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### Abstract

This survey study examined the role of perceived discrimination and acculturation orientations on immigrant children's achievement and well-being in the school context. Immigrant ( $n = 229$ ), immigrant descendant ( $n = 196$ ), and native Portuguese children ( $n = 168$ ) from 4<sup>th</sup> to 6<sup>th</sup> grade participated in the study. Results showed the expected gap: immigrant and immigrant descendant children revealed lower school achievement than their native peers; but only immigrant, and not immigrant descendant children, reported lower levels of well-being and peer acceptance. Perceived discrimination was negatively related to school achievement, via an increased desire for culture maintenance, only among immigrant children. The indirect effects of perceived discrimination on well-being and peer acceptance were not significant. However, perceived discrimination was strongly related to lower well-being and acceptance, independently of the target group, suggesting that its negative association with well-being in the school context might encompass a more general process affecting both immigrant and immigrant descendant children.

*Keywords:* immigrant children, perceived discrimination, acculturation, well-being, school achievement

School achievement and well-being of immigrant children: The role of acculturation orientations and perceived discrimination

Immigrant and ethnic minority children and youth are at higher risk of social exclusion, with research showing gaps in their general well-being and school achievement relative to their native peers (Dimitrova, Chasiotis, & van de Vijver, 2016; Frankenberg, Kupper, Wagner, & Bongard, 2013; Schwartz et al., 2015; Umaña-Taylor, 2016). The migration-morbidity hypothesis (i.e., higher prevalence of poorer psychological adjustment in immigrant samples) has been used to explain such gaps, with a recent meta-analysis showing that internalizing (e.g., depressive symptoms), externalizing (e.g., conduct behaviors at school), and poorer academic outcomes (e.g., school achievement) were indeed higher among immigrant children and youth in Europe (Dimitrova et al., 2016).

There are multiple factors accounting for these effects, ranging from individual level variables (e.g., gender, socioeconomic status) to contextual variables (e.g., national policies, intergroup relations/attitudes towards immigrants). Social psychological research has identified two key predictors of these gaps: perceived discrimination and acculturation orientations. Discrimination is a well-known predictor of ethnic-racial minorities' (Benner, 2017; Botiani, Bradshaw, & Mendelson, 2017; Umaña-Taylor, 2016), and immigrant children's (e.g., Brown & Chu, 2012; Schachner, van de Vijver, & Noack, 2018) maladjustment, affecting both psychological well-being and school-related outcomes. Similarly, research on acculturation orientations of immigrant children and youth has consistently showed that both attitudes towards culture maintenance and attitudes towards culture adoption are powerful predictors of psychological adjustment and academic outcomes (see Birman & Simon, 2014; Dimitrova et al., 2016).

The adjustment of immigrants can be conceptualized as involving both psychological and sociocultural adaptation. Psychological adaptation captures the affective dimension of

immigrant adjustment (e.g., psychological well-being, lower stress, life satisfaction; Ward, 2001; Ward & Kennedy, 1999), while sociocultural adaptation addresses the behavioral dimension or “the acquisition of culturally appropriate skills and the demonstration of functionally adaptive behaviors” (Wilson, Ward, Fetvadjiev, & Bethel, 2017, p. 1476).

This study builds on approaches that highlight the importance of contextual acculturation conditions, like perceived discrimination, as predictors of acculturation orientations (Arends-Tóth & van de Vijver, 2006; Birman & Simon, 2014). Specifically, it examines the role of perceived discrimination in the school context and children’s acculturation orientations on their well-being and academic achievement. It extends previous research showing that contexts of acculturation (i.e., family, school, neighborhood) shape acculturation outcomes (Birman & Simon, 2014; Motti-Stefanidi, Berry, Chrysoschoou, Sam, & Phinney, 2012) in four ways: a) focusing on a context that is crucial for children and youth development (i.e., school), specifically assessing the role of acculturation conditions (i.e., perceived discrimination) in that context rather than in more general aspects of children’s lives; b) assessing both psychological well-being and sociocultural aspects of adaptation (Ward, 2001; Ward & Kennedy, 1999), while most studies with immigrants focus on psychological adjustment only (see Bierwiazzonek & Waldzus, 2016), and using school grades as a measure of sociocultural adaptation instead of self-reported perceptions; c) testing children’s acculturation orientations as the psychological mediating mechanism of the relation between contextual conditions and adjustment; and d) by including both immigrant (first generation/foreign born) and immigrant descendant children (second generation/native born to immigrant parents), allowing for an assessment of potential differences in their adjustment (Birman & Simon, 2014).

### **Acculturation Conditions, Orientations, and Outcomes**

Acculturation is a complex construct with many competing views about its definition and measurement, coming from a wide range of literature and scientific fields including anthropology, ethnic studies, cross-cultural psychology, and social psychology. The most contemporary consensual definition states that acculturation is

the dual process of cultural and psychological change that takes place as a result of contact between two or more cultural groups and their individual members. At the group level, it involves changes in social structures and institutions and in cultural practices. At the individual level, it involves changes in a person's behavioral repertoire. (Berry, 2005, pp. 698)

Berry's influential proposal of a bidimensional approach to acculturation suggests that individuals are faced with two fundamental questions: to what extent they desire to maintain their culture/identity and to what extent they desire contact with, and participation in, the host society (Berry, 1997). The answers to these questions result in four acculturation orientations: assimilation (i.e., no desire for maintaining their own culture, but desire to be in contact with the majority group); separation (i.e., desire to maintain the heritage culture, and no desire for contact with the majority); marginalization (i.e., no desire to maintain heritage culture nor to be in contact with the majority); and integration (i.e., desire for both culture maintenance and contact with the host majority) (Berry, 2005). The main purpose of this model was to predict the adaptation outcomes of minority group members in terms of acculturative stress, mental and physical health, and other indicators of psychological adaptation (i.e., well-being), hypothesizing that the best outcomes were obtained with integration and the worst were associated with marginalization, with separation and assimilation yielding outcomes of intermediate favorability (Berry, 1997). There is compelling empirical evidence supporting Berry's proposal that an integration orientation is positively related to psychological adaptation (see Benet-Martinez, 2013 for a meta-analysis).

Recent approaches to acculturation propose that there is no “best” orientation, and suggest that acculturation orientations and their impact on adaptation are affected by the context of acculturation (Arends-Tóth & van de Vijver, 2006; Birman & Simon, 2014; Brown & Zagefka, 2011; Motti-Stefanidi, Asendorpf, & Masten, 2012). Indeed, one of the first critiques to the bidimensional, unidirectional, approach underlying Berry’s model, was precisely that acculturation is a mutual (i.e., interactionist) and dynamic process, that involves both changes and expectations from immigrants and the host society majority group (Bourhis, Moïse, Perreault, & Senécal, 1997). The best outcomes do not come from integration in itself, but from the fit (i.e., match) between acculturation orientations adopted (or perceived) by immigrants and those of host community members (Bourhis et al., 1997; Piontkowski, Rohmann, & Florack, 2002; Schwartz, Vignoles, Brown, & Zagefka, 2014).

A strong body of research on immigrant children and youth acculturation reveals that integration (or biculturalism) is related to both psychological and sociocultural adaptation and adjustment (e.g., Berry, Phinney, Sam, & Vedder, 2006; Musso, Inguglia, & Coco, 2015; Nguyen & Benet-Martinez, 2013; Schachner, He, Heizmann, & van de Vijver, 2017a; Schachner, Noack, van de Vijver, & Eckstein, 2016; Schachner et al., 2018). However, several studies have also demonstrated that contextual factors (e.g., multicultural policies, generation status, discrimination) affect the link between acculturation orientations and adaptation (Baysu, Phalet, & Brown, 2011; Makarova & Birman, 2015; Schachner et al., 2017a). These findings are consistent with an approach to acculturation as a mutual and dynamic process, where acculturation orientations are conceptualized as psychological mechanisms that link conditions (personal and contextual characteristics) to psychological and sociocultural adjustment (Arends-Tóth & van de Vijver, 2006; Motti-Stefanidi et al., 2012b; Schachner, van Vijver, & Noack, 2017b).

Importantly, in addition to contextual factors, the impact of acculturation orientations on adaptation is also dependent on the type of adaptation outcome (i.e., psychological or sociocultural; Ward, 2001, 2013). For instance, among immigrant youth in Germany, sociocultural adjustment was more strongly related to orientation towards the mainstream culture than to ethnic orientation (Schachner et al., 2016, 2018). Similarly, a recent analysis of 2012 data from PISA revealed significant country differences in the relation between acculturation orientations and sociocultural adaptation (i.e., school adjustment), with mainstream orientation being a stronger predictor of adjustment (relative to ethnic orientation) only in countries with low to intermediate levels of multicultural policies (Schachner et al., 2017a).

According to recent models of acculturation, schools are predominantly mainstream contexts, whereas family and ethnic group are considered predominantly ethnic contexts (Motti-Stefanidi et al., 2012b; Schachner et al., 2017b). Conceptualizing schools as predominantly mainstream contexts is in line with findings showing that different acculturation dimensions (i.e., culture maintenance, contact/culture adoption) are differently related to school adjustment (e.g., Motti-Stefanidi, Pavlopoulos, Obradović, & Masten, 2008; Schachner et al., 2016, 2017a, 2018). Importantly, these findings are in line with the theoretical foundations of sociocultural adaptation, proposing that intercultural contact is an important predictor of culture learning and competence (Masgoret & Ward, 2006; see Ward & Szabo in press for a review).

Based on the culture learning approach, Ward and colleagues proposed that the key predictors of sociocultural adaptation are situational factors related to the learning process (e.g., length of residence, intercultural contact and experience, language proficiency). Consistent with this approach, contact with host nationals, cultural knowledge, and language proficiency are among the strongest predictors of this form of adaptation (Wilson, Ward, &

Fischer, 2013). Taken together, available research highlights the importance of looking at acculturation in context, considering different aspects of intergroup relations and policies to better understand children and youth psychological and sociocultural adjustment. Building on these findings and on the evidence that contexts of high perceived discrimination and lack of acceptance hinder the positive impact of integration orientations (e.g., Baysu et al., 2011; Birman & Simon, 2014; Makarova & Birman, 2015), we will focus on perceived discrimination in school as a key contextual predictor of children's acculturation orientations and adjustment.

### **Discrimination and Acculturation**

Discrimination is a powerful predictor of immigrant (e.g., Brown & Chu, 2012; Schachner et al., 2018) and ethnic-racial minority (Benner, 2017; Bottiani, Bradshaw, & Mendelson, 2017; Cooper & Sánchez, 2016; Umaña-Taylor, 2016) children's psychological well-being and school outcomes. The negative effects of discrimination are partially explained by its negative impact on feelings of school belonging, motivation, or cultural distrust (e.g., Cooper & Sánchez, 2016; Hood, Bradley, & Ferguson, 2017). By the end of elementary school both minority and majority children are equipped with the knowledge (e.g., stereotypes, norms about prejudice expression) and the key socio-cognitive skills (e.g., advanced forms of Theory of Mind) that govern their understanding of intergroup dynamics, prejudice, and discrimination (Killen, Mulvey, & Hitti, 2013; Rodrigues, Rutland, & Collins, 2016). Indeed, two recent meta-analyses revealed that perceived discrimination harms well-being among different stigmatized groups (Priest, Paradies, Trenerry, Truong, Karlsen, & Kelly, 2013; Schmitt, Branscombe, Postmes, & Garcia, 2014) and that this effect is stronger among children and adolescents than adults (Schmitt et al., 2014).

According to the rejection-identification model (Branscombe, Schmitt, & Harvey, 1999), one way to cope with the negative impact of discrimination is to identify with the



ingroup. The basic premise is that identification with the stigmatized group increases as a consequence of perceived discrimination, suppressing its negative impact on well-being. In face of discrimination, individuals increase their attachment to the ingroup to guarantee positive self-esteem and sense of belonging (Branscombe et al., 1999; Giamo, Schmitt, & Outten, 2012; Umaña-Taylor, 2016).

This is consistent with research on reactive ethnicity, where perceived discrimination has been shown to increase immigrants' ethnic identification (Çelik, 2015; Rumbaut, 2008) and their disidentification with the national host society (i.e., rejection disidentification; Jasinskaja-Lahti, Liebkind, & Solheim, 2009). A strong orientation towards the heritage cultural group can be protective against perceived discrimination and exclusion, and thus buffer the negative effects of discrimination on well-being (e.g., Dimitrova, Aydinli, Chasiotis, Bender, & van de Vijver, 2015), while simultaneously hindering the sociocultural adaptation of immigrant youth in contexts where the mainstream culture is dominant such as schools (e.g., Schachner et al., 2016, 2018).

Notwithstanding, the relation between acculturation orientations and contextual factors, specifically perceived discrimination, can also be seen as reciprocal and dynamic in nature. Some studies conceptualize discrimination and acculturation as same level interacting predictors of youth adaptation, suggesting that the impact of different acculturation orientations will be dependent on the level of perceived discrimination (e.g., Baysu et al., 2011). Others conceive discrimination as a predictor of adaption, indicating that its negative effects are dependent on the level of social identification (Bierwiazzonek, Waldzus, & van der Zee, 2017). Further, some research suggests that acculturation can be an antecedent of discrimination (e.g., Jasinskaja-Lahti, Liebkind, Horenczyk, & Schmitz, 2003). Berry and colleagues (2006, 2016, 2017) showed that perceived discrimination is usually lower among adolescents who endorse integration strategies, and higher among those who endorse

separation, but given the cross-sectional nature of the data it is not possible to disentangle causality effects. The scarce longitudinal research that tested the direction of this relation shows mixed findings. Among Latino college students, perceived discrimination in campus predicted well-being over time, and this effect was mediated by ethnic identification and activism, supporting the rejection-identification model (Cronin, Levin, Branscombe, van Laar, & Tropp, 2012). However, recent longitudinal research with immigrant students in Greece shows that perceived discrimination did not predict adolescent's acculturation orientations over time, and instead, endorsement of the host culture predicted less perceived discrimination over time, and this effect was mediated by perceived acceptance by host community peers (Motti-Stefanidi, Pavlopoulos, & Asendorpf, 2018). While not expected, this finding could relate to the specificity of the school context as a mainstream context where it may be difficult for immigrants to endorse their ethnic culture (Motti-Stefanidi et al., 2018). Also, while in Cronin et al. (2012) discrimination was assessed considering students' experiences in school (i.e., campus), in Motti-Stefanidi et al. (2018) perceived discrimination was assessed as a composite measure of discrimination by classmates and in school, but also generally and in the neighborhood. In the current study, in line with most of the previous studies, we consider perceived discrimination as a context-specific variable that predicts acculturation orientations.

**Discrimination, acculturation, and immigrants' generational status.** Research examining the impact of immigrants' generational status shows mixed findings. Some studies suggest that immigrant descendants experience more discrimination and have poorer developmental outcomes than first-generation immigrants (i.e., foreign born) (Marks, Ejesi, & Garcia Coll, 2014). This is commonly referred to as the immigrant paradox, whereby children and adolescents who are born in the host country to immigrant parents show poorer psychological and sociocultural outcomes than their foreign born peers (Sam, Vedder, Ward

& Horenczyk, 2006). For instance, some research shows evidence of second-generation immigrants experiencing more discrimination in Europe (de Vroome, Martinovic, & Verkuyten, 2014) and in the United States (see Marks et al., 2014). However, other studies showed no differences in perceived discrimination, school belonging, and school achievement, between first and second-generation Latino immigrants in the United States, showing that other school context variables (i.e., teachers' support for diversity and school multiculturalism) were more predictive of children's adjustment than generational status (Spears Brown & Chu, 2012). Consistent with these findings, a recent longitudinal study conducted with German ethnic minority youth showed no differences in the perceived discrimination between first and second-generation immigrants (Fleischmann, Leszczensky, & Pink, 2019). Other studies also revealed no differences on acculturation orientations and adaptation outcomes between different generations of immigrant youth (Berry & Hou, 2016; Motti-Stefanidi et al., 2018).

All together, these mixed findings and inconsistencies suggest that other variables (e.g., multicultural policies in the host country, ethnic origin of the immigrants) may also impact the adaptation and adjustment of first and second generations. For instance, differences among first and second-generation immigrants may reflect the different domains (public vs. private) where acculturation takes place. Noels and colleagues research on situated identity suggests that these differences are more pronounced in private domains (i.e., family, friends) than in public domains (Noels et al., 2010; Noels et al., 2015; Zhang & Noels, 2013). This is consistent with recent meta-analytical findings showing that in a public domain like school, differences between second and first-generation immigrants' grades were not significant (Duong, Badaly, Liu, Schwartz, & McCarty, 2016). Given the ambiguous findings regarding the effects of immigrants' generational status, we will explore its associations with

children's psychological and sociocultural adaptation, as well as with acculturation orientations and perceived discrimination.

### **Portuguese Immigration Context**

The number of immigrants in Portugal has been steadily increasing since 1990 and currently represents 4.1% of the total population (FFMS, 2018). Immigration data suggests that second and third-generation immigrant children currently enrolled in primary and middle school are mostly African descendants from Portuguese-speaking African countries, followed by Europeans, South Americans (Brazilians), and Asians (FFMS, 2018). However, the proportion of European immigrants has increased significantly in the last decade, followed by an equal share of African and Brazilian nationals (FFMS, 2018). These trends indicate that contemporary first, second, and third-generation immigrant children share similar origins, although the proportion of Portuguese-speaking Black children is likely higher among the latter.

Portugal ranked third in the Global Peace Index (IEP, 2017) and second in the Migration Integration Policy Index (MIPEX, 2015). Notwithstanding, the Multiculturalism Policy Index (MPI, 2010) attributed Portugal a score of 3.5, suggesting limited evidence of support for bilingual education and multicultural school curricula. Indeed, a closer look at the MIPEX 2015 data reveals that education and health obtained the poorest ratings among all evaluated dimensions. Despite the positive evolution regarding migration policies and immigrant integration, European Social Survey and OECD data show that Portuguese hold global negative attitudes towards immigrants, and the level of discrimination experienced by immigrant adults ranks fourth among OECD countries (Heath & Richards, 2016; OECD, 2015). While research on the well-being of immigrant and immigrant descendant children and youth in Portugal is scarce, recent OECD data show that in Portugal these groups report the lowest feelings of belongingness to the school community compared to non-immigrant

peers (OECD, 2015). Consistent with this evidence, social-psychological research shows that negative attitudes toward African-descendant children are prevalent among Portuguese native children (Feddes, Monteiro, & Justo, 2014; Monteiro, França, & Rodrigues, 2009).

Importantly, the expression of racial prejudice by majority group children becomes more “adult-like” (i.e., indirect and concealed) towards late childhood and into adolescence, driven by increasing compliance with anti-discrimination norms (Monteiro, França, & Rodrigues, 2009; for a review see Rodrigues, Rutland, & Collins, 2016). Altogether, there is converging evidence suggesting that immigrant and immigrant-descendant children and adults living in Portugal are likely targets of prejudice and discrimination from their native counterparts, much like in other countries (for a review see Raabe & Beelmann, 2011). Importantly, this prejudice becomes more insidious towards the end of elementary school (Rodrigues et al., 2016). This modification in how children might experience discrimination overlaps with the transition from elementary to middle school (i.e., 4<sup>th</sup> to 5<sup>th</sup> grade). This transition constitutes a major change that can be disruptive and negatively impact children’s school achievement and well-being (Barber & Olsen, 2004), and especially so for minority children (Burchinal, Roberts, Zeisel, & Rowley, 2008). In the current study we focused on this transition period, examining the associations between perceived discrimination, acculturation orientations, and immigrant children’s achievement and well-being in the school context in elementary and middle school.

### **Present Study**

We examined the relation between perceived discrimination (i.e., a contextual factor), immigrant children’s acculturation orientations towards culture maintenance and contact with the host society, and their psychological (i.e., well-being, peer acceptance) and sociocultural adaptation (i.e., school achievement). Overall, we expected that both immigrant and immigrant-descendant children would show lower levels of well-being, peer acceptance

(H1a), and school achievement (H1b) than their native peers, supporting the migration-morbidity hypothesis (Dimitrova et al., 2016). We also investigated if immigrant and immigrant descendant children differed on their levels of perceived discrimination, well-being, and school achievement. Given the mixed findings regarding the impact of generational status, and based on recent empirical evidence with youth in Europe and the United States (Fleischmann et al., 2019; Spears Brown & Chu, 2012), we predicted that immigrants and immigrant descendants would not differ on their levels of perceived discrimination (H1c). Similarly, we did not predict generational differences in psychological adaptation, as a large analysis of three waves of the European Social Survey showed no significant differences in well-being (i.e., life satisfaction) among first and second generations in 13 European countries (Safi, 2009) (H1d). However, given the empirical evidence supporting the impact of cultural knowledge, language proficiency, and length of residence on sociocultural adaptation (Wilson et al., 2013), as well as evidence from recent analysis of PISA (OECD, 2016), we predicted that immigrant descendants would show better levels of school achievement (H1e).

Few studies have tested children's acculturation orientations as mediating mechanisms of the relation between contextual conditions and individual adjustment. Based on recent findings, we expected that discrimination would be related to children's adjustment, via acculturation orientations (H2). Specifically, we proposed that perceived discrimination would be positively related to support for culture maintenance and negatively related to the desire to have contact with native children (H2a). Research illustrates that desire for contact is a stronger predictor of sociocultural adjustment, whereas the desire for culture maintenance is more relevant for predicting psychological adaptation (Schachner et al., 2016, 2017a, 2018; Wilson et al., 2013). Based on these findings, and given the limited multicultural policies and cultural pluralism in Portugal (MPI, 2010), we expected that orientation towards culture

maintenance would be a stronger predictor of higher well-being and peer acceptance (H3a), whereas desire for contact with native peers would be a stronger predictor of school adjustment (H3b) (see Schachner et al., 2018). Finally, we also explored if our hypothesized model differed among immigrant and immigrant-descendant children. Specifically, and based on the predicted differences between immigrant and immigrant descendant children regarding sociocultural adaptation only, we expected that the negative association between perceived discrimination and school achievement via reduced desire for contact would be stronger for immigrant children. That is, we expected the detrimental effects of perceived discrimination on school achievement to be more pronounced among those who were already more vulnerable to lower grades (i.e., immigrant children) (H4).

## Method

### Participants

Participants were 593 children (55.4% female) with a mean age of 10.67 years ( $SD = 1.43$ ), enrolled in 4<sup>th</sup> (elementary school), 5<sup>th</sup>, and 6<sup>th</sup> grades (middle school) in 20 public schools located in the Lisbon Metropolitan Area (94 classrooms). Immigrant children ( $n = 229$ ) were foreign born (i.e., nationals of non-European Union (EU) countries), with 69% born in Africa ( $n = 158$ ), 17% born in America ( $n = 39$ ), 7% born in Asia ( $n = 16$ ), and 4.4% born in Europe ( $n = 10$ ). It was not possible to identify the country of origin of six participants<sup>1</sup>. The mean age of arrival in Portugal was 7.07 years ( $SD = 3.34$ ). Immigrant descendant children were native born, had Portuguese citizenship, and the mother and/or father were foreign born nationals of a non-EU country ( $n = 196$ ). Portuguese native children ( $n = 168$ ) were native born, had Portuguese citizenship, and both father and mother were

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<sup>1</sup> This study was part of a larger research project funded by the European Fund for the Integration of Third Country Nationals. The grant agreement limited data collection to third country nationals, thus collecting data from other immigrant groups was not allowed.

native born Portuguese citizens. Participation was voluntary and parental permission (i.e., signed informed consent) was obtained for all children.

### **Procedure**

Seventy-five school districts were identified as eligible and contacted via e-mail. From those, 33 replied and nine accepted to participate in the study. Eligible schools had at least 50% of Portuguese native students. This information was obtained from the Directorate General of Education and Science Statistics. There were 887 eligible children in the 20 schools participating in this study but 269 were excluded for not being at school when the questionnaires were administered. Twenty-five students were also excluded because they failed to provide a signed informed consent from the legal guardian. Questionnaires were distributed by two research assistants in small group sessions, in a total of 150 sessions involving 6-8 students each, conducted in rooms made available by the schools. Each session lasted approximately 25 minutes.

The self-report questionnaire included the measures of interest (perceived discrimination, acculturation orientations, well-being, peer acceptance, and demographics). This study was part of a larger national project and other variables, not analysed for the purpose of this paper, were assessed (i.e., ethnic identification, perceived acculturation orientations, quantity of contact, and stereotypes). Participants with low proficiency in reading Portuguese were individually interviewed in English ( $n = 2$ ) or in French ( $n = 1$ ). School achievement data was provided by classroom teachers at the end of data collection. To guarantee participants' anonymity, this information was collected from teachers using a form with a coding scheme that did not specify the names of the children. Schools, through classroom teachers, also provided additional information regarding children's proficiency in understanding written or spoken Portuguese.

### **Measures**



**Perceived discrimination.** Participants rated the extent to which they personally experienced (i.e., “Has this ever happened to you?”) or observed (i.e., “How often does this happen at your school?”) discrimination in four scenarios adapted from Baysu et al. (2014) (e.g., A child is playing in the school playground. Some other children come along and call out ugly names to the child because he/she seems to come from another country). Answers were given on a 5-point Likert scale from 1 (*never*) to 5 (*often*). A mean score of perceived (i.e., experienced and observed) discrimination was computed ( $\alpha = .80$ ), with higher values representing higher perceived discrimination.

**Acculturation orientations.** We used a previously validated instrument for children (Brown et al., 2013). Participants rated to what extent they agreed with items assessing attitudes towards culture maintenance (5 items: immigrant children should learn their native language, wear traditional clothes, eat traditional foods, celebrate cultural holidays, and listen to traditional music,  $\alpha = .79$ ) and attitudes towards contact with the majority native (3 items: being friends with Portuguese children, having lunch, and playing with Portuguese children,  $\alpha = .80$ ). The target group for the items varied depending on children’s origin: immigrant and immigrant descendant children rated culture maintenance of the ingroup, and desire for contact with the outgroup (native Portuguese), whereas native Portuguese children indicated to what extent they agreed with immigrant children maintaining their culture and to what extent they wanted to have contact with immigrant children. Answers were given on a 5-point Likert from 1 (*disagree*) to 5 (*strongly agree*). Higher scores indicated more support for culture maintenance and contact.

**Social-emotional well-being.** Two dimensions of the Portuguese version of KIDSSCREEN-52 were used to assess social-emotional well-being (Gaspar & Matos, 2008): the feelings dimension, assessing children’s general psychological well-being (e.g., “Have you been in a good mood? Have you felt cheerful? Have you had fun?”), and the school

environment dimension, assessing children's satisfaction with the school environment and their relationship with teachers (e.g., "Have you been happy at school? Have you been happy with your teachers? Have you got along well with your teachers?"). Answers were given on a 5-point Likert scale from 1 (*nothing*) to 5 (*completely*) for the feelings dimension ( $\alpha = .79$ ), and from 1 (*never*) to 5 (*always*) for the school environment dimension ( $\alpha = .73$ ). Higher scores indicated higher levels of global and school well-being, respectively.

**Peer acceptance.** Perceptions of peer acceptance at school were assessed using five items adapted from Brown et al. (2013). The items focused on children's ability to establish a relationship with peers at school (e.g., "Do you have kids to play with at school?", "Is it hard for you to make friends at school?"), as well as the perceived quality of those relationships (e.g., "Do you get along with other kids at school?", "Do kids at school like you?"). Answers were given on a 5-point Likert scale from 1 (*nothing*) to 5 (*completely*). Higher scores indicated higher levels of perceived peer acceptance at school ( $\alpha = .68$ ).

**School achievement.** Achievement was measured by collecting children's 1<sup>st</sup> and 2<sup>nd</sup> term final grades for each subject taken during the school year. To compute a global measure of school achievement, grades were averaged across subjects for the 1<sup>st</sup> and 2<sup>nd</sup> terms separately, and then an average of the two was calculated. In the Portuguese educational system, achievement in elementary and middle school is measured on a 5-point scale: 1 (*Not Satisfactory or Weak*; 0-19%); 2 (*Not Satisfactory*; 20-49%); 3 (*Satisfactory or Sufficient*; 50-69%; passing grade), 4 (*Good or Highly Satisfactory*; 70-89%); 5 (*Very Good or Excellent*; 90-100%). Hence, achievement ranged between 1 and 5.

Demographics included gender, age, place of birth (for both children and parents), and age of arrival in Portugal (for immigrant children only).

## Results

To test our hypotheses, we first examined mean differences between native, immigrant, and immigrant descendant children's well-being, peer acceptance, and school achievement. We then examined if perceived discrimination varied between immigrant and immigrant descendant children. In all these analysis, we accounted for children's school level (elementary vs. middle school). We used the PROCESS bootstrapped approach to test the hypothesized indirect effects of perceived discrimination on well-being, peer acceptance, and school achievement among immigrant and immigrant descendant children only (i.e., native children were not involved in these analyses)<sup>2</sup>. PROCESS was developed by Hayes (2013) as a tool for path-analysis-base moderation and mediation analysis that estimates confidence intervals using OLS regression for continuous outcomes (and MLLR for dichotomous outcomes).

### **Children's Socio-emotional Well-being and Peer Acceptance**

Peer acceptance and the two dimensions of well-being were significantly related (Table 1). Thus, we conducted a 3 x 2 Multivariate ANOVA to examine differences in well-being (feelings and school environment) and peer acceptance between immigrant, immigrant descendant, and native children, accounting for their school level (elementary vs. middle school).

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Insert Table 1 about here

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<sup>2</sup> The structure of the data involved potential interdependency at the school and classroom levels and therefore we checked for the adequacy of applying multilevel modeling. ICCs were calculated for each of the outcome variables using Mplus 7 (Muthén & Muthén, 2012) (see Table 1 for ICCs and correlations, and Table 2 for Descriptives). All estimations indicated that there was not enough remaining variance above and beyond the individual level; thus, multilevel analyses were not advisable, and we tested our hypotheses with individual-level analyses in SPSS.

Results revealed the expected multivariate main effect of group of origin,  $Wilks' \lambda = .969$ ,  $F(6, 1138) = 3.02$ ,  $p = .006$ ,  $\eta^2 p = .016$ , and a multivariate main effect of school level,  $Wilks' \lambda = .930$ ,  $F(3, 568) = 14.24$ ,  $p < .001$ ,  $\eta^2 p = .070$ . The interaction between children's origin and school level was not statistically significant,  $Wilks' \lambda = .983$ ,  $F(6, 1136) = 1.67$ ,  $p = .123$ ,  $\eta^2 p = .009$ .

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Insert Table 2 about here

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Contrast analyses comparing immigrant vs. native Portuguese children revealed that, as predicted (H1a), immigrant children had significant lower levels of well-being (i.e., only on the feelings dimension,  $M = 3.96$  vs.  $M = 4.13$ ,  $t = -1.91$ ,  $p = .054$ ,  $d = .19$ ) and peer acceptance ( $M = 3.99$  vs.  $M = 4.20$ ,  $t = -2.53$ ,  $p = .012$ ,  $d = 0.25$ ) (see also Table 2). Similar contrasts comparing immigrant descendant children and native children did not reveal significant differences for well-being or peer acceptance. Contrasts comparing immigrant vs. immigrant descendant children showed, as predicted (H1d), no differences for well-being at school and peer acceptance (see Table 3). However, immigrant children revealed lower levels of well-being, on the feelings dimension, than immigrant descendants ( $M = 3.96$  vs.  $M = 4.14$ ,  $t = -2.08$ ,  $p = .038$ ,  $d = .20$ ).

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Insert Table 3 about here

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### **Children's School Achievement**

To test for differences between immigrant, immigrant descendant, and native children's school achievement we conducted a two-way ANCOVA, controlling for

immigrant children's Portuguese language proficiency<sup>3</sup>. As in the previous analyses, to account for potential differences between school levels (elementary vs. middle) we included this variable as a between-subjects factor in the analysis. Results revealed the expected main effect of group of origin,  $F(2, 567) = 13.17, p < .001, \eta^2p = .045$ , a significant main effect of school level,  $F(1, 567) = 21.59, p < .001, \eta^2p = .037$ , and a significant interaction between group and school level,  $F(2, 567) = 3.71, p = .025, \eta^2p = .013$ . As hypothesized (H1b), contrast analyses showed that both immigrant ( $M = 2.84$  vs.  $M = 3.15, t = -5.08, p < .001, d = .51$ ) and immigrant descendant ( $M = 2.94$  vs.  $M = 3.15, t = -3.41, p = .001, d = .36$ ) children had lower levels of school achievement than their native peers. However, contrary to our expectations (H1e), contrast analyses showed that the differences between immigrant descendant and immigrant children, albeit in the expected direction, did not reach significance ( $M = 2.94$  vs.  $M = 2.84, t = -1.74, p = .088, d = .18$ ). Regardless of children's origin, achievement was lower in elementary school than in middle school ( $M_{elementary(total)} = 2.86$  vs.  $M_{middle(total)} = 3.09$ ).

Finally, contrast analyses comparing immigrant vs. native children, separately for elementary and middle school, revealed that differences between immigrant and native children were significant in both elementary and middle school (see Table 4). Similar contrasts for immigrant descendants vs. native children revealed the same statistically significant pattern in both school levels. The only difference between elementary and middle school was found in the contrast comparing immigrant vs. immigrant descendant children,

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<sup>3</sup> Following Simmons, Nelson, and Simonsohn (2011) recommendations, we replicated the analysis without the covariate, even if language proficiency had a significant effect on school achievement ( $F(1,567) = 18.37, p < .001$ ). The analysis without the covariate showed exactly the same effects, that is, a significant main effect of group of origin,  $F(2,567) = 17.83, p < .001, \eta^2p = .060$ , a significant main effect of school level,  $F(1,567) = 23.25, p < .001, \eta^2p = .040$ , and a significant interaction between group and school level,  $F(2,567) = 4.58, p = .016, \eta^2p = .016$ . Language proficiency was not related to children's socio-emotional well-being and peer acceptance, thus we did not include it as a covariate in the previously presented MANOVAS.

with differences in school achievement in elementary but not in middle school (partially supporting H1e).

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 Insert Table 4 about here  
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### **Children's Perceived Discrimination**

We conducted a 3 x 2 ANOVA to examine differences in perceived discrimination between immigrant, immigrant descendant, and native children, exploring potential differences based on school level (elementary vs. middle school). Results revealed only a main effect of group of origin,  $F(1, 592) = 5.95, p = .015, \eta^2 p = .02$ . Contrast analyses revealed that immigrant children reported significantly higher levels of perceived discrimination than native, ( $M = 2.57$  vs.  $M = 2.24, t = 3.16, p = .002, d = .32$ ), and, contrary to our expectations (H1c), than immigrant descendant children ( $M = 2.57$  vs.  $M = 2.31, t = 2.32, p = .008, d = .22$ ). No differences were found between immigrant descendant and native children.

### **Perceived Discrimination, Acculturation Orientations, Well-being, and Peer Acceptance**

To test the conditional indirect effects of perceived discrimination on well-being and peer acceptance among immigrant and immigrant descendant children, we used PROCESS bootstrapping macros (model 8 and 15, 10000 bootstraps)<sup>4</sup>. Perceived discrimination was entered as the predictor, desire for culture maintenance and for contact with host native peers were entered as the mediators<sup>5</sup>, and well-being (i.e., feelings and school dimensions) and peer

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<sup>4</sup> We conducted a series of analyses testing the moderator role of discrimination (see Table 6 in supplemental material). Overall, results showed no significant interaction between perceived discrimination and culture maintenance and desire for contact on any of the outcome variables (socio-emotional well-being, peer acceptance, and school achievement).

<sup>5</sup> Following the procedure of Zagefka et al. (2007), we also computed an index by multiplying preferences for culture maintenance and desire for contact. The index varied between 1 and 25, with higher values indicating a preference for integration (high on both

acceptance were entered as separate outcomes. Group of origin (immigrant vs immigrant descendants) was tested as a moderator of both paths (i.e., perceived discrimination to acculturation orientations – model 8, and acculturation orientations to well-being and peer acceptance – model 15). In line with our hypothesis (H4), results of the index of moderated mediation showed no significant effects on well-being and acceptance (i.e., all 95% CI included zero), for both models thus not supporting differences between immigrant and immigrant descendant children. We next examined the simple indirect effects of perceived discrimination on well-being and peer acceptance among immigrant and immigrant descendant children together. We used PROCESS bootstrapping macro (model 4, 10000 bootstraps) with 95% bias corrected CI. As in the previous analyses, perceived discrimination was entered as the predictor, desire for culture maintenance and for contact with host native peers were entered as the mediators, and well-being (i.e., feelings and school dimensions) and peer acceptance were entered as separate outcomes.

Results revealed that for the feelings dimension, there was no indirect effect of perceived discrimination via culture maintenance ( $b = 0.003$ , 95% CI [-0.006, 0.018]) or desire for contact ( $b = -0.001$ , 95% CI [-0.015, 0.007]) (see Table 5 for direct paths estimates). Supportive of H2a, the more children felt discriminated the more they supported culture maintenance orientations ( $b = 0.10$ ,  $p = .051$ ). However, contrary to H3a, desire for culture maintenance was not significantly related to well-being. Desire for contact with native

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dimensions), and lower ones a preference for marginalization (low on both dimensions). Zero-order correlation between this acculturation index and children's well-being, peer acceptance and school achievement, showed it was positively related to both dimensions of well-being (albeit weakly), and negatively with school achievement. No significant correlation emerged for peer acceptance. All correlations were between .12 and -.12. We report the analysis with the two separate dimensions because, as previously stated by Zagefka and colleagues, scores in the middle of the scale are ambiguous as they might signal separation or assimilation (i.e., they might result from high scores on one dimension and low scores on the other, or from moderate scores on both).

peers was also not significantly related to well-being ( $b = 0.069, p = .069$ )<sup>6</sup>. There was, however, a significant negative direct effect of perceived discrimination on well-being ( $b = -0.105, 95\% \text{ CI } [-0.187, 0.024]$ ).

Similar findings were found for well-being in the school context, with no indirect effect of perceived discrimination neither through desire for culture maintenance nor through desire for contact with native children (all 95% CI included zero). Contrary to our expectations (H3a), desire for culture maintenance was not positively associated with well-being at school. Similarly, desire for contact with native peers was not statistically related to higher levels of well-being at school ( $b = 0.077, p = .061$ ). However, this effect became significant if culture maintenance was removed from the model (see footnote 5). Perceived discrimination had a negative direct effect on well-being at school ( $b = -0.18, 95\% \text{ CI } [-0.269, -0.096]$ ).

Finally, results regarding peer acceptance again revealed no support for the indirect effect of perceived discrimination through acculturation orientations. Similarly, results showed a strong negative direct effect of perceived discrimination on peer acceptance among immigrant and immigrant descendant children ( $b = -0.24, 95\% \text{ CI } [-0.310, -0.170]$ ).

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Insert Table 5 about here

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### **Perceived Discrimination, Acculturation Orientations, and School Achievement**

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<sup>6</sup> The direct effect of desire for contact on well-being becomes significant when the culture maintenance orientation is removed from the model. Multicollinearity analysis (i.e., VIF = 1.42 and Tolerance values = .70) were below the cut off points recommended by Cohen, Cohen, West, and Aiken (2003), thus not violating the multicollinearity assumption (VIF => 10 and Tolerance =< .10 are indicative of problems with multicollinearity). Nonetheless, the two variables were strongly related which can explain the stronger effects found for the models testing their separate effects on all outcome variables.



We conducted similar analyses to test the hypothesized (H4) conditional indirect effect of perceived discrimination on school achievement using group of origin as a moderator (immigrant vs. immigrant descendant children, models 8 and 15, PROCESS). Results testing the moderator role of group of origin on path a (i.e., relating discrimination to acculturation orientations), revealed a significant index of moderated mediation for the culture maintenance orientation only ( $b = .012$ , 95% CI [.0002, .039]). Supportive of H2a, perceived discrimination was significantly related to desire for culture maintenance. That is, the more children felt discriminated the more they supported culture maintenance orientations ( $b = 0.35$ ,  $p = .021$ ). The main effect of group of origin on culture maintenance was not significant, but the interaction between group of origin and perceived discrimination was ( $b = -0.20$ ,  $p = .055$ ). Conditional effects showed that perceived discrimination was positively associated with endorsement of culture maintenance among immigrant ( $b = 0.15$ ,  $p = .017$ ) but not immigrant descendant children ( $b = -0.04$ ,  $p = .610$ ).

Perceived discrimination was not significantly related to desire for contact with native peers ( $b = 0.33$ ,  $p = .089$ ), and the interaction between group of origin and perceived discrimination was also not statistically significant ( $b = -0.24$ ,  $p = .074$ ). Contrary to expected (H3b), desire for contact was not a significant predictor of school achievement ( $b = -0.03$ ,  $p = .249$ ). Desire for culture maintenance was also not significantly related to school achievement ( $b = -0.06$ ,  $p = .081$ ). As before, the direct effect of culture maintenance on school achievement became significant ( $b = -0.08$ ,  $p = .004$ ) if desire for contact was not included as a parallel mediator (see footnote 5).

Moderation of the indirect effect was probed by estimating the conditional indirect effect of perceived discrimination on achievement through culture maintenance and desire for contact for immigrant and immigrant descendant children. The indirect effect of perceived discrimination on school achievement was negative and statistically significant only for

immigrant children,  $b = -0.009$ , 95% CI  $[-.026, -.001]$ , but contrary to the expected (H4), it occurred through desire for culture maintenance and not for contact. Among immigrant descendant children, the indirect effect was not significant,  $b = 0.002$ , 95% CI  $[-0.006, 0.019]$ . The direct effect of perceived discrimination on school achievement was not statistically significant ( $b = -0.003$ ,  $p = .919$ ).

### Discussion

This study examined the relation between perceived discrimination and immigrant/immigrant descendant children's acculturation orientations towards culture maintenance and contact with native peers, and their psychological (i.e., well-being and peer acceptance) and sociocultural adaptation (i.e., school achievement). Overall, results supported our hypotheses that immigrant and immigrant descendant children are at higher risk of social exclusion and maladjustment in terms of their sociocultural adaptation. However, immigrant children, but not immigrant descendants, were also at higher risk of maladjustment in terms of psychological adaptation than their native peers.

As predicted (H1a), and consistent with a recent meta-analysis, immigrant children felt less happy and less accepted at school than native children, and this effect was stable across elementary and middle school, supporting the morbidity hypothesis (Dimitrova et al., 2016). Contrary to expected, immigrant descendant children did not differ from their native peers on psychological well-being and peer acceptance although they scored lower on sociocultural adaptation (i.e., school achievement). In this study, immigrant descendant children were all Portuguese citizens; thus, one can speculate citizenship can have a protective role on children's relationships with native peers at school. Previous research suggests that immigrants (i.e., foreign born) feel less competent in socializing with other ethnic groups than immigrant descendants, which predicts stronger perceptions of being discriminated against (Phinney, Madden, & Santos, 1998). Immigrant descendants may

benefit from an earlier and extended socialization period in the mainstream culture that helps them cope with perceived discrimination. Indeed, our findings showed that while immigrant children felt more discriminated than native children, immigrant descendant children did not differ from their native peers in terms of their perceptions of discrimination. Importantly, in this study, socio-emotional well-being and peer acceptance were assessed using general items that were not target specific, thus not allowing us to disentangle if acceptance and inclusion by peers stems from relationships with the ethnic ingroup, outgroup, or both.

In line with our hypotheses (H1b), both immigrant and immigrant descendant children presented lower levels of school achievement than their native peers. This finding is consistent with previous research (e.g., Dimitrova et al., 2016; Schachner et al., 2017, 2018) and is in line with recent OECD reports highlighting the persistent underachievement of immigrant and immigrant descendant children and youth (e.g., OECD, 2018). Also, consistent with our hypotheses (H1e), immigrant descendant children showed better sociocultural adaptation than their immigrant peers, but only in elementary school. Nonetheless, the gap in achievement relative to their native peers was found in both elementary and middle school for both immigrant groups, suggesting that the risk of social exclusion and maladjustment is not successfully tackled across school levels. In sum, our findings suggest that both immigrant and immigrant descendant children are at higher risk of exclusion in terms of sociocultural adaptation, whereas only immigrant children are at higher risk of psychological maladjustment.

Previous research provides mixed findings regarding differences between first and second-generation youth. Some studies show no differences between first and second-generation youth on academic outcomes, school belonging, and perceived discrimination (Spears Brown & Chu, 2012), as well as on acculturation orientations and adaptation outcomes (Berry & Hou, 2016; Motti-Stefanidi et al., 2018) while others indicate lower well-

being and more negative outcomes among second generation immigrants (e.g., Marks et al., 2014; de Vroome, Martinovic, & Verkuyten, 2014; Berry & Hou, 2017). Our findings add to the evidence suggesting the paradox is complex and likely dependent on third variables (e.g., age, ethnicity, developmental domain; Marks et al., 2014).

In addition to examining differences between immigrant and native children's adjustment, we also aimed to test a comprehensive model of acculturation conditions, orientations, and outcomes (Arends-Tóth & van de Vijver, 2006). Specifically, we proposed that perceived discrimination would be associated with immigrant and immigrant descendant children's psychological and sociocultural adaptation (e.g., Wilson et al., 2013; Umaña-Taylor, 2016). As expected, perceived discrimination was consistently associated with lower levels of peer acceptance and lower well-being, including both general feelings and well-being at school. In line with our hypotheses (H4), the negative association between perceived discrimination and psychological adaptation variables was not moderated by children's generational status, suggesting that the effects of discrimination are pervasive for immigrant and immigrant descendant children.

Importantly, contrary to our hypotheses, neither desire for culture maintenance nor desire for contact with native children mediated the relation between perceived discrimination and socio-emotional well-being. We predicted (H3a) that culture maintenance would be the strongest predictor of children's psychological adaptation (i.e., socio-emotional well-being and acceptance; e.g., Schachner et al., 2016, 2017a, 2018). However, neither culture maintenance nor desire for contact with native peers were related to psychological well-being. Interestingly, if culture maintenance was excluded from the analyses and desire for contact was tested as a single mediator, desire for contact mediated the relation between perceived discrimination and socio-emotional well-being. These results could be related to the strong correlations between culture maintenance and desire for contact.

We note that while we assessed mainstream orientation relying on the desire to have contact with native peers, previous studies assessed the desire to adopt the host culture. Berry's original model of acculturation proposed culture maintenance and contact as two dimensions of psychological acculturation (Berry, 1980). Several modifications of his original proposal have been developed, focusing on culture adoption instead of cultural contact (Bourhis, Moïse, Perreault, & Senécal, 1997) or even in terms of identification with heritage and host cultures (e.g., Hutnik, 1991). Importantly, research shows that assessing acculturation orientations using contact or culture adoption has different consequences for acculturation and adaptation (for a review see Berry & Sabatier, 2011; Ward & Kus, 2012). For instance, minority groups in Belgium favored integration when using Berry's original proposal of culture maintenance and contact, but favored separation when acculturation was assessed with culture maintenance and adoption (Snauwaert, Soenens, Vanbeselaere, & Boen, 2003). Two recent review studies examining the impact of using different acculturation conceptualizations and measurements concluded that differences in assessing acculturation are related to differences in acculturation preferences and adaptation indicators. Ward and Kus (2012) conclude that "maintenance–contact measure resulted in a significantly greater proportion of integrated responses than the maintenance-adoption model" (pp. 482). Thus, our findings should be interpreted within Berry's original proposal and future studies could examine the potential impact of other acculturation dimensions (i.e., culture adoption).

Also, regarding the non-significant relation between culture maintenance and well-being, one can speculate that the content of our acculturation measure may partially account for this finding. Recent meta-analytical work on biculturalism and adjustment indicates that the relation between acculturation orientations and psychological adjustment is stronger for measures that assess actual acculturative changes, rather than preferences or attitudes towards culture maintenance and culture adoption, as in our study (Nguyen & Benet-Martínez, 2013).

As mentioned above, our peer acceptance measure focused on perceived interactions with other children (e.g., playing with) but did not measure whether acceptance and support originated from ingroup or outgroup children, whereas desire for contact explicitly referred to playing or having lunch with native peers. A closer look at the zero order correlations between peer acceptance and desire for contact shows that the relation was close to zero, which may suggest that desired contact with native peers is not a proxy for perceived peer acceptance.

Finally, not supportive of our hypothesis (H3b), desire for contact was not positively related to children's school achievement, as in previous research (e.g., Schachner et al., 2016, 2017a, 2018). Notwithstanding, perceived discrimination had a negative indirect association with immigrant but not immigrant descendant children's school achievement through increased desire for culture maintenance. The more immigrant children felt discriminated against, the more they wanted to maintain their heritage culture, and this was negatively related to their school achievement. This finding is consistent with previous research on immigrant acculturation and school adjustment (e.g., Schachner et al., 2016, 2018), and to some extent with the rejection-identification hypothesis (Branscombe et al., 1999). According to Branscombe and colleagues, in face of discrimination, individuals increase their attachment to the ingroup to guarantee positive self-esteem and sense of belonging (Branscombe et al., 1999; Umaña-Taylor, 2016). Our results supported the positive link between feeling discriminated and being more supportive of culture maintenance. However, culture maintenance was not associated with increased socio-emotional well-being thus not fully supporting the rejection-identification hypothesis. Interestingly, perceived discrimination was not significantly associated with a decrease in the desire to have contact with native peers. Previous studies indicated that feeling discriminated leads to disidentification with the host society, but in our study we did not assess culture adoption, but

contact with native peers, which can partially explain the specificities in our findings (e.g., Jasinskaja-Lahti et al., 2009).

### **Limitations**

There were several limitations related to the correlational and cross-sectional nature of our data, even though all predicted relations were theoretically based. Therefore, the proposed link between perceived discrimination, acculturation orientations, and children's well-being should be further examined with longitudinal designs. Additionally, some effects did not reach statistical significance ( $.10 < p > .05$ ) and future studies are needed to replicate our findings. Future studies could also replicate and extend these findings testing a measurement model using a structural equation model approach. Finally, our operationalization of immigrant generational status differentiated between first (foreign born) and second (native born) generation immigrants. Given the multiple pathways to receive citizenship in Portugal (e.g., children born in Portugal to immigrant parents are granted citizenship if one parent has lived in Portugal for five years or the child has completed at least one cycle of basic or secondary education in Portugal), in this study immigrant descendant children were all Portuguese citizens. Future studies could extend our findings to second and third generation immigrants exploring the potential impact of citizenship on their adaptation.

### **Implications for Future Research**

Future studies could further investigate differences between first and second-generation children, focusing specifically on the potential buffering role of citizenship. In addition, future research could investigate if there are differences in children's well-being and peer acceptance as a function of different sources of support at school (i.e., ingroup peers, outgroup peers, or both), namely through social network analysis (Wölfer, Faber, & Hewstone, 2015).

Additional research is also needed on the extent to which differences between first and second generations are dependent on the host society context or policies toward immigration and acculturation, examining for instance if the paradox emerges equally in both settler and non-settler societies. As an example, research shows that there are differences among second-generation youth perceived discrimination, endorsement of ethnic acculturation attitudes, and psychological adaptation in Canada and France, with the latter revealing worse outcomes (Berry & Sabatier, 2010).

Finally, recent meta-analytic findings suggest that sociocultural adaption is understudied in immigrant (vs. expatriates or international students) populations (Bierwiazek & Waldzus, 2016). We further argue that future research could investigate differences in both psychological and sociocultural adaptation among different immigrant generations.

### **Conclusion and Implications for Intervention and Policy**

Overall, this study replicated previous findings regarding immigrant children's higher risk of psychological and sociocultural maladjustment. Perceived discrimination was a strong predictor of children's well-being and school achievement (indirectly for the latter). Importantly, our findings showed differences in children's psychological and sociocultural adaptation, highlighting the importance of considering both aspects of adaptation while considering generational status as a potential moderator factor. Therefore, this study can have important implications for educational policies and interventions aiming to reduce sociocultural disparities affecting children with a migrant background in the school context. Notwithstanding the overall positive results of Portugal regarding policies of integration of immigrants (MIPEX, 2015), discrimination is still a pervasive intergroup factor that hinders immigrant and immigrant descendant children's and youth well-being and school achievement. Thus, there is a need for implementing anti-prejudice interventions at schools to tackle the likelihood of children directly, or vicariously, experiencing ethnic/racial



discrimination. The negative impact of discrimination for different groups, outcomes, and across educational levels suggests the problem is systemic and should be tackled at the macro level, through whole school interventions capable of actively involving students and their families, school administrators, teachers, and other support staff (OECD, 2018).

Recent reviews show there are multiple effective roots to reduce prejudice and promote inclusion of minority children in the school context (Aboud, Tredoux, Tropp, Brown, Niens, & Noor, 2012; Beelmann & Heinemann, 2014; Lemmer & Wagner, 2015; Ülger, Hagenmeyer, Reichle, & Gaertner, 2017). These include intergroup contact (both direct and indirect through instructional material), instruction on anti-bias, values and norms, and the development of social-cognitive skills such as perspective-taking and empathy. Indeed, social psychological research has consistently shown the positive impact of intergroup contact for reducing prejudice and promoting harmonious intergroup relations (Pettigrew & Tropp, 2006). Further, recent meta-analytical work indicates that contact based in-school interventions are effective ways to promote positive intergroup relations (Ülger, Hagenmeyer, Reichle, & Gaertner, 2017). Interventions aiming to promote intergroup contact in school can increase the sociocultural adaptation of children with a migrant background by reciprocating their desire for contact with native children and reducing their experience of discrimination as majority children's prejudice is reduced via positive intergroup contact.

This study found some similarities regarding the social-psychological processes accounting for immigrant and immigrant descendant children's sociocultural adaptation. This is noteworthy considering that first and second-generation immigrants differ in the number of years they have been in contact with the host society and suggests there is room to consider more inclusive approaches as an alternative or complement to target-specific interventions. Importantly, the results also showed differences between the different generational groups. For immigrant children only, acculturation orientations, namely desire for cultural

maintenance, linked perceived discrimination and school achievement. To contravene the negative link between the desire to maintain the heritage culture and academic achievement, curriculum embedded interventions combining positive exposure to cultural diversity with anti-bias instruction might prove particularly effective. Taken together our findings stress the need to consider immigrant children's psychological but also sociocultural adjustment, and the importance of implementing educational policies that specifically target discrimination.

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