the child was born abroad, the child was coded as native. In case of a mixed native-immigrant background the child was coded to the immigrant parent. In case the parents had a different ethnic background, the maternal ethnic background was assigned. The students were classified into six immigrant groups to analyze, for analysis of differences in perceived discrimination, contact with natives and attitudes towards natives. The groups consisted of the four largest minority groups in the Netherlands: Turks ($N = 262$), Moroccans ($N = 240$), Surinamese ($N = 167$) and Antilleans ($N = 73$), and two broader groups: other non-Western ($N = 322$) and other Western immigrants ($N = 254$). Taking the official definition used by Statistics Netherlands (CBS 2001), the category 'other non-Western immigrants' includes persons with a Turkish, African, Asian and Latin-American background. The category 'other Western immigrants' consists of persons from Europe (excluding the Netherlands and Turkey), North America, Oceania, Japan and Indonesia (including the former Dutch East Indies).

The CILS4EU data are very suitable for the aim of this paper, as they contain extensive information on aspects of school, home, friends and personal life. There is information

available on each student in class and therefore the influence of, for instance, the ethnic class composition can be taken into account, which provides unique leverage for differentiating between generative mechanisms.

Measures

Positive attitudes towards natives. The dependent variable is positive attitudes towards natives and is measured with a 'feeling thermometer' question about Dutch people. The feeling thermometer is a commonly used measure in many ethnic studies and is a reliable and valid measure to capture affective attitudes (Bobo and Zubrinsky 1996; de Vroome, Martinovic, and Verkuyten 2014). Students were asked:

> 'Please rate how you feel about the following group (Dutch), on a scale that runs from 0 to 100. The higher the number, the more positive you feel, and the lower the number, the more negative you feel towards this group'.

Answers ranged from 0 (negative) to 100 (positive), and 50 had the label 'neutral'. When students did not know anyone from this group, it was assigned as missing.

Educational level. The main independent variable is educational level and is measured as the level adolescents had at the time of the survey, consisting of seven categories where 'vmbo-basis' is lowest and 'gymnasium' highest. Education was entered as a continuous variable in the analyses (see de Vroome, Martinovic, and Verkuyten 2014). When the educational level of a student was missing, the educational level of the class was used. In classes where multiple educational levels were reported, the mode was ascribed to all students to prevent false values, since we found a few students reporting the highest education level while they were in a class within one of the lower education tracks.

Proportion of natives in class. From each pupil in class the ethnic background was determined, and the number of children with a Dutch background was divided by the total number of children in a class.

Perceived personal discrimination. Perceived personal discrimination is measured using four items, namely: 'How often do you feel discriminated or treated unfairly in school; trains/buses/trams/subway; shops/stores/cafes/ restaurants/nightclubs; by police or security guards'. Answers ranged from (1) 'always', (2) 'often', (3) 'sometimes', to (4) 'never'. This item was reverse coded, so that a higher score refers to more perceived discrimination. We conducted a multilevel confirmatory factor analysis of these items at the class level and the individual level. First, we fitted a null model in which the variances of the items were anchored at 0 at the class level. Then, a model with free variance of the items at the class level was fitted. The saturated model was fitted after, where covariances between all items were added. Then a model with both a factor at the individual and the class level was fitted. The final model that was fitted, constrained the factor loadings to be the same. Based on the model fit, it turned out that the model with only one factor on the individual level fitted the data best. Subsequently, a reliability analysis on the items at the individual level showed the four items of perceived individual discrimination can be combined in one scale representing the mean of the four items of discrimination (Cronbach's $\alpha = 0.64$).

Positive contact with natives. For the measure of positive contact with natives, information from social networks was taken, including the ethnic background of peers.

Students received a class roster with their classmates and a corresponding and unique ID number, to retain the anonymity of students. Students had to answer several questions in which they had to choose classmates. They had to answer the following question: 'Who is your best friend in class?' and could choose up to five friends from class. The final construct of positive contact with natives was formed by the number of selected classmates with a Dutch background, ranging from 0 to 5.

Controls. We control for *class size*, as it may affect the relationship between the share of natives and positive attitudes towards them. Class size comprises the total number of students in a class who participated, which approximates the actual class size because the response rate among students was very high. Gender is controlled with the variable *female* (0/1). *Parental socioeconomic status* is taken into account, as it may affect students' preferences and attitudes. Occupational status was classified according to the International Standard Classification of Occupations 2008. First, the father's occupation was taken into account, and when missing the occupation of the mother was included. The occupational classification ranged from 0 (has never worked before) to 9700, but was recoded into a range of 0–97. We differentiated between first- and second-generation migrants using a control variable *second-generation immigrant* (0/1). If the student was born in the Netherlands and at least one of the parents is born abroad (CBS 2001), the student was coded as a second-generation immigrant. In addition, we included six dummies for large immigrant groups: Turks, Moroccans, Surinamese, Antilleans, other Western and other non-Western. Table 1 shows the descriptive statistics including means and standard deviations for all variables.

Analytical strategy

Our analytical strategy is to predict positive attitudes towards natives from education, while adding mediating variables that represent the three mechanisms of relative deprivation, cognitive sophistication, and intergroup contact. The hypotheses will be tested

Table 1. Descriptive statistics (# adolescents = 1,318; # school classes = 211).

Variables	Mean	Std. Dev.	Range	Missings
Dependent variable				
Positive attitudes towards natives	68.478	23.088	0–100	37
Independent variables (class level)				
Education level	3.493	1.756	1–7	0
Proportion of natives	0.447	0.323	0–0.966	0
Independent variables (students' level)				
Positive contact with natives	1.502	1.581	0–5	57
Perceived discrimination	1.208	0.371	1–4	13
Controls				
Class size	20.596	5.843	5–30	0
Female	0.514	–	0/1	0
Parental SES	46.962	28.519	0–97	70
Second-generation immigrant	0.775	–	0/1	0
Turks	0.199	–	0/1	0
Moroccans	0.182	–	0/1	0
Surinamese	0.127	–	0/1	0
Antilleans	0.055	–	0/1	0
Other non-Western	0.244	–	0/1	0
Other Western	0.193	–	0/1	0

[a] Note: Missing values on the individual level are reported.

using multilevel mediation in structural equation modelling (SEM). The data has a nested structure, in which the first level consists of students, and the second level consists of school classes. Since only one or two classes at each school were sampled, there was too little variance to define a third school level. Observations of students in the same class are interdependent, so observations were clustered (Hox and Roberts 2011). Multilevel SEM allows testing of direct and indirect paths, while taking both the variances between classes and within classes into account (Preacher, Zhang, and Zyphur 2011). All models are fitted in Mplus version 7 using maximum likelihood (ML) estimation. We use listwise deletion for exogenous variables in Mplus to deal with missing values. This yields a final sample of 1,248 students with an immigrant background.

First, a null model with a fixed intercept of positive attitudes towards natives at the class level was fitted. Second, in model 1 a random intercept of positive attitudes towards natives was added at the class level. Given the multilevel structure of students nested in classes, we investigated whether a multilevel component was necessary using the intra-class correlation (ICC). The ICC was calculated to be .120, indicating that around 12 percent of the variance in positive attitudes towards natives is due to variance between classes rather than between individuals. This means that effects on both the class level and students' level are taken into account, using random intercept multilevel mediation in structural equation modelling. Then multilevel mediation in SEM was conducted in order to test the three paths between education level and positive attitudes towards natives.

Results

The full model in which the effect of educational level on positive attitudes towards natives through the three underlying mechanisms is analyzed has a good fit (χ (40) = 591.899, p < .001; CFI 1.000; TLI 1.072; RMSEA 0.000).[1] The standardised results from the multilevel SEM are depicted in Figure 2. The results reveal both the separate effects of the three pathways and the (in)direct effects of relative deprivation, cognitive sophistication and inter-ethnic contact. More details on effects, residual variances, covariances and explained variances are provided in the Appendix (Table A1).

With respect to the first pathway, regarding the mechanism of relative deprivation, classes at higher education levels have a higher share of native students (b = .341; *SE*

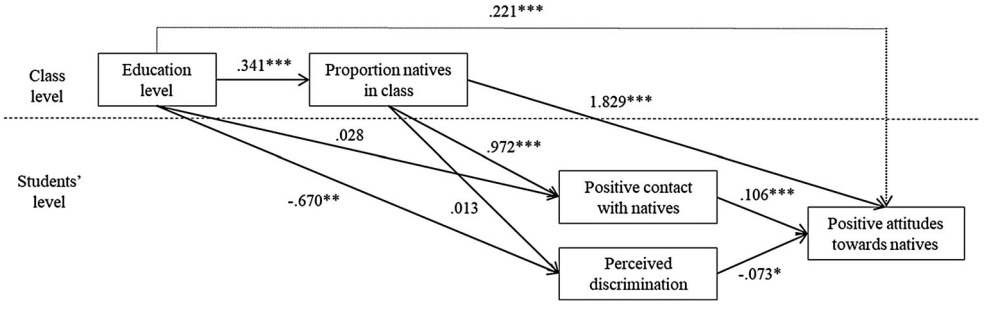

Figure 2. Multilevel structural equation model of education level on positive attitudes towards natives (*N* level 1 = 1,248; *N* level 2 = 211). * p < .05; ** p < .01; *** p < .001.

Note: Estimates are standardised. Class size, gender, parental SES, immigrant generation, and the five immigrant groups Turks, Moroccans, Surinamese, Antilleans and other non-Western immigrants were added as controls.

= .027; $p < .001$). There is no effect found of proportion of natives in class on perceived personal discrimination. However, higher perceived personal discrimination has a significant negative effect on positive attitudes towards natives ($b = -.073$; $SE = .029$; $p = .012$). Although the first and third part of the relative deprivation path were found, the positive effect of proportion of natives in class on perceived discrimination was not found, so hypothesis 1 is not supported.

With respect to the second pathway (cognitive sophistication), a significant negative effect of education level on perceived personal discrimination is found ($b = -.670$; $SE = .226$; $p = .003$), which means that higher educated adolescents perceive less discrimination compared to lower educated adolescents. As stated before, there is a negative effect of higher perceived personal discrimination on positive attitudes towards natives ($b = -.073$; $SE = .029$; $p = .012$). Since the education effect on perceived discrimination is the opposite of what we expected on the basis of the cognitive sophistication argument, hypothesis 2 is not supported.

The results of the third path in the model, built on the contact hypothesis, tested the positive educational effect on attitudes towards natives. As was shown earlier, a higher education level relates to a higher proportion of native students in class ($b = .341$, $p < .001$). Further, the proportion of natives in class has a significant positive effect on positive contact with natives ($b = .972$; $SE = .017$; $p = < .001$). In addition, more positive contact with natives significantly relates to more positive attitudes towards natives ($b = .106$; $SE = .030$; $p < .001$). These results support intergroup contact theory for the case of immigrant adolescents and as such also hypothesis 3.

The control variables class size, gender, parental socioeconomic status and immigrant generation did not affect positive attitudes towards natives. However, all immigrant groups (Turks, Moroccans, Surinamese, Antilleans, and other non-Western) had a less positive attitude towards natives compared to the 'other Western' immigrant group. Girls were found to perceive less personal discrimination than boys ($b = -.178$; $SE = .028$; $p < .001$). Moroccans perceived significantly more discrimination compared with 'other Western' immigrants ($b = .139$; $SE = .035$; $p < .001$). None of the other control variables had a significant effect on perceived discrimination. Parental SES had a positive effect on positive contact with natives ($b = .071$; $SE = .030$; $p = .017$). All immigrant groups (Turks, Moroccans, Surinamese, Antilleans, and other non-Western) had significantly less positive contact with natives compared with 'other Western' immigrants. None of the other control variables had an effect on positive contact with natives.

Indirect effects

In Table 2 the direct, indirect and total effect of education level on positive attitudes towards natives are summarised, each with the proportion of the total effect in the structural equation model. The direct educational effect on positive attitudes towards the native population is positive ($b = .221$; $SE = .028$; $p < .001$).

The first indirect effect from education level via proportion of natives in class, via perceived personal discrimination to positive attitudes towards natives, is not found ($b = -.001$; $SE = .002$; $p = .813$). This shows that higher educated adolescents, who are mostly found in classes with a high share of natives, do not have less positive attitudes towards natives as a result of perceiving more personal discrimination.

Table 2. Overview of direct, indirect and total effect of education level on positive attitudes towards natives and the proportion of each effect (*N* level 1 = 1,248; *N* level 2 = 211).

Education level	*b* (SE)	Proportion
Direct effect	0.221*** (0.028)	39.0%
Indirect effects:[a]		
Education – proportion natives – perceived discrimination – positive attitudes towards natives	−0.001 (0.002)	0.2%
Education – perceived discrimination – positive attitudes towards natives	0.087** (0.026)	15.3%
Education – proportion natives – positive contact with natives – positive attitudes towards natives	0.334* (0.157)	58.9%
Total indirect effect	0.346*** (0.052)	61.0%
Total	0.567*** (0.038)	100.0%

*$p < .05$; **$p < .01$; ***$p < .001$. Estimates are standardised.
[a] Only the indirect effects that represent our three hypotheses are reported.

A second indirect effect from education level to positive attitudes towards natives is found via perceived discrimination, opposite of what we expected ($b = .087$; $SE = .026$; $p = .001$). This reveals that higher educated adolescents do not have less positive attitudes towards natives because they perceive more personal discrimination, instead, they hold more positive attitudes towards natives because they perceive *less* discrimination.

The third indirect effect consists of the effect of education level on positive attitudes towards natives via the proportion of natives in class and consequently positive contact with natives. The standardised results show this indirect effect to be significant and positive ($b = .334$; $SE = .157$; $p = .034$). Thus, it can be concluded that higher educated adolescents have more positive attitudes towards natives, because they are embedded in classes with more native students, which is related to more positive contact with native classmates.

The total indirect effect is significantly positive ($b = .346$; $SE = .052$; $p < .001$). Also, a positive total effect of educational level on positive attitudes towards natives is found ($b = .567$; $SE = .038$; $p < .001$). All in all, these results do not support the notion of an integration paradox among immigrant adolescents, instead showing that higher education fosters more positive attitudes towards natives among immigrant adolescents.

Robustness

There is some conceptual ambiguity about the precise meaning of the term 'integration paradox'. In our study we have focussed on the expectation of negative attitudes toward natives among higher educated immigrants (Ten Teije, Coenders, and Verkuyten 2013; de Vroome, Martinovic, and Verkuyten 2014; Verkuyten 2016). The term has also been used to refer to greater disengagement and dissatisfaction with the host society among the higher educated (de Vroome, Martinovic, and Verkuyten 2014; Verkuyten 2016), lesser acculturation and identification (Tolsma, Lubbers, and Gijsberts 2012), and perceived discrimination and acceptance (Gijsberts and Vervoort 2009; van Doorn, Scheepers, and Dagevos 2013). The Figure 2 results show some robustness across alternative definitions. First, positive contact (friendships) with natives, which we find to be positively predicted by level of education, can be regarded as a reverse proxy for disengagement with

the host society. Second, we find perceived discrimination to be negatively predicted by level of education.

We also investigated to what extent our results depend on how perceived personal discrimination is measured. A model in which a distinction was made between discrimination in school and the remaining items of discrimination in public spaces was fitted. In this way, the effect of a high proportion of natives in class on perceived discrimination in school can be investigated separately. The proportion of natives in class had a significantly positive effect on perceived discrimination in school ($b = .640$; $SE = .325$; $p = .049$), whereas it had no effect on the three remaining items of discrimination. This indicates that immigrant adolescents can feel treated differently in school when they are surrounded by more native peers, which is in line with the mechanism of relative deprivation. In this alternative model, there no longer is a significant effect of educational level on either perceived discrimination in school or the other three discrimination measures. However, because we found perceived discrimination in school to not affect positive attitudes toward natives, in contrast to our earlier results which showed that higher perceived discrimination in the four domains were related to less favourable attitudes toward natives, the overall pathway under this alternative construction still does not produce a significant overall effect of educational level on attitudes towards natives.

Discussion

We fail to replicate the integration paradox among adolescents in the Netherlands. The surprising negative effect of the educational background of adult immigrants and their offspring on attitudes toward natives found in earlier studies stands in stark contrast to the positive effect of educational level found here among immigrant adolescents in the Netherlands. A possible explanation could be that minority students from this age do not feel relatively deprived if it is predominantly a labour market mechanism. Perhaps when still in school, the positive educational effect on interethnic attitudes that is found among natives also applies to minority adolescents. Higher educated natives are often found to have less negative feelings towards ethnic minority groups in comparison with lower educated natives (e.g. Weil 1985; Glaser 2001). This positive education effect among natives is mostly attributed to lower perceived threat from ethnic minorities due to their high socioeconomic position, and to the more tolerant values and knowledge which are taught at higher education (Weil 1985). It is possible that this tolerant perspective higher education encourages also holds for ethnic minority students, opposite of the integration paradox. It could then be that this perspective is altered much later after the students have entered the labour market and experience discrimination and unequal success outcomes. Indeed, some have argued that higher education raises labour market expectations, which may render minorities failing to realise their career dreams relatively more deprived (Entzinger and Dourleijn 2008; Verkuyten 2016, 585).

Our results provide evidence for intergroup contact theory in school classes, showing that having more positive contact with native children is related to more positive attitudes towards natives. As expected, we found that classes at higher educational tracks have a higher share of natives, and that students with an immigrant background in these classes have more positive contact with natives. Scholars and policy-makers have emphasised the disadvantages of ethnically homogenous classes and schools (Merry 2005). Our

study suggests that ethnically mixed classes promote interethnic contact and as a result more positive interethnic attitudes.

Some important limitations of this study must be considered. First, measurement of relative deprivation was restricted to perceived personal discrimination in school and public spaces, whereas relative deprivation also consists of perceiving certain outcomes as unfair, such as jobs or grades. It is thus possible that we failed to fully capture this mechanism with our available measures. Second, perceived discrimination was measured with questions about personal experiences as the data did not contain measures of perceived group discrimination. Experiences with discrimination of the group one belongs to might have a stronger effect. Previous research found group-relative deprivation to be more important for attitudes towards an outgroup than relative deprivation that results from one's personal situation (Smith et al. 2012). Moreover, Ten Teije, Coenders, and Verkuyten (2013) only found that higher educated immigrants perceive more group discrimination, while there was no difference in personal discrimination between education levels. Other research (van Doorn, Scheepers, and Dagevos 2013) showed a stronger effect of perceived group discrimination than perceived personal discrimination in the integration paradox, indicating that the higher educated perceive discrimination of their ethnic group independently of their own experiences. Third, the cross-sectional nature of the study poses the issue of reverse causality. We cannot rule out that outgroup attitudes of immigrant adolescents cause less perceived discrimination and more positive contact with natives. This problem can be tackled by using multiple waves in a longitudinal design to properly investigate bidirectional effects. In addition, using longitudinal data enables to study a possible change in interethnic attitudes over the life course. Unfortunately, we could not effectively use later waves of the present survey due to problems of attrition and sample size.

These limitations notwithstanding, our study clearly shows that the integration paradox repeatedly identified among adult immigrants in the Netherlands cannot at all be found back among immigrant adolescents. Our results suggest that if the integration paradox is a robust phenomenon, then either it is restricted to immigrants who do not grow up in the Netherlands, or the relationship between educational level and attitudes towards natives undergoes a complete reversal among adults.

Note

1. A model is considered good when CFI > .95, TLI > .95 and RMSEA < .05.

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APPENDIX

Table A1. Multilevel structural equation model of education level on positive attitudes towards natives with mediators (*N* level 1 = 1,248; *N* level 2 = 211).

	DV: Proportion of natives in class		DV: Perceived personal discrimination		DV: Positive contact with natives		DV: Positive attitudes towards natives	
	b (SE)	*p*-Value	*b* (SE)	*p*-Value	*b* (SE)	*p*-Value	*b* (SE)	*p*-Value
Intercept	1.560 (.064)	***	22.800 (4.340)	***	.303 (.178)		14.477 (.385)	***
Education	.341 (.027)	***	−.670 (.226)	**	.028 (.039)		.221 (.028)	***
Proportion natives in class			.013 (.053)		.972 (.017)	***	1.829 (.448)	***
Positive contact with natives							.106 (.030)	***
Perceived personal discrimination							−.073 (.029)	*
Controls								
Class size			.055 (.035)		.003 (.037)		.028 (.030)	
Female			−.178 (.028)	***	−.024 (.029)		−.022 (.029)	
Parental SES			.020 (.031)		−.026 (.030)		.045 (.028)	
Second generation			.009 (.029)		.071 (.030)	*	.022 (.029)	
Other Western (ref. category)								
Turks			.065 (.036)		−.210 (.037)	***	−.188 (.036)	***
Moroccans			.139 (.035)	***	−.218 (.036)	***	−.165 (.036)	***
Surinamese			.043 (.034)		−.113 (.034)	**	−.081 (.034)	*
Antilleans			−.004 (.031)		−.133 (.031)	***	−.062 (.031)	*
Other non-Western			.042 (.037)		−.115 (.037)	**	−.090 (.037)	*
	Level 1	*Level 2*	*Level 1*	*Level 2*	*Level 1*	*Level 2*	*Level 1*	*Level 2*
Residual variance	.000	.884*** (.018)	.950*** (.012)	.557* (.283)	.953*** (.012)	.036 (.021)	.944*** (.013)	.000 (.003)
Explained variance	.000	.116*** (.018)	.050*** (.012)	.443 (.283)	.047*** (.012)	.964*** (.021)	.056*** (.013)	1.00*** (.003)

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

Note: Estimates are standardised. The model also includes the covariance between perceived discrimination and positive contact with natives at the individual level ($b = -.072$; $SE = .030$; $p = .016$).