

Immigrant youth acculturation and perceived discrimination: Longitudinal mediation by immigrant peers' acceptance/rejection

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ABSTRACT

This study examined, first, the longitudinal interplay between immigrant youth's acculturation into the host and ethnic cultures and perceived ethnic discrimination, and, second, whether acceptance and rejection by immigrant and non-immigrant peers longitudinally mediated the link between acculturation and discrimination. 1057 students nested in 49 Greek middle-school classrooms took part in the study (Wave 1; age $M = 12.7$ years). 532 immigrants provided the acculturation and discrimination data. Together with their 525 Greek classmates, they also provided peer nomination data. Immigrant youth's higher acculturation into the host culture predicted over time decreases in perceived ethnic discrimination. Furthermore, this link was longitudinally mediated by acceptance by Greek peers. The reverse path from perceived ethnic discrimination to acculturation into the Greek culture was not significant. The results suggest that to promote immigrant youth positive adaptation, interventions need to support their acculturation and intergroup contact.

1. Introduction

Most societies around the world have become ethnically diverse through historically unprecedented and rapid surges of migration. In 2015, there were >240 million international immigrants, approximating 3.3% of the world's population (United Nations, 2016). The children of these immigrants are expected to become, over the next years, irreplaceable forces in the economies of the receiving societies (Hernandez, 2012). Their positive integration is crucial for the prosperity and social cohesion of host countries.

Immigrant youth, like all youth, face normative developmental challenges, but, to a larger extent than their non-immigrant peers, they also face acculturative challenges, as they are exposed to at least two cultures and need to learn how to navigate between them (Motti-Stefanidi, Berry, Chrysoschoou, Sam, & Phinney, 2012; Motti-Stefanidi & Masten, 2017; Suárez-Orozco, Abo-Zena, & Marks, 2015; Suárez-Orozco, Motti-Stefanidi, Marks, & Katsiaficas, in press). However, their development and acculturation often take place in a context replete with prejudice and discrimination, which can have deleterious consequences for their current and long-term adaptation and mental health (Marks, Ejesi, McCullough, & García Coll, 2015).

The purpose of this study is twofold. The first goal is to examine the longitudinal interplay between immigrant youth's acculturation into the host and ethnic cultures and their perceptions of being discriminated against because of their ethnicity. The second goal is to examine whether non-immigrant and immigrant peers' acceptance and/or rejection explain the longitudinal link between immigrants' acculturation into host and ethnic cultures and perceived ethnic discrimination. Two questions, that are related to the second goal, were tested. First, does immigrant youth's acculturation into host and ethnic cultures predict changes in acceptance and/or rejection by non-immigrant and/or immigrant peers a year later, and does acceptance and/or rejection by their peers in turn predict changes in perceived discrimination a year later? Second, does perceived discrimination predict changes in acceptance and/or rejection by non-immigrant and/or immigrant peers a year later, and does acceptance and/or rejection by their peers in turn predict changes in immigrants' acculturation into host and/or ethnic cultures a year later?

The paper is based on data from a larger longitudinal investigation, the Athena Studies of Resilient Adaptation (AStrA) project, conducted in Greece. Data were collected from schools in socially disadvantaged neighborhoods of Athens with a high proportion of immigrants. The

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project included Greek and immigrant students nested in the same classrooms. It should be noted that immigrant youth refer in this paper to youth who either migrated themselves (first generation) or who were born in the host country to immigrant parents (second generation).

The AStRA project was framed within a risk and resilience developmental perspective (Motti-Stefanidi et al., 2012; Motti-Stefanidi & Masten, 2017; Suárez-Orozco et al., *in press*). Risks, resources, and adaptation with respect to core developmental and acculturative tasks were assessed. The present paper focuses on discrimination as a potential risk factor for immigrant youth acculturation (Berry & Sam, 2016; Suárez-Orozco & Suárez-Orozco, 2001). Two important distinctions have been drawn in the social psychological literature regarding discrimination. One concerns the distinction between perceived and actual discrimination (Taylor, Ruggiero, & Louis, 1996), and the other the distinction between perceived discrimination against one's ethnic group and perceived discrimination against the self (Bourguignon, Seron, Yzerbyt, & Herman, 2006). In what concerns the latter distinction, a phenomenon called the personal/group discrimination discrepancy has been described, whereby members of minorities tend to perceive higher levels of discrimination addressed at their group than at themselves (Taylor et al., 1996). This paper focuses on perceived ethnic discrimination against the self, also called henceforth discrimination. In addition, two indices of positive adaptation with respect to acculturative tasks, both reflecting immigrant youth's quality of acculturation, are included. These are: (a) being accepted by both Greek and ethnic peers (Suárez-Orozco et al., *in press*) and (b) being involved with ethnic and host cultures (Berry & Sam, 2016).

This study contributes to the extant literature in at least two important ways. First, data were based on repeated measures, collected in three waves, once every year of middle school. This design allows to test the direction of effects between acculturation into host and ethnic cultures and discrimination controlling for indirect effects, as well as the potential longitudinal mediation of this link by non-immigrant peers' acceptance and/or rejection of immigrant youth. Second, information on peer acceptance and rejection, which is treated as potential mediator in this study, was based on peer sociometric data collected repeatedly during the three waves in immigrant students' classrooms. This design reveals to a large extent non-immigrant youth's acculturation expectations and provides clues to the opportunities and limits of the intergroup context in which immigrant youth are expected to develop and acculturate. To the best of our knowledge there is no other published study, at least based on data collected in a non-US context, that examines the longitudinal interplay between acculturation into host and ethnic cultures and perceived ethnic discrimination, and the potential mediating role of immigrant and non-immigrant peers' acceptance and rejection using longitudinal data with repeated measures collected from multiple informants.

Participants were middle school early adolescents. Peer relations play a central role during this developmental period (Rubin, Bukowski, & Bowker, 2015). For immigrant youth, positive relations with peers are both a developmental and an acculturative task. Immigrant adolescents, like all adolescents, need to be liked and accepted by their peers, independently of the ethnicity of these peers (Rubin et al., 2015), but they also need to navigate successfully between intra- and inter-ethnic peers (Motti-Stefanidi & Masten, 2017; Suárez-Orozco et al., *in press*). How well they do with respect to peer relations has far-reaching consequences for their long-term development, mental health (Rubin et al., 2015) acculturation (Motti-Stefanidi & Masten, 2017; Suárez-Orozco et al., *in press*), as well as for the development of their personal, ethnic and national identities (Motti-Stefanidi, 2015; Umaña-Taylor et al., 2014).

1.1. The link between acculturation and ethnic discrimination

The first goal of the study was to examine the longitudinal interplay between acculturation and discrimination. We tested whether (a)

perceived ethnic discrimination predicts over time changes in acculturation into the host and ethnic cultures, (b) acculturation into host and ethnic cultures predicts over time changes in perceived ethnic discrimination, or (c) whether both directions hold. Framed from a resilience perspective, ethnic discrimination is considered a potential risk factor for immigrant youth host acculturation, but a potential resource for their ethnic acculturation. This argument is in line with Arends-Toth and van de Vijver's conceptual model of acculturation (2006) and is supported by the acculturation literature. Higher perceived ethnic discrimination predicts acculturation into the ethnic culture, and lower acculturation into the host culture (Berry, Phinney, Sam, & Vedder, 2006; Juang & Cookston, 2009; Te Lindert, Korzilius, van de Vijver, Kroon, & Arends-Tóth, 2008). However, the opposite direction suggesting that adolescents who are more, compared to those who are less, acculturated into the host culture will experience less discrimination has also found significant empirical support (e.g., Jasinskaja-Lahti, Liebkind, Horenczyk, & Schmitz, 2003).

Most of these studies are cross-sectional. Even though they treat discrimination as a predictor of acculturation, mostly based on conceptually driven grounds, the opposite direction of effects, from acculturation to discrimination, cannot be ruled out. On the other hand, most of the studies that are longitudinal test discrimination and acculturation at different waves but do not control for cross-lagged effects. Thus, the direction of effects cannot be disentangled. The present study attempts to bridge this gap and examines the longitudinal interplay of discrimination and acculturation using data based on repeated measures collected over three waves.

We expect both directions to be significant. First, we expect higher perceived ethnic discrimination among immigrant youth to predict over time decreases in host, and increases in ethnic, acculturation. According to the rejection-identification model (RIM; Branscombe, Schmitt, & Harvey, 1999), perceived discrimination, which has a strong negative impact on the well-being and health of immigrants, discourages them from identifying with the host society and may result in a tendency to disengage from it. In contrast, they increasingly identify with their ethnic in-group and seek support from its members, which provides them with a sense of belonging and counters the negative impact of discrimination.

Second, we also expect (a) higher acculturation into the host culture to predict over time decreases in perceived ethnic discrimination and (b) higher acculturation into the ethnic culture to predict increases in perceived ethnic discrimination. In this case, two possibilities exist. One is that youth higher in host acculturation do not actually "experience" less discrimination than their counterparts who are lower in host acculturation, but instead "perceive" less discrimination. A similar argument can be advanced for youth higher in ethnic acculturation; they may not "experience" more, but they may "perceive" more, discrimination. This possibility reflects on immigrant youth's attitudes towards acculturation and discrimination. In line with the theory of cognitive dissonance (Festinger, 1957), it is reasonable to expect that pre-existing acculturation orientations might regulate perceptions of discrimination accordingly because of immigrant youth's motivation to avoid inconsistent information. In addition, it has been shown that individual differences partially contribute to who will actually translate perceived discrimination against one's ethnic group into perceived discrimination against the self (Motti-Stefanidi & Asendorpf, 2012). It is then plausible that individuals high in host acculturation, in contrast to individuals low in host acculturation, may actually not perceive themselves as targets of discrimination even though they perceive their ethnic group to be. Both higher host acculturation and lower perceived discrimination against the self may play a self-protective role.

The other possibility is that (a) youth higher in host acculturation actually experience less ethnic discrimination, and (b) youth higher in ethnic acculturation actually experience more ethnic discrimination. This possibility may be linked to native youth's intergroup attitudes. According to developmental intergroup theory (DIT; Bigler & Liben,

2007), young people tend to categorize individuals into social groups. This is to a significant degree a process of social influence. When societies label, treat, or sort groups differently, they send the signal to young people that group membership is meaningful and important, which may result in preferential bias towards the in-group and in intergroup prejudice and discrimination. One way to categorize immigrant youth into groups may be based on the degree to which they have acculturated into the host culture. In societies that prefer immigrants to assimilate into the host culture, youth higher in host, and lower in ethnic, acculturation may actually experience less discrimination compared to youth lower in host acculturation and higher in ethnic acculturation. In this line, [Berry and Sabatier \(2010\)](#) found that in Paris, where non-immigrants are less tolerant of cultural diversity, acculturation into ethnic cultures is linked to higher perceptions of discrimination, whereas in Montreal, where diversity is celebrated, these variables are not related.

1.2. The potentially mediating role of acceptance/rejection by immigrants' peers

The second goal of the study was to examine whether acceptance and/or rejection of immigrant youth by Greek and immigrant peers explain the longitudinal link between immigrant youth acculturation into host and ethnic cultures and perceived ethnic discrimination. On the one hand, the construct of rejection sensitivity (RS; [London, Downey, & Bonica, 2007](#)), which refers to the tendency of some young people to defensively expect, readily perceive, and overreact to rejection, could explain why higher perceived ethnic discrimination is expected to predict over time decreases in acceptance by Greek peers. RS can result in a self-fulfilling prophecy whereby expecting rejection (here in the form of ethnic discrimination) may lead youth to engage in defensive behaviors (e.g., aggression against, or withdrawal from the source of rejection), which may increase the likelihood of actually being rejected (or not being accepted). On the other hand, the developmental pressure during adolescence to conform to group norms in order to fit in and be accepted by peers ([Rubin et al., 2015](#)), could explain the expected link between acculturation into Greek culture and acceptance by Greeks.

1.3. The context of the study and the immigrant groups

Greece has generally negative attitudes towards the presence of immigrants. According to a [OECD \(2016\)](#) report, 60% of Greek citizens indicate that they view immigrants unfavourably and more than two-thirds of the Greek population believes that immigrants do not contribute to the country's collective wellbeing. According to a joint [OECD \(2015\)](#) and EU report, 35% immigrants report feeling discriminated against, which ranks Greece first in terms of immigrants' perceived discrimination. Furthermore, the acculturation expectations of Greeks are that immigrants assimilate into the Greek culture, even though this expectation is limited to Greek education, competence in the Greek language and contribution to the economy, leaving out private-domain cultural elements ([Sapountzis, 2013](#)).

A large majority of immigrants have come to Greece from Albania and the former Soviet Union, the latter particularly from the Greek diaspora. These are the two largest immigrant groups in the country. The immigrants of the diaspora are called Pontian-Greeks. They retained their Greek culture for many centuries, but never lived in Greece before migrating. Their language, which is a dialect rooted in Ancient Greek, is incomprehensible to modern Greeks. Although the Greek government accorded them full citizenship status, native Greeks refer to Pontian-Greeks as the "Russians" and do not view them as "real Greeks". In contrast, immigrants from Albania, who at first entered the country as undocumented economic immigrants, were considered guest workers. The remaining immigrants came mostly from other Eastern European countries such as Bulgaria, Romania, or former states of the

Soviet Union such as Russia or Moldavia.

These immigrant groups experienced significant discrimination at the time of the study, although as [Triandafyllidou \(2000\)](#) has argued there is a hierarchy of "Greekness," which creates multiple levels of inclusion-exclusion: native Greeks have priority, Pontian-Greeks are next, and ethnic Albanians are last. Thus, Pontian-Greeks experienced less discrimination compared to other immigrants ([Motti-Stefanidi & Asendorpf, 2012](#)).

Even though Pontian-Greek immigrants and immigrants from Albania and other countries differ in numerous ways, they also share a number of commonalities ([Pavlopoulos & Motti-Stefanidi, 2017](#)). First, in all cases either they or their parents were not born in Greece; that is, all are immigrant groups facing the challenges of acculturation and the need to learn how to navigate between at least two cultures. Second, they all came from countries with unstable and poor economic situations, to a country relatively more affluent. As a result, their new situation is perceived as a vast improvement. Third, they all have to face similar economic and social difficulties in their adaptation to the same host country.

1.4. Hypotheses

Taking into account the conceptual arguments previously presented and the review of the extant literature, the following hypotheses were formulated:

Hypothesis 1. It is expected that higher perceived ethnic discrimination will predict over time decreases in host, and increases in ethnic, acculturation. It is also expected that host and ethnic acculturation will predict over time changes in perceived discrimination, such that higher host acculturation will predict decreases in perceived ethnic discrimination and higher ethnic acculturation will predict increases in perceived discrimination.

Hypothesis 2. Acceptance by Greek peers will longitudinally mediate the link between immigrants' acculturation into the host and ethnic cultures and perceived ethnic discrimination. More precisely, it is expected that immigrants' higher acculturation into the Greek culture will predict higher acceptance by Greek peers a year later, which in turn will predict lower perceived discrimination the next year. The opposite trend is expected with regard to acculturation into the ethnic culture.

Previous results based on the same data provide some initial support to these hypotheses. [Asendorpf and Motti-Stefanidi \(2017\)](#) found from cross-lagged analyses that immigrant youth's higher acculturation into the Greek culture predicted over time increases in acceptance by Greek peers, and that higher acculturation into the ethnic culture led to increases in rejection by their Greek peers. The other direction was not significant; acceptance or rejection of immigrant students by their Greek classmates did not predict change in their acculturation orientation. Moreover, [Reitz, Asendorpf and Motti-Stefanidi \(2015\)](#) found from cross-lagged analyses that higher preference (acceptance minus rejection scores) by Greek peers, but not by immigrant peers, predicted over time decreases in immigrant youth's perceived discrimination. The opposite direction was not significant. Thus, perceived discrimination was a consequence and not an antecedent of peer preference.

It is not clear whether rejection by Greek peers will mediate longitudinally the relation between acculturation and discrimination. [Asendorpf and Motti-Stefanidi \(2017\)](#) found that immigrants' initial disadvantage in the first year of middle school in terms of being more rejected than Greeks completely disappeared over time. Thus, acceptance and rejection, which reflects outright outgroup derogation by non-immigrant classmates may have a different meaning. This difference makes unclear whether and how rejection will function as a mediator between acculturation and discrimination. The analyses regarding the potential mediating role of other immigrant peers is also exploratory.

2. Method

2.1. Sample

The study included students attending 12 schools in Athens, Greece, that had high proportions of immigrant students. Permission to study the students in these schools was granted by the Greek Ministry of Education. A total of 1057 students who attended 49 secondary-school grade 1 classes took part in the study (Wave 1; age $M = 12.7$ years, $SD = 0.65$; 53% male). Of these students, 532 were immigrants (316 first generation, 216 second generation); first-generation immigrants had spent in Wave 1 65% (range 13%–99%) of their lifetime in Greece.

Depending on the school neighborhood, the immigrant students were predominantly of Albanian origin (271 students) or Pontian-Greeks stemming from the Greek diaspora in the former Soviet Union (167 students); the other 94 immigrants originated from six different countries including Romania, Bulgaria, and Pakistan. Because of the small numbers per country, the other immigrant students were considered a third ethnic category “Others”. Albanians in schools with predominantly immigrant students from Albania and Pontian-Greeks in schools with predominantly Pontian-Greek students were a clear majority among the immigrants (78%). Albanians were mainly first-generation immigrants (82%) whereas Pontian-Greeks (35% first generation) and other immigrants (41% first generation) were mainly second-generation immigrants. Because nearly all immigrant families from Europe had moved from Eastern Europe to Greece after the breakdown of the former Soviet Union in 1986, there were no third-generation immigrants among them.

The cohort was assessed annually for three school years. Retention was 75% from Wave 1 to Wave 2 ($N = 785$) and 80% from Wave 2 to Wave 3 ($N = 627$), resulting in an overall retention rate of 59% from Wave 1 to 3. The loss of 41% of the original cohort over the course of the study required a systematic correction of attrition effects.

2.2. Measures

In all waves, all immigrant students completed measures of acculturation and discrimination, and all students (immigrants and Greeks) participated in the sociometric nomination procedure. All questionnaires to be answered by the immigrant students were translated from Greek into Albanian and Russian, and were then back-translated into Greek by four bilingual speakers. Immigrant students could choose the language in which they preferred to respond to the questionnaires. The vast majority (over 90%) of the immigrant students chose to respond to the questionnaires presented in the Greek language.

2.2.1. Acculturation

Acculturation into host and ethnic cultures was measured using two separate indices, from [Nguyen and von Eye's \(2002\)](#) bi-dimensional measure. We assessed in all waves among the immigrant students both the level of involvement with the Greek culture and the level of involvement with their ethnic culture (same procedure as used by [Asendorpf & Motti-Stefanidi, 2017](#), and [Reitz, Asendorpf, & Motti-Stefanidi, 2015](#)). Each subscale consists of 11 identical statements regarding participants' attitudes, behaviors, and values in three life-domains: everyday lifestyles (food, music, language, e.g., “How often do you listen to Greek [own ethnic] music?”), group interactions (friends, peers, events, e.g., “Most of my closest friends are Greeks [from my own ethnic group]”), and global involvement (e.g., “As far as behaviors and values, I am a Greek [respective ethnicity]”).

Respondents were asked to rate the items on a 5-point Likert-type scale, ranging from *never* to *always*. In order to evaluate the discriminant validity of the two subscales, principal component analysis was used, followed by varimax rotation. This analysis was an exploratory factor analysis. According to the Scree test, a clear two-factor structure resulted (49% of variance explained, all cross-loadings below

0.15): *Host involvement* (11 items), and *Ethnic involvement* (11 items). The items of each factor were averaged to form a composite score for each subscale. Internal consistencies were excellent; for host involvement, Cronbach's alphas were 0.89, 0.88, 0.90 for T1, T2, and T3, respectively; for ethnic involvement, they were 0.90, 0.89, 0.90.

2.2.2. Peer nominations

In each wave, all students in each classroom (532 immigrants and their 525 Greek classmates) were asked to write down the names of up to three classmates that they liked most and three classmates they liked least. These nominations were classified according to the nominating classmate (immigrant or Greek). From these scores we computed for each student (a) the percentage of all nominating Greek classmates that liked him or her most (*Acceptance by Greek*), (b) the percentage of all nominating immigrant classmates that liked him or her most (*Acceptance by immigrants*), (c) the percentage of all nominating Greek classmates that liked him or her least (*Rejection by Greeks*), (d) the percentage of all nominating immigrant classmates that liked him or her least (*Rejection by immigrants*). These four scores can range from 0% to 100%. They are measures of peer acceptance and peer rejection that control for the opportunity of being nominated (e.g., the opportunity to be nominated by a Greek classmate is higher in classrooms with many Greek classmates than in classrooms with fewer Greek classmates).³

2.2.3. Discrimination

Discrimination was assessed with a 4-item scale based on [Phinney, Madden, and Santos \(1998\)](#) and [Verkuyten \(1998\)](#). Immigrant adolescents were asked to indicate the frequency to which they personally feel discriminated against due to their ethnic background on a scale ranging from 1 (almost never) to 5 (very often). Items were “How often do you feel that (a) you are treated unfairly or negatively because of your ethnic background by 1) your classmates, 2) in school, generally, 3) in your neighborhood?”, and (b) Greeks reject you. Cronbach's alphas were 0.85, 0.85, and 0.88 for T1, T2, and T3, respectively.

2.3. Statistical analyses

2.3.1. Missing data

Potentially biased results due to missing data including systematic attrition over the course of the study were controlled using Full Information Maximum Likelihood (FIML) estimation of all effects.

2.3.2. Cross-lagged analyses

Hypothesis 1 and other influences between acculturation and discrimination were tested with three-wave cross-lagged panel analyses where bi-directional influences between one measure of acculturation (e.g., involvement in the Greek culture) and personal discrimination were studied. Following recommendations by [Selig and Little \(2012\)](#), we used a latent variable approach that controls for the unreliability of the measures of acculturation. We tested for equal factor loadings and paths across time in an attempt to reduce their unreliability by setting them equal across time (see [Asendorpf & Motti-Stefanidi, 2017](#), and [Reitz et al., 2015](#), for the same approach).

For both acculturation measures, two item parcels were constructed using the item-to-construct balance parceling technique ([Little, Cunningham, Shahar, & Widaman, 2002](#)). These parcels correlated above 0.71 for each wave of the study. The discrimination measure consisted of only four items, and the acceptance/rejection measure of only one item, such that they were implemented as manifest variables. In addition to the lag1 auto-regressions of each variable we included the lag2 auto-regressions from Wave 1 to Wave 3 because they were

³ In line with [Asendorpf and Motti-Stefanidi \(2017\)](#) we did not reduce the complexity of the results by analyzing preference scores (positive-negative) because often the results for positive nominations were not a mirror image of the results for negative nominations.

sometimes significant. The Wave 1 variables and the residuals of the variables in Wave 2 and Wave 3 were allowed to correlate in order to capture their covariance within each wave. The measurement errors of the parcels were allowed to correlate across waves in order to capture parcel-specific stabilities. All model comparisons were based on Full Information Maximum Likelihood (FIML) estimation in order to control for missing values, particularly systematic attrition (missing at random; Little, 1995). Regression coefficients were tested for significance using robust standard errors (MLR estimation) in order to decrease bias due to non-normal distributions. The standardized regression coefficients served as measures of effect size. All analyses were run using MPlus7 (Muthén & Muthén, 1998–2012) (see Asendorpf & Motti-Stefanidi, 2017, and Reitz et al., 2015, for the same methodological decisions).⁴

2.3.3. Longitudinal mediations

Hypothesis 2 was tested using multiple longitudinal mediation models following the recommendations by Cole and Maxwell (2003) and Preacher and Hayes (2008). The cross-lagged models described in the preceding section were expanded by using peer acceptance and peer rejection (either by Greeks or by immigrants) as correlated simultaneous mediators between acculturation and discrimination. Invariance of the factor loadings and paths across time and the control for ethnicity were dealt with as in the simple cross-lagged analyses.

The total indirect effect from acculturation to discrimination through both mediators as well as the specific indirect effects through each mediator were estimated using the MPlus option INDIRECT. The product of the two standardized cross-lagged effects involved in each mediation is a useful measure of effect size (MacKinnon, Fairchild, & Fritz, 2007). The remaining direct cross-lagged paths between Wave 1 and Wave 3 assess effects of unmeasured “hidden” mediators. Following recommendations in the recent literature on mediation, we do not interpret the significance of these direct paths in terms of full versus partial mediation because of the low statistical power of the significance tests (Rucker, Preacher, Tormala, & Petty, 2011).

2.3.4. Group differences

Differences between the three ethnic groups (Albanians, Pontian-Greeks, and Others) and between first-generation and second-generation immigrants were studied in two different ways. First, the extent to which the cross-lagged and mediation effects replicated across the three ethnic groups, or the two immigrant generations, was studied using multi-group structural equation modeling.⁵ Second, the cross-lagged and mediation effects might be biased by group differences in the means of the variables (see e.g., McArdle & Nesselroade, 2014). Therefore, we controlled for differences between the three ethnic groups with two dummy variables for group membership.⁶

3. Results

3.1. Description of the variables

The means, standard deviations, intercorrelations in Wave 1, and the stabilities of the variables are presented in Table 1.⁷ Table 1 indicates that initially host involvement correlated positively with

acceptance by Greeks, and negatively with rejection by Greeks and discrimination. Ethnic involvement correlated positively with acceptance by immigrants and rejection by Greeks but was unrelated to discrimination. Discrimination was negatively related to acceptance by Greeks and immigrants and positively to rejection by Greeks. The stability of the acculturation measures tended to be higher than the stabilities of peer acceptance/rejection and discrimination.

3.2. Acculturation-discrimination transactions

Two cross-lagged models were run, one for host involvement and one for ethnic involvement. Stationarity was tested by comparing a baseline model with unrestricted factor loadings and regressions with a stationary model with all factor loadings and regressions constrained to be equal over time. In both cases, the stationary model did not fit the data worse than the baseline model, $\Delta\chi^2(8) < 9.39$, $p > 0.31$. Therefore, the stationary models were retained as final models. The model fit and the cross-lagged effects for the two stationary models are reported in Table 2 (also see Fig. 1).⁸

The model fit was acceptable in both cases. As expected by Hypothesis 1, host involvement negatively predicted discrimination. Unexpectedly, (a) the reverse effect from discrimination to host involvement was not significant and (b) no significant effects were found for ethnic involvement. Thus, Hypothesis 1 was confirmed only for host involvement.

Inspection of the relations of the two covariates with acculturation and discrimination showed that, compared to Albanians and Others, Pontian-Greeks reported lower discrimination, and lower host involvement and higher ethnic involvement in Wave 1 (in all cases, $p < 0.001$), and additional lower discrimination in Waves 2 and 3 (in both cases, $p < 0.01$). Other immigrants showed a similar pattern although the relations were weaker and not always significant. Thus, the negative relation between host involvement and discrimination was confounded with a positive relation specific to Pontian Greeks. This finding highlights the importance of controlling all analyses for ethnicity.

Multi-group analyses compared an unconstrained model with group-specific parameters with a constrained model where the cross-lagged effects were constrained to be equal for all groups, using the χ^2 difference test. The constrained model for host acculturation did not fit worse than the unconstrained model, both for ethnic differences, $\Delta\chi^2(4) = 7.92$, $p = 0.095$, and for differences in immigrant generation, $\Delta\chi^2(2) = 0.17$, $p = 0.919$. For ethnic acculturation, the constrained model also did not fit worse, both for ethnic differences, $\Delta\chi^2(4) = 5.87$, $p = 0.209$, and for differences in immigrant generation, $\Delta\chi^2(2) = 1.16$, $p = 0.560$. Thus, the cross-lagged effects were not moderated by ethnicity or immigrant generation.

3.3. Longitudinal mediations

A total of $2(\text{host vs. ethnic involvement}) \times 2(\text{Greek vs. immigrant nominators}) = 4$ multiple longitudinal mediation models were run. In each model, acceptance and rejection served as two correlated mediators such that both the total mediation effect and the specific mediation effects for acceptance and rejection were studied in the same model (see Table 3 and Fig. 2 for the model testing Hypothesis 2). Stationarity was again tested by comparing an unrestricted model with unrestricted factor loadings and regressions with a stationary model with all factor loadings and regressions constrained to be equal over time. In each case, the stationary model did not fit the data worse than the baseline model, $\Delta\chi^2(14) < 19.67$, $p > 0.14$. Therefore, the stationary models were retained as final models. The model fit, the cross-lagged effects,

⁴ We also controlled for the nesting of students in classrooms that can bias significances (but not effect sizes) by using the MPlus option TYPE = COMPLEX. The results were virtually identical. Because these additional controls led to questionable estimates due to too many parameters, we report here the results for ordinary SEMs.

⁵ Separate analyses for each group are not useful because of the relatively small group sizes for Pontian-Greeks and Others.

⁶ Because the ethnic groups differed also in terms of immigrant generation, adding a dummy variable for immigrant generation results in collinearity problems. Therefore, we report here the results for controlling for ethnic differences. Controlling for immigrant generation yielded virtually identical results.

⁷ The remaining descriptive data are not reported due to space limitations; they can be obtained from the authors.

⁸ The standardized paths of identical unstandardized paths in a stationary model can vary depending on the SDs of the involved variables; we report the mean of the standardized paths for auto-regressions and cross-lagged effects.

Table 1

Means, standard deviations, intercorrelations in wave 1, and stabilities of the main variables.

					Intercorrelations in Wave 1						Stabilities		
Variable (score range)		<i>n</i>	<i>M</i>	<i>SD</i>	EI	PG	PI	NG	NI	PD	T12	T23	T13
Host involvement (1–5)	HI	436	3.78	0.86	−0.28	0.09	−0.04	−0.16	−0.08	−0.16	0.70	0.62	0.53
Ethnic involvement (1–5)	EI	453	3.36	0.96		0.03	0.11	0.11	0.04	0.03	0.59	0.61	0.57
% positive from Greeks	PG	508	10.43	12.77			0.05	−0.22	−0.08	−0.10	0.33	0.45	0.31
% positive from immigrants	PI	524	17.19	17.67				−0.09	−0.18	−0.11	0.36	0.43	0.34
% negative from Greeks	NG	508	15.39	1.95					0.43	0.13	0.41	0.21	0.33
% negative from immigrants	NI	524	14.22	16.96						0.13	0.35	0.34	0.21
Discrimination (1–5)	PD	425	1.74	0.96							0.29	0.36	0.22

Note. Intercorrelations and stabilities are Pearson correlations. Correlations in italics are not significant ($p > 0.05$, two-tailed).**Table 2**

Transactions between acculturation and discrimination: cross-lagged effects and model fit.

Involvement I	Discrimination D						
	Effects						Model fit
	I → D		D → I		RMSEA[90%CI]	CFI	
	β	p	β	p			
Host	−0.090	0.031	−0.054	0.182	0.047 [0.030, 0.063]	0.979	
Ethnic	0.021	0.672	0.010	0.824	0.061 [0.046, 0.077]	0.952	

Note. $N = 532$. The β s are standardized regression coefficients in stationary cross-lagged models with robust standard errors (MLR estimation); significances (two-tailed) refer to the unstandardized solution. The expected cross-lagged effect according to Hypothesis 1 is marked bold.

where all cross-lagged effects were constrained to be equal across groups. It should be noted that these are much more complex models than the already complex longitudinal mediation model because the parameters additionally vary between groups. For immigrant generation, the constrained model did not fit worse than the unconstrained model in all four cases, $\Delta\chi^2(8) < 13.64$, $p > 0.091$. Thus, immigrant generation did not moderate the mediation effects.

For ethnic differences, estimation problems occurred in all four cases. For ethnic involvement, the parameter estimations failed to converge altogether, and for host involvement the estimation of missing data failed to converge. These problems can be attributed to the fact that the number of Pontian-Greeks and Others were relatively small such that the number of parameters to be estimated was larger than the number of group members (this was not the case for the two immigrant generation groups). Larger ethnic groups are required for such an analysis.

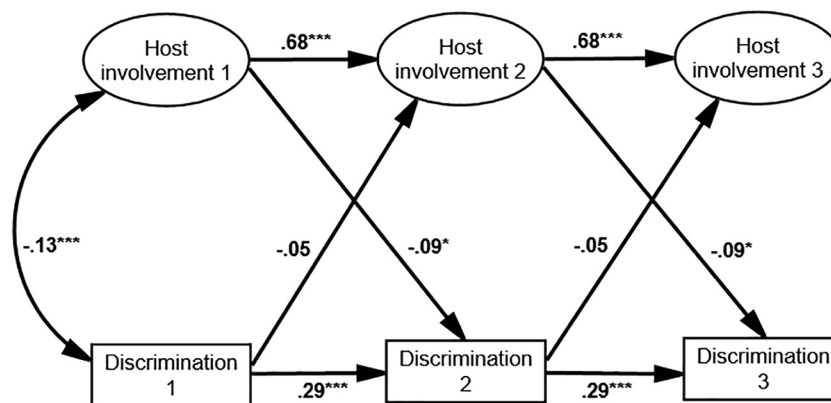


Fig. 1. SEM for testing Hypothesis 1. Covariates, manifest indicators of involvement, stabilities from Wave 1 to Wave 3, and correlations between measurement-specific errors across waves and between residuals within waves are not shown.

the total and specific moderation effects, and the remaining paths for the four stationary models are reported in Table 3.

The model fit was acceptable in all cases. As expected by Hypothesis 2, host involvement predicted acceptance by Greek classmates, which in turn negatively predicted discrimination (the latter effect occurs twice because it was also included in the model for ethnic involvement). Of the 29 remaining cross-lagged effects, only the path from ethnic involvement to rejection by Greeks was significant (see also Asendorpf & Motti-Stefanidi, 2017). As expected by Hypothesis 2, acceptance by Greek classmates mediated the effect of host involvement on discrimination such that the total effect of the two mediators was also significant. The other 7 total and 15 specific mediation effects were non-significant.

Group differences in the effects were studied again using multi-group analysis that compared an unconstrained model with a model

4. Discussion

The purpose of this study was to examine, first, the longitudinal interplay between, on the one hand, immigrant youth's acculturation into the ethnic and Greek cultures and, on the other, their perceptions of being discriminated against because of their ethnicity, and, second, whether acceptance and rejection by their immigrant and non-immigrant classmates mediated the relation between their acculturation into ethnic and Greek cultures and perceived ethnic discrimination. Key findings are: (a) immigrant youth's higher acculturation into the Greek culture predicted over time decreases in perceived discrimination; (b) immigrant youth's higher acculturation into the Greek culture in the first wave predicted in the second wave increases in acceptance by Greek peers, which in turn predicted in the third wave decreases in immigrant youth's perceived discrimination; (c) interestingly, and

Table 3
Longitudinal mediation between acculturation and discrimination through peer acceptance/rejection.

Involvement	Mediators	Involvement I to discrimination D						Discrimination D to involvement I						Model fit																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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Note. N = 532. M is mediator. The βs are standardized effects in stationary cross-lagged models with robust standard errors (MLR estimation); significances (two-tailed) refer to the unstandardized solution. The expected cross-lagged effects according to Hypothesis 2 are marked bold.

^a Mediation effect.

^b Remaining path after controlling for mediation.

against expectations, higher acculturation into the ethnic culture did not predict over time increases in perceived discrimination, in spite of the fact that it did predict higher rejection by Greek peers; (d) also against expectations, higher perceived ethnic discrimination did not predict over time changes in immigrant youth's acculturation into host and ethnic cultures, and (e) immigrant peers' acceptance and rejection did not mediate the link between acculturation into host and Greek cultures and perceived ethnic discrimination.

The design of the study, which includes multiple methods and informants, taps to a large extent Greek youth's acculturation expectations and provides clues as to the opportunities and limits of the intergroup context in which immigrant youth are expected to develop and acculturate. Who among immigrant youth is more accepted by Greek peers seems to be intricately linked to whether immigrants have adopted the Greek culture, and is consequential for their perceptions of being (or not being) discriminated against because of their ethnicity.

4.1. Acculturation into the Greek culture protects youth from perceived discrimination

The first hypothesis was partially confirmed. As expected, immigrant youth reporting higher acculturation into the Greek culture also reported over time decreases in perceived ethnic discrimination. This finding held for both time windows, for first and second-generation immigrant youth and for all ethnic groups.

Without an objective measure of discrimination, it is difficult to ascertain whether immigrant youth higher in acculturation into the Greek culture actually experience, or just perceive, less ethnic discrimination. It is plausible that immigrant youth perceive less discrimination in an effort to address the cognitive dissonance between their choice to acculturate into the Greek culture and their intergroup experiences (Festinger, 1957). It may be that both higher acculturation into the Greek culture and lower perception of ethnic discrimination play a protective role for immigrant youth's self-esteem and mental health (Motti-Stefanidi & Asendorpf, 2012). However, it is also plausible that immigrant youth who are higher in acculturation into the Greek culture, actually experience less discrimination. Both Greek society (Sapountzis, 2013) and schools, as an institution (Phinney, Horenczyk, Liebkind, & Vedder, 2001), are highly assimilatory. They expect that immigrant youth acculturate into the host culture. Based on Bigler and Liben's (2007) developmental intergroup theory, it may be that immigrant youth are placed by Greek youth in a more favourable social category when they are high in acculturation into the Greek culture, which may actually result in lower actual ethnic discrimination. In any case, since perceived ethnic discrimination has been linked to a host of problematic outcomes (Marks et al., 2015), one could argue that acculturation into the Greek culture may protect immigrant youth in the long run from significant adaptation difficulties.

Against expectations, higher acculturation into the ethnic culture did not predict over time increases in perceived ethnic discrimination. The position of non-immigrants with respect to how immigrants should acculturate and the distinction made in the acculturation literature between the public (functional, utilitarian) domain and the private (social-emotional, value-related) domain (Arends-Tóth & van de Vijver, 2006) may help explain this finding. Extant evidence suggests that non-immigrant youth place greater emphasis on immigrant youth's acculturation into the host country, and seem less interested whether they will also acculturate into their ethnic culture (e.g., Jasinskaja-Lahti et al., 2003; Verkuyten & Thijs, 2002; Verkuyten, Thijs, & Sierksma, 2014). Based on a similar finding that Greeks expect immigrants to assimilate into the Greek culture in particular regarding the public domain (e.g., Greek education and language) but are less interested in how they acculturate regarding the private domain (Sapountzis, 2013), it is plausible that acculturation into the ethnic culture, particularly if it focuses on the private domain, is not a basis on which to discriminate against immigrant youth. It is also plausible, based on the cognitive

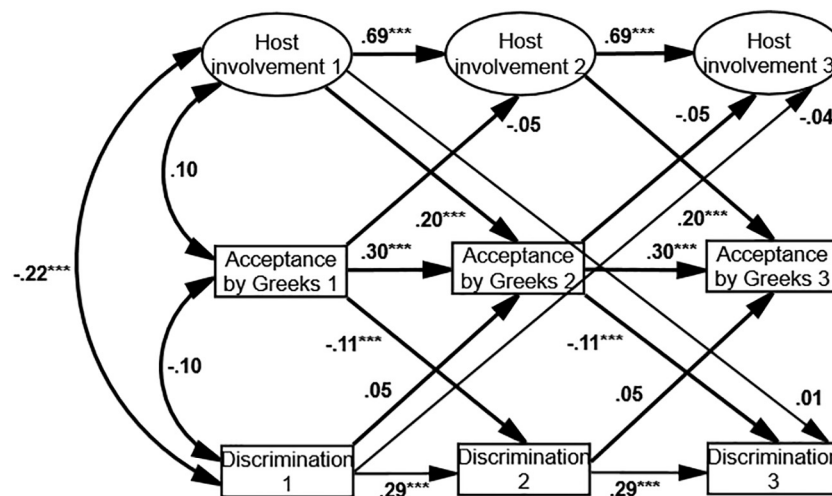


Fig. 2. SEM for testing Hypothesis 2. Covariates, manifest indicators of involvement, stabilities from Wave 1 to Wave 3, and correlations between measurement-specific errors across waves and between residuals within waves are not shown.

dissonance model (Festinger, 1957), that immigrant youth high in ethnic acculturation, in an effort to avoid inconsistent information, do not perceive, even though there are, changes in discrimination.

Also against expectations, higher perceived ethnic discrimination did not predict decreases in immigrant youth's acculturation into the Greek culture or increases in their acculturation into the ethnic culture. In a highly normative and assimilatory context, such as are schools (Phinney et al., 2001), it may not be possible to disengage from the host society, as predicted from the rejection-identification model (Branscombe et al., 1999). Immigrant youth may have to develop other coping strategies to deal with instances of ethnic discrimination. Even though the direct longitudinal path from discrimination to acculturation was not significant, it is possible that perceived discrimination influences immigrant youth's acculturation indirectly via mediators such as perceived group permeability (Ramos, Cassidy, Reicher, & Haslam, 2016) and school belonging (Schachner, He, Heizmann, & Van de Vijver, 2017).

4.2. Greek peers' acceptance as a mediator between acculturation and discrimination

As was expected, acceptance by Greek peers longitudinally mediated the link between immigrants' acculturation into the host culture and perceived ethnic discrimination. This finding held for both immigrant generations. Immigrants' higher acculturation into the Greek culture in the first year of the study predicted higher acceptance by Greek peers in the second year, which in turn predicted lower perceived discrimination in the third year. The importance of this result lies in the fact that the design of the study included multiple methods and informants. Acculturation into host and ethnic cultures were assessed through self-reports provided by immigrant youth. In contrast, acceptance and rejection by peers were assessed through peer nominations provided by their Greek and immigrant classmates. This finding then highlights Greek youth's acculturation expectations. It also provides some evidence that the decrease in ethnic discrimination may be actual and not just perceived.

Influences from societal and proximal contexts, as well as developmental considerations, can help account for this longitudinal mediation. As was previously discussed, Greek society is assimilatory and expects immigrants to acculturate into the Greek culture (Sapountzis, 2013). At the same time, it is discriminatory against immigrants, categorizing ethnic groups in hierarchies based on their "Greekness" (Triandafyllidou, 2000). Such societal-level influences are filtered through youth's proximal contexts, such as their school, and influence

their own intergroup attitudes and behaviors (Bigler & Liben, 2007). Taking also into account that during the period of adolescence young people expect their peers to have learned peer group norms in order to fit-in and be accepted (Rubin et al., 2015), young immigrants may be under significant pressure to acculturate into the host culture. Those higher in acculturation into the Greek culture may be seen more favourably by their Greek peers since they have learned the norms and standards of the Greek peer group (Bellmore, Nishina, & Graham, 2011), which is both an acculturative and a developmental goal.

The finding that higher acceptance by Greek peers predicted over time decreases in perceived discrimination suggests that positive intergroup contact may result in immigrants perceiving their minority group as more connected and less in opposition with the non-immigrant majority group, thus, perceiving less discrimination against the self (e.g., Frey & Tropp, 2006). However, as the personal/group discrimination discrepancy suggests, minorities tend to perceive lower discrimination against the self than against their group (Bourguignon et al., 2006). The decrease in perceptions of personal discrimination is not necessarily accompanied by lower perceived discrimination against the ethnic group, and may result in lessening efforts towards social change in order to achieve more social equality (Tropp, Hawi, Van Laar, & Levin, 2012).

An interesting finding was that even though immigrant youth acculturation into the ethnic culture predicted higher rejection by Greek peers, rejection did not predict increases in perceived ethnic discrimination. Greek peers rejected (i.e. liked least) immigrant youth high in ethnic acculturation, possibly because they did not follow the norms and standards of the Greek peer group. However, as was discussed earlier, high acculturation into the ethnic culture was not a basis for discriminating against them (i.e. for treating them unfairly). This argument is in line with evidence, presented earlier, suggesting that non-immigrant youth place greater emphasis on immigrant youth's acculturation into the host country, and seem less interested whether they will also acculturate into their ethnic culture (e.g., Jasinskaja-Lahti et al., 2003; Verkuyten et al., 2014; Verkuyten & Thijs, 2002).

4.3. Ethnicity

The analyses yielded some interesting ethnicity effects. Compared to Albanian and other immigrant students, Pontian-Greek students reported lower discrimination, as well as lower involvement with the host culture and higher involvement with the ethnic culture. As Triandafyllidou (2000) has argued there is a hierarchy of "Greekness," which creates multiple levels of inclusion-exclusion: native Greeks have

priority, Pontian-Greeks are next, and Albanians are significantly lower in this hierarchy. Since Pontian-Greeks have Greek citizenship and are of Greek ethnic origin, they feel being Greek (Georgas & Papastylianou, 1996). For these reasons, they rightfully may feel less discriminated by Greeks compared to Albanians. Furthermore, since they live in segregated neighborhoods they may not be under pressure to become more involved with the Greek host culture. In this line, Reitz et al. (2015) found in the pre-crisis study that preference by Greek peers was unrelated to Pontian-Greeks' perceptions of discrimination against the self.

4.4. Limitations

As the receiving societies' attitudes towards immigrant groups are highly diverse (Hellwig & Sinno, 2017) with correspondingly diverse consequences for immigrant youth's adaptation and well-being (Dimitrova, Chasiotis, & van de Vijver, 2016), a clear limitation of the present study is that it refers only to Greece. We expect though that the basic mechanism that translates host involvement via non-immigrant peers' acceptance to low perceived discrimination may also apply to other countries with more negative attitudes towards immigrants. Such complex processes may be optimally studied with a refined measure of acculturation, instead of the global scale that we used, e.g., one that distinguishes between private and public domains and/or disentangles cognitive, attitudinal, and behavioral aspects of acculturation.

Another limitation concerns our peer nomination data which did not allow us to conduct a social network analysis (SNA). Using SNA would have allowed us to understand the role of peer socialization for various aspects of acculturation by disentangling the effect of peer influence from peer selection, for example, on acculturation into ethnic and Greek cultures.

4.5. Policy implications

The integration of immigrant youth is of outmost importance not only for their own well-being but also for society's prosperity and social cohesion. Scientific evidence suggests that immigrant youth adopting the host cultures and languages while also maintaining the heritage culture and language, do better and contribute more to society than youth who learn only one language or cultural orientation (e.g., Berry et al., 2006; Suarez-Orozco, Abo-Zena, & Marks, 2015). Furthermore, the extant evidence suggests that discrimination and social exclusion have deleterious effects for positive youth development (Marks et al., 2015) and social cohesion, and are risk factors for radicalization (Verkuyten, 2017). In contrast, feelings of belonging and being accepted, strengthen youths' ties to the host society (Arends-Tóth & van de Vijver, 2006; Motti-Stefanidi, Pavlopoulos, Obradovic, & Masten, 2008).

In light of this background, the results of the present study suggest that in order to promote the integration of immigrant youth in host societies, and to promote their psychological well-being, we need to intervene in all three components included in the mediation model, i.e., immigrant youth acculturation, non-immigrants' acceptance of their immigrant peers, and discrimination.

First, schools need to support immigrant youth in learning and adopting the host culture and language. However, based on scientific evidence, it is also important for the positive adaptation of immigrant youth that schools and society promote the maintenance of the heritage culture and language (Oppedal & Toppelberg, 2016). Second, schools and society need to promote intercultural competence in both immigrant and non-immigrant youth through positive and well planned intergroup contact (Council of Europe, 2016). Intercultural competence is defined as the ability to mobilize and deploy relevant values, attitudes, skills, knowledge and/or understanding in order to respond appropriately and effectively to the demands, challenges and opportunities that are presented in intercultural situations. These are important competencies in a highly diverse world. Third, since discrimination in

youth's proximal context reflects society's attitudes towards the presence of immigrants in the country (Motti-Stefanidi et al., 2012), it is imperative to create public campaigns that show the contribution of immigrants to the host countries as well as the significance for all involved to respect the diversity and needs of various ethnic groups.

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