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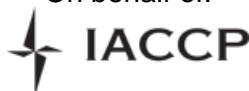
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Maja K. Schachner^{1,2}, Fons J. R. Van de Vijver^{2,3,4},
and Peter Noack¹

Abstract

Immigrant students in many European countries have lower educational attainments than their mainstream classmates. The present study investigated family-related conditions for early adolescents' acculturation orientations and psychological and sociocultural school adjustment in Germany. Analyses were based on data from 695 mostly second- and third-generation secondary school students from more than 50 countries. Parental acculturation expectations and cultural practices in the family (e.g., religion and language use) as well as their level of school involvement were the best predictors of pupils' psychological and sociocultural outcomes. The importance of religion in the family differed most across immigrant groups and was strongly linked to adolescents' ethnic orientation. Implications for research, educators, and policy makers are discussed.

Keywords

acculturation, early adolescents, school adjustment, family, cultural distance, Germany

School adjustment—both in psychological and sociocultural terms—is one of the most important outcomes of a successful acculturation process for adolescent immigrants. Although their educational aspirations are often higher than those of their mainstream peers (e.g., Jonsson & Rudolphi, 2011), students with an immigrant background are performing below the national average in many countries when it comes to educational attainment (Organisation for Economic Co-Operation and Development [OECD], 2006). The opposite pattern, called the immigrant paradox, has been found in some immigrant groups in the United States (Garcia Coll & Marks, 2012). At the same time, large differences in educational outcomes have been observed between different immigrant groups (OECD, 2006).

¹Friedrich Schiller University Jena, Germany

²Tilburg University, The Netherlands

³North-West University, Potchefstroom, South Africa

⁴University of Queensland, Brisbane, Australia

Corresponding Author:

Maja K. Schachner, Department of Educational Psychology, Friedrich Schiller University Jena, Humboldtstr, 27, 07743 Jena, Germany.

Email: maja.schachner@uni-jena.de

When students enter secondary school in early adolescence, academic outcomes become more decisive for their future academic and professional career (Eccles & Harold, 1993). At the same time, students have to face new challenges, which also affect academic outcomes (Hill & Chao, 2009): A more institutional setting with bigger classrooms requires more independence of students at secondary school compared with primary school and academic workload increases. These challenges can be even bigger for adolescents with an immigrant background. Firstly, because they already have to meet many other demands, and secondly, because their parents are often not able to give them the same kind of support as parents from the mainstream society can give their children to face school-related demands (Kao, 2004; Seginer, 2006). Early adolescence is therefore a critical period for interventions to alleviate any disadvantages students may be experiencing in their educational career because of their demographic background. The family has been identified as one of the core environments shaping individual development (Bronfenbrenner, 1986). It has also been identified as a core environment for acculturative processes and outcomes among adolescent immigrants (Motti-Stefanidi, Berry, Chrysochoou, Sam, & Phinney, 2012). To develop interventions for students with an immigrant background, it is crucial to better understand the relationship between early adolescent immigrants' family environment and their educational achievement.

In the present study, we integrate research on the effect of family-related conditions on (early) adolescents' academic outcomes and school adjustment (Fuligni, 1997; Hill & Tyson, 2009; Noack, 2004) into an acculturation framework (Arends-Tóth & Van de Vijver, 2006). More specifically, we investigate the relationship between antecedents related to the parents and the family environment, early adolescent immigrants' acculturation orientations, and their psychological and sociocultural school adjustment, also examining differences between immigrant groups.

The Acculturation Framework

The acculturation framework (Arends-Tóth & Van de Vijver, 2006) that is used in the present study has been developed to differentiate between different components of the acculturation process. These components are linked in a mediation model, which usually goes from personal, group- or context-specific conditions to the individual's orientations toward his or her ethnic culture (in the sense of the culture of origin of the immigrant) and the mainstream culture (in the sense of the national mainstream culture of the receiving country) as mediating variables, to psychological and sociocultural outcomes as the outcome variables in the model.

An individual's environment and the attitudes and opportunity structures in this particular environment form one of the most important acculturation conditions (Arends-Tóth & Van de Vijver, 2006). In this study, we focus on conditions rooted in the family and the home environment, which is one of the core environments shaping individual development (Bronfenbrenner, 1986) and acculturative processes and outcomes among adolescent immigrants (Motti-Stefanidi et al., 2012). In particular, we focus on education-related and acculturation-specific aspects within the family context as they are expected to be most relevant for acculturation and school-related outcomes.

The orientation toward the ethnic and the mainstream culture is at the center of the acculturation framework and mediates between acculturation conditions and outcomes. These orientations also include ethnic and mainstream identity components (Liebkind, 2006). In fact, both concepts are studied as the attitudinal component of the acculturation process (Ward, 2001). The orientations toward ethnic and mainstream cultures have been found to differ in their effects on sociocultural and psychological outcomes (Ward, 2001). The orientation toward the mainstream culture is more predictive of sociocultural outcomes in the domain of the mainstream culture, such as school performance and friendships with mainstream members. The orientation toward the ethnic culture, on the other hand, is important as it helps maintain relationships with ethnic

peers and the ethnic or immigrant community, which are an important source of emotional support. In her review, Ward (2001) therefore concludes that it is more strongly linked to psychological outcomes.

On the outcome side, psychological and sociocultural outcomes are distinguished. Psychological outcomes can be well-being, life satisfaction, and mental health, whereas sociocultural outcomes refer to an individual's competence in mastering everyday life in a particular cultural context (e.g., Ward, 2001). This distinction can also be applied to school adjustment outcomes (Berry, Phinney, Sam, & Vedder, 2006b). We therefore chose psychological and sociocultural outcomes that are relevant in the school context, such as adolescents' academic self-concept, relationship with native peers in class, and competence in the mainstream language (Schachner, Noack, Van de Vijver, & Eckstein, 2014; Schachner, Van de Vijver, & Noack, 2014).

Education-Related Conditions for School Adjustment

Research on education-related antecedents in the family to children's educational attainment has highlighted the role of parental school involvement, both for immigrant and for mainstream students (Hill & Tyson, 2009; Seginer, 2006). It has been shown that parental school involvement can actually compensate for disadvantages children may experience in their educational career, which are rooted in demographic differences (Dearing, Kreider, Simpkins, & Weiss, 2006). Grolnick and Slowiaczek (1994) propose three main types of involvement in their multidimensional conceptualization of parental school involvement, namely behavioral, cognitive-intellectual, and personal involvement. Behavioral involvement refers to participation in school activities, such as parent evenings; cognitive-intellectual involvement refers to the provision of activities and materials that are cognitively stimulating; and personal involvement refers to the perception that parents care about the school and their child's experience at school. Previous research has pointed out that immigrant parents often show less behavioral, school-based types of involvement, such as the attendance of parent evenings (Kao, 2004; Seginer, 2006). Also, they may not participate so much in cognitively stimulating activities related to the mainstream society, such as going to the theater or visiting a museum. We therefore focus on personal school involvement and the provision of cognitive-intellectual materials (books) as conditions of early adolescent immigrants' psychological and sociocultural school adjustment in our study. Both types of parental involvement have been shown to be related to achievement (e.g., Gniewosz & Noack, 2012; Noack, 2004). Personal involvement appears to be a particularly important predictor of immigrant students' academic outcomes (Fuligni, 1997). The presence and provision of books as cognitive-intellectual material in the family is also often used as an indicator of the educational background of the family, which is an important condition for school-related outcomes among immigrant and non-immigrant students (OECD, 2010).

Given the immediate relation between parental school involvement and school adjustment, we expect both personal school involvement and the provision of cognitive-intellectual materials to have direct effects on acculturation outcomes. Due to its affective nature, we expect that personal involvement is relevant for psychological as well as sociocultural outcomes, whereas the provision of cognitive-intellectual materials is only relevant for sociocultural outcomes. As the school domain is mainly associated with the mainstream culture, we also expect that there will be an indirect effect of personal school involvement and the provision of cognitive-intellectual materials through mainstream orientation.

Acculturation-Specific Conditions for School Adjustment

Research on acculturation- or culture-specific conditions for adjustment has highlighted the role of perceived cultural distance between the country of origin and the country of settlement as an

important antecedent (e.g., Galchenko & Van de Vijver, 2007; Ward & Searle, 1991). In the family context, parental acculturation expectations and cultural practices, such as language use and religious practice, are likely to affect their children's acculturation orientations and adjustment through processes of cultural transmission (Schönpflug, 2009).

It has been suggested that individuals who perceive more cultural distance (i.e., larger perceived differences in cultural values, norms, and behavior) between their culture of origin and the mainstream culture are more inclined to orient themselves to the former and find it more difficult to adapt to the latter as it requires more culture learning (e.g., Galchenko & Van de Vijver, 2007; Ward & Searle, 1991). This relationship does not appear to depend on other acculturation variables, such as immigrant status (Zlobina, Basabe, Paez, & Furnham, 2006). We expect to find the same relationships for the early adolescent immigrants in our sample.

Furthermore, previous studies have shown that perceived acculturation expectations in a certain environment are a strong predictor of both acculturation orientations and outcomes (Ouarrasse & van de Vijver, 2004). In particular, expectations in the immigrant community toward ethnic maintenance and adoption were found to be important predictors of school success and good mental health among young Moroccans in the Netherlands. In Germany, a stronger orientation of the parents toward the mainstream culture predicted better (German) language and cultural skills among Turkish immigrant children (Becker, Klein, & Biedinger, 2013). We expect that early adolescents' acculturation orientations as well as their sociocultural and psychological school adjustment will be strongly influenced by the perceived acculturation expectations of their parents.

Concerning cultural practices, the importance of mainstream language use in the family for children's own language competence and educational success has been highlighted (Esser, 2006). Drawing on the acculturation framework (Arends-Tóth & Van de Vijver, 2006), we would expect that this effect is mediated by a stronger orientation toward the mainstream culture. Religion and religious practices, on the other hand, are usually rooted in the culture of origin and have been linked to a higher level of maintenance of the culture of origin (Güngör, Fleischmann, Phalet, & Maliepaard, 2013). In fact, in her recent review Ward (2013) suggests that religious practice is actually one of the most important ways of maintaining one's culture of origin and can facilitate psychological adjustment. It is therefore expected that a higher importance of religion in the family of origin will be connected to a higher ethnic orientation and more positive psychological acculturation outcomes.

The Present Study

The present study goes beyond previous research in three ways: Firstly, it integrates research on the family as an important developmental and acculturative context for adolescent immigrants (Bronfenbrenner, 1986; Motti-Stefanidi et al., 2012) into an acculturation framework (Arends-Tóth & Van de Vijver, 2006). In doing so, the framework is tested in a particular context and age group where it has not been applied yet. Secondly, it is one of very few studies investigating the relationship between all components of the acculturation framework. This level of comprehensiveness is rarely achieved. Thirdly, it draws on a large and diverse sample of early adolescent immigrants, thereby providing more opportunity to generalize findings across immigrant groups. Addressing these points, we first test for differences between immigrant groups on all concepts studied and then test the conceptual model displayed in Figure 1.

Method

Participants

A total of 695 students ($M_{\text{age}} = 11.04$ years, $SD_{\text{age}} = 0.88$ years, 49% male) with a migration background participated in the study. All students came from a mono-ethnic parental background.

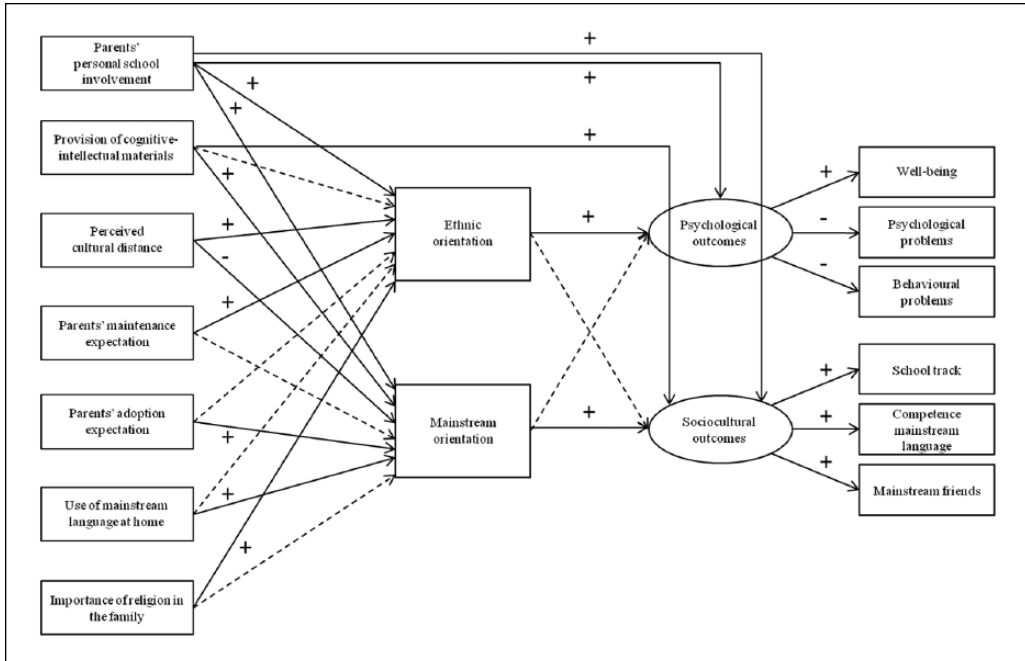


Figure 1. Conceptual model of hypothesized relationships—Mediation model and direct paths. Note. Dotted arrows mark paths which are expected to be non-significant.

Students represented 54 countries of origin, reflecting the major immigration waves to Germany, with guest workers from Turkey and Southern Europe arriving in the 1960s and 1970s and refugees, predominantly from Eastern Europe and the Balkan, in the 1990s. The biggest groups came from Turkey ($n = 281$), Italy ($n = 45$), Kosovo ($n = 39$), Greece ($n = 38$), Croatia ($n = 32$), Russia ($n = 30$), and Bosnia ($n = 23$). The majority of students (86%) were born in Germany. The average age at migration for first-generation students was $M = 4.66$ years ($SD = 3.31$). The three main secondary school tracks in Germany were all well represented in the sample: low vocational track (“Hauptschule,” $n = 210$), high vocational track (“Realschule,” $n = 281$), and academic track (“Gymnasium,” $n = 204$). Usually, the concentration of students with an immigrant background is much higher in the lower tracks (OECD, 2006). However, to make results comparable across school tracks, schools with a similar proportion of immigrants were targeted in all three tracks; the average proportion across schools was .69.

Measures

Measures are listed below in the order they occur in the acculturation framework (see Figure 1). Psychological and sociocultural adjustment each consisted of three components, which are listed separately. For psychological adjustment, these components were well-being, psychological, and behavioral problems. For sociocultural adjustment, these components were the number of mainstream friends, mainstream language competence, and school track. Measures not originally available in German were translated using a translation back-translation method (Van de Vijver & Leung, 1997). All items and scales had been tested in a pilot study with 51 immigrant students of the target age group. Scale characteristics are displayed in Table 1.

Provision of cognitive-intellectual materials. As a proxy for the exposure to intellectually stimulating materials at home, a single item asked about the number of books in the household on a 5-point

Table 1. Scale Characteristics by Subscale.

Scale	M (SD)	Reliability
Acculturation conditions		
Provision of cognitive-intellectual materials	3.03 (1.14)	—
Parents' personal school involvement	4.17 (0.86)	.67
Perceived cultural distance	3.45 (0.91)	.83
Parents' acculturation orientations		
Adoption expectation	3.51 (1.11)	.85
Maintenance expectation	3.97 (1.01)	.84
Use of mainstream language at home	2.75 (0.85)	—
Importance of religion at home	3.89 (1.24)	—
Attitudes toward mainstream and ethnic culture		
Ethnic identity		
Germany	2.86 (1.18)	.94
Other country	4.22 (0.87)	.88
Acculturation orientation		
Mainstream orientation (adoption)	3.42 (0.88)	.83
Ethnic orientation (maintenance)	3.80 (0.80)	.81
Psychological outcomes		
Depression	1.81 (0.86)	.84
Physiological stress symptoms	1.80 (0.69)	.73
Self-concept		
Social self	3.95 (0.83)	.87
Academic self	3.58 (0.80)	.81
Life satisfaction (SWLS)	3.76 (0.93)	.82
Disruptive behavior at school	1.99 (0.68)	.62
School delinquency	1.27 (0.43)	.66
Sociocultural outcomes		
School track	1.99 (0.77)	—
Number of mainstream friends	1.06 (0.82)	—
Competence mainstream language	4.31 (0.72)	—

Note. 679 < N < 695. SWLS = Satisfaction With Life Scale.

Likert scale from (1) *none or very few* to (5) *more than 200 books*. This is a standard measure for this age group and has been validated in large-scale studies for immigrant and non-immigrant students (e.g., Albert, Hurrelmann, & Quenzel, 2010).

Parents' personal school involvement. The newly developed scale measured parents' active interest in their children's school life and academic career and comprised of three items (e.g., "My parents often ask me what we are doing at school."). Responses were given on a 5-point Likert scale from (1) *no, that's not right* to (5) *yes, that's right*.

Perceived cultural distance. A six-item adaptation of Galchenko and Van de Vijver's (2007) questionnaire was used. Items measured how similar or different the early adolescents perceived their culture of origin and the German culture, tapping into public and private life domains relevant and familiar to early adolescents, such as family life, general way of life, dress and parenting styles (e.g., "How similar or different do people dress in Germany and your other country?"). Responses ranged from (1) *very similar* to (5) *very different*.

Parents' acculturation expectations. We adapted 12 items from scales by Arends-Tóth and Van de Vijver (2007), which tapped into the public and private domain and were mirrored for ethnic and mainstream dimensions (e.g., "My parents want me to get to know the customs and traditions from my other country."). Responses ranged from (1) *no, that's not right* to (5) *yes, that's right*.

Use of the mainstream language at home. With a single item, early adolescents were asked which language(s) was (were) spoken at home. Responses ranged from (1) *always my ethnic language* to (5) *always the mainstream language*.

Importance of religion at home. A single item was newly developed, asking the early adolescents how important they felt religion was in their family. Responses ranged from (1) *not important at all* to (5) *very important*. The item was found to be related to the religious composition of early adolescents' countries of origin at country level (Schachner, Van de Vijver, & Noack, 2014), suggesting that it is a valid measure of cultural differences in the importance of religion in immigrant families.

Acculturation orientations. As ethnic identity and acculturation orientations are both studied as the attitudinal component of the acculturation process (Liebkind, 2006; Ward, 2001), the combination of the two was used in the model as the children's acculturation orientations. A reformulation of the items measuring perceived parental acculturation expectations was used, which had been adapted from Arends-Tóth and Van de Vijver (2007, for example, "I like the way families live in my other country"). The scale was also extended to tap into more aspects, resulting in a total of 18 items. Responses ranged from (1) *no, that's not right* to (5) *yes, that's right*. In addition, ethnic and mainstream identities were measured with 10 items by Phinney (1992, for example, "I have a lot of pride to be a member of my ethnic group").

Well-being. This comprised measures of general life satisfaction (Diener, Emmons, Larsen, & Griffin, 1985), academic self-concept (SESSKO; Schöne, Dickhäuser, Spinath, & Stiensmeier-Pelster, 2002), and social self-concept (Marsh, 1988). General life satisfaction was measured with the widely used Satisfaction With Life Scale (SWLS; Diener et al., 1985), which comprises five items (e.g., "I am satisfied with my life."). The SWLS has recently been validated in different immigrant communities and age groups (Ponizovsky, Dimitrova, Schachner, & Van de Schoot, 2012). Academic self-concept was measured with five items from the SESSKO scale by Schöne et al. (2002), which is frequently used in the German context (e.g., "Learning new things is easy for me."). Social self-concept was measured using seven items from the relations with peers subscale of the Self-Description Questionnaire for early adolescents (SDQ I) by Marsh (1988; for example, "I make friends easily"). Answers on all three scales ranged from (1) *no, that's not right* to (5) *yes, that's right*.

Psychological problems. A combination of five items on physiological stress symptoms (e.g., "I feel dizzy and faint.") and five items on depressive mood (e.g., "I worry a lot.") were used, which have been used with immigrant youth in 13 countries (Berry, Phinney, Sam, & Vedder, 2006a). Responses ranged from (1) *almost never* to (5) *very often*.

Behavioral problems. A combination of disruptive behavior (Jenkins, 1995) and delinquency (McCarthy & Hoge, 1987) measures were used. For disruptive behavior, we used a selection of five items, which were considered appropriate for the age group and context of our study. Students were asked how often a particular situation had occurred over the last 4 weeks (e.g., "How often did you chat with your neighbor during class in the last 4 weeks?"), from (1) *never* to (5) *very often*. In the delinquency scale, early adolescents were asked how often a particular situation had

occurred over the last 12 months (e.g., “How often have you destroyed school property in the last 12 months?”), from (1) *never* to (5) *once a month or more*.

School track. In South-West Germany, where the data were collected, early adolescents have to pass a standardized test in primary school, which covers the main subjects and determines the secondary school track they can go to. This decision is binding. The school track, with scores of (1) *low vocational track*, (2) *high vocational track*, and (3) *academic track*, is therefore a good indication of overall academic performance for early adolescents who just entered secondary schools.

Mainstream language competence. This was measured with a single item where the adolescent rated his or her ability to communicate in the mainstream language (German) from (1) *not at all* to (5) *very good*.

Number of mainstream friends. Participants were asked to list their five best friends in the classroom, using their respective numbers on the class list. This was then matched with their friends' questionnaire data to obtain their demographic information and extract the number of mainstream friends for every adolescent. This procedure is less prone to social desirability and has been found to be effective in previous research (Vervoort, Scholte, & Scheepers, 2011). As the proportion of children with an immigrant background was higher than that of German children in most classrooms that participated in the study, the actual number of friends was then turned into a new variable with (0) *no German friend*, (1) *one German friend*, and (2) *at least two German friends*.

Procedure

Students were recruited in culturally heterogeneous secondary schools in Germany, during their first year at the school. Subject to permission from school authorities and parental consent, they completed a questionnaire in class under supervision of the first author and her assistants. The questionnaire was part of a larger project on school-related acculturation processes of early adolescent immigrants and took the students about 1.5 hours to complete.

Results

Preliminary Analyses—Measures

Before the main analyses, exploratory factor analyses were carried out on all individual scales to establish their (uni-)dimensionality. This was confirmed for all scales. Reliabilities, means, and standard deviations for each scale are displayed in Table 1. Most internal consistencies were above .70 and several well above .80, which is adequate. Three scales revealed internal consistencies between .60 and .70; yet, they were later combined with other scales into higher level constructs as described below.

In the next step, we computed exploratory factor analyses on the scale means to parcel individual scales and create the observed variables (factor scores) for our model. As expected, an ethnic and a mainstream factor emerged, including the respective acculturation orientation and identity. With respect to our measures of psychological outcomes, measures of well-being, psychological problems, and behavioral problems formed three unifactorial constructs comprising individual scales as mentioned before. Proportions of variance explained by these higher order factors ranged from 68% to 81% and loadings of individual scales onto these factors ranged from .81 to .90. See Appendix 1 for correlations between observed variables.

Preliminary Analyses—Cultural Differences

To make the large number of cultural groups more accessible for statistical analysis, early adolescents were grouped into nine different regions. These were Turkey ($n = 280$), Balkan countries ($n = 113$), Southern Europe ($n = 104$), Eastern Europe and the former Union of Soviet Socialist Republics (USSR; $n = 85$), Arab Countries and North Africa ($n = 71$), Asia ($n = 23$), Sub-Saharan Africa ($n = 11$), Western Europe and North America ($n = 4$), and Latin America and the Caribbean ($n = 4$). Regions were formed on the basis of cultural and religious aspects (e.g., Islam in Arab countries and North Africa, Catholicism in Southern Europe; Central Intelligence Agency, 2012) as well as the immigration history (e.g., guest workers from Southern Europe, refugees from the former Yugoslavian countries on the Balkan; OECD, 2006). Turkey was the only country treated as a region on its own due to the large number of participants in this group.

In the next step, we conducted a MANOVA with region and sex as the independent variables and the variables subsequently to be used in the path model as dependent variables. As Western Europe and North America and Latin America and the Caribbean only comprised of very few participants, they were excluded from this analysis. There was a significant multivariate main effect for sex, $F(11, 663) = 1.91, p < .05$, (partial) $\eta^2 = .03$, and region, $F(66, 4008) = 4.05, p < .001, \eta^2 = .06$. However, an inspection of the specific effects for sex revealed only a small (Cohen, 1988) significant effect for mainstream orientation, $F(1, 663) = 9.60, p < .01, \eta^2 = .01$, with boys scoring lower than girls, and psychological outcomes, $F(1, 663) = 4.53, p < .05, \eta^2 = .01$, with girls scoring lower than boys. Regional differences in the individual variables appeared to be more pronounced.

Although significant differences between early adolescents from different regions emerged on all variables except for parents' personal school involvement, language use at home, and the combined psychological outcomes, effect sizes were generally small (see Table 2). We therefore only interpreted differences with a medium ($\eta^2 > .06$) or large ($\eta^2 > .14$) effect as defined by Cohen (1988), namely for ethnic orientation and the importance of religion at home. Religion was seen as particularly important in families from Turkey, followed by Arab countries and North Africa, and least important in families from Asia and Eastern Europe and the former USSR. Similarly, ethnic orientation was highest for early adolescents from the Balkan countries and Turkey and lowest for early adolescents from Asia and Eastern Europe and the former USSR. We did not find significant interactions between sex and region.

Model Test Using Structural Equation Modeling

Using MPlus 5 (Muthén & Muthén, 2010), we set out to test the conceptual model in Figure 1. The modification indices suggested including a correlation between ethnic and mainstream orientation to improve model fit. Allowing for this correlation, $r = -.23, p < .01$, the model revealed a good fit, with $\chi^2/df (N = 622) = 2.72, p < .01$; comparative fit index (CFI) = .90; root mean square error of approximation (RMSEA) = .05 (90% confidence interval [CI] = [0.04, 0.06]); standardized root mean square residual (SRMR) = .04. Standardized path coefficients are displayed in Table 3.

The patterns observed were largely as expected: The provision of more cognitive-intellectual materials and adolescents' perception of a higher personal school involvement by parents predicted a higher mainstream orientation. Adolescents' perception of a higher personal school involvement by parents also predicted a higher ethnic orientation. Both also directly predicted the outcome variables (i.e., unrelated to acculturation processes) as expected. Surprisingly, perceived cultural distance was not a significant predictor of either orientation. Perceived parental acculturation expectations were by far the strongest predictors for early adolescents' acculturation orientations. The use of the mainstream language at home predicted higher mainstream and lower

Table 2. Means and Differences by Region of Origin.

	Arab countries and North Africa							Difference by region	Partial η^2
	Turkey	Balkan countries	Southern Europe	Eastern Europe and former USSR	Arab countries and North Africa	Asia	Sub-Saharan Africa		
Provision cognitive-intellectual material	3.14 (1.11)	2.87 (1.11)	2.80 (1.19)	3.26 (1.03)	2.96 (1.25)	2.83 (1.11)	2.91 (1.22)	†	.02
Parents' personal school involvement ^a	0.19 (1.02)	0.03 (0.97)	-0.02 (1.02)	-0.07 (0.96)	-0.22 (0.99)	-0.32 (1.15)	-0.03 (1.10)	ns	.01
Perceived cultural distance	3.53 (0.87)	3.30 (0.92)	3.41 (0.91)	3.09 (0.94)	3.67 (0.94)	3.60 (0.87)	4.20 (0.74)	***	.04
Ethnic maintenance expectation ^a	0.30 (0.81)	0.33 (0.80)	0.21 (0.89)	-0.15 (1.05)	0.18 (1.18)	0.05 (.97)	0.63 (0.60)	**	.03
Mainstream adoption expectation ^a	-0.17 (0.99)	-0.23 (1.04)	-0.36 (1.04)	0.23 (0.91)	-0.04 (0.89)	0.00 (0.99)	0.29 (0.80)	**	.03
Use of mainstream language	2.87 (0.76)	2.80 (0.86)	2.62 (0.90)	2.72 (1.04)	2.75 (0.92)	2.52 (0.73)	3.00 (0.89)	ns	.02
Importance of religion	4.24 (1.07)	4.09 (1.02)	3.53 (1.27)	2.75 (1.18)	4.21 (1.20)	3.47 (1.51)	3.91 (1.22)	***	.16
Ethnic orientation ^a	0.31 (0.77)	0.45 (0.77)	0.23 (0.99)	-0.22 (0.99)	-0.13 (1.01)	-0.13 (1.09)	-0.02 (0.91)	***	.07
Mainstream orientation ^a	-0.30 (0.97)	-0.11 (0.99)	-0.39 (0.98)	0.19 (0.89)	-0.02 (0.84)	0.22 (0.79)	0 (0.88)	***	.04
Psychological outcomes ^a	-0.05 (0.97)	-0.10 (0.98)	0.06 (0.95)	0.04 (1.08)	0.16 (1.12)	0.15 (1.03)	0.03 (0.92)	ns	.01
Sociocultural outcomes ^a	-0.14 (1.01)	0.14 (1.05)	-0.08 (1.05)	0.22 (0.84)	0.21 (0.87)	0.14 (0.82)	-0.60 (1.30)	**	.03

^aValues represent factor scores.

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 3. Standardized Regression Coefficients (N = 622).

	Dependent variables									
	Acculturation orientations			Psychological outcomes				Sociocultural outcomes		
	Ethnic	Mainstream	Psychological outcomes (latent)	Well-being	Psychological problems	Behavioral problems	Sociocultural outcomes (latent)	School track	Competence mainstream language	Mainstream friends
% of variance explained	31	36	33	71	12	9	22	17	26	5
Independent variables										
Acculturation conditions										
PCIM	<i>ns</i>	.07*					.23***			
PPSI	.16***	.08*	.33***				.16*			
Perceived cultural distance	<i>ns</i>	<i>ns</i>								
Ethnic maintenance expectation	.43***	-.07*								
Mainstream adoption expectation	<i>ns</i>	.53***								
Use of mainstream language	-.11***	.11***								
Importance of religion	.17***	-.10**								
Acculturation orientations										
Ethnic			.25***							
Mainstream			.31***							
Psychological. outcomes (latent)				.84 ^a						
Sociocultural outcomes (latent)					-.35***	-.29***		.41 ^a	.52***	.22***

Note. Empty cells refer to effects that are assumed to be 0. PCIM = provision cognitive-intellectual materials. PPSI = parents' personal school involvement.

^aFixed at a value of 1 in unstandardized solution.

* $p < .10$. ** $p < .05$. *** $p < .001$.

ethnic orientations among the early adolescents. Finally, the importance of religion at home predicted a higher ethnic and lower mainstream orientation. Mainstream orientation was positively associated with both types of outcomes, whereas ethnic orientation was only positively associated with psychological outcomes (and a marginally significant negative association with socio-cultural outcomes).

Bootstrapping tests revealed that all indirect effects of the predictors on the outcomes via the acculturation orientations were significant. Coefficients for the indirect effects were small, ranging $-.06 < \beta < .10$ for effects via ethnic orientation and $-.03 < \beta < .17$ for effects via mainstream orientation. Overall, the proportions of variance explained tended to be large, particularly for acculturation orientations and psychological outcomes, which revealed values above 30% (see Table 3 for details).

Discussion

In this study, we were interested in associations of the family context with the acculturation orientations and psychological and sociocultural school adjustment of early adolescent immigrants in an acculturation framework (Arends-Tóth & Van de Vijver, 2006). The aim was to get insight into the application of such a framework and the interrelation between its main components, which are expected to be antecedents, mediators, and outcomes of the acculturation process. We also wanted to investigate the distinct role of a broad range of antecedents in the family context that are relevant for acculturation orientations and school adjustment of adolescent immigrants. Finally, we were interested in studying cultural differences in antecedents and outcomes in different immigrant groups. Analyses were based on a large and diverse sample including data from students from more than 50 countries who attended German secondary schools. Results will first be discussed in relation to the application of the acculturation framework, followed by the associations of different conditions in the family context with adolescents' school adjustment and finally differences between immigrant groups.

Applying an Acculturation Framework

We could explain much variation in acculturation orientations and outcomes by applying a model in which acculturation orientations mediated the relationship between acculturation conditions and outcomes. As expected, most of the antecedents were associated with our outcome variables indirectly, via adolescents' acculturation orientations. This highlights once again the central role of acculturation orientations in the acculturation process (Berry, 1997; Ward, 2001). Moreover, our findings support the usefulness of studying them in a conceptual framework, where they are treated as mediators and thus shed light onto the way in which specific conditions are associated with acculturation outcomes.

For the mostly second- and third-generation adolescents in our sample, the orientation toward ethnic and mainstream culture are almost equally positively associated with psychological outcomes. However, antecedents were mostly associated either with the orientation toward the ethnic or the mainstream culture. If they were associated with both orientations, they tended to be associated positively with one and negatively with the other orientation. This suggests that antecedents work in opposite directions. It seems that in the family context, mainstream and ethnic culture are seen as mutually exclusive. Such a unidimensional view of acculturation is prominent in Germany, with many people seeing acculturation as a development from separation toward assimilation as opposed to an integration of both cultures (Zick, Wagner, Van Dick, & Petzel, 2001). This is also supported by a recent comparative study of adult Turkish immigrants in four Western countries (Yağmur & van de Vijver, 2012), which suggests that Germany can be characterized as an ethnist society, where ethnic and mainstream culture and identity are seen as mostly incompatible by immigrants.

Looking at the relationship between acculturation orientations and outcomes, the positive associations between both orientations and psychological outcomes are in line with a view that integration facilitates positive acculturation outcomes, as argued by Berry and colleagues (Berry, 1997; Berry et al., 2006a) and confirmed in a recent meta-analysis (Nguyen & Benet-Martínez, 2013). Yet, mainstream orientation appeared to be more important than ethnic orientation for both sociocultural and psychological outcomes. This may be explained by the types of outcomes chosen in our study, which are relevant for school and therefore mainly reflect the public domain and adjustment to the mainstream society. Indeed, acculturation processes can be domain-specific and orientations may differ between public and private domains of life (Arends-Tóth & Van de Vijver, 2006). Previous qualitative research could demonstrate that early adolescent immigrants in Germany do actually follow more assimilationist strategies at school than outside of school (Hermann, Schachner, & Noack, 2012). This may be a reaction to perceived expectations to assimilate—or perceived risk to be segregated—by the mainstream society (Zick et al., 2001), which are mentioned above and still reflected in school policies and politics in Germany today. These findings highlight the importance of considering the societal context, especially concerning acculturation expectations and multiculturalism ideologies, when studying acculturation processes (Ward, 2013; Yağmur & van de Vijver, 2012).

Taken together, our findings support the usefulness of an acculturation framework to better understand the mechanisms underlying the acculturation process, also when studying the context of immigrant families and acculturation processes and outcomes among adolescent immigrants. In particular, the central and mediating role of an individual's orientations toward the ethnic and the mainstream culture is highlighted, which explain how certain acculturation conditions are translated into outcomes. Our findings also suggest that it is important to consider the wider context—in this case, the mainstream society and the school on the one hand and immigrant families living in this society on the other hand—when interpreting the relations between acculturation conditions, orientations, and outcomes.

Conditions for School Adjustment of Early Adolescent Immigrants

Looking at the effect of individual antecedents on acculturation orientations and outcomes, parents' personal school involvement appeared to matter more for early adolescents' school adjustment than the provision of cognitive-intellectual materials—both directly and indirectly through acculturation orientations. This confirms that parents' personal school involvement reflects a more general attitude of providing psychological support and taking part in their children's lives as suggested by Grolnick and Slowiaczek (1994), which promotes integration and adjustment. It is also in line with studies showing the positive effect of perceived family support in adolescents' acculturation process (Edwards & Lopez, 2006).

Against our expectations and contrary to previous findings in older samples (e.g., Galchenko & Van de Vijver, 2007), cultural distance was not a significant predictor of early adolescent immigrants' acculturation orientations or outcomes in our study. We confirmed that the lack is not due to multicollinearity between predictors. Yet, the concept of cultural distance seems to be meaningful for early adolescent immigrants as we could show that their judgments are clearly linked with more objective measures of cultural distance on country level (Schachner, Van de Vijver, & Noack, 2014). One explanation for non-significant role of cultural distance may be that most of the adolescents are second- or even third-generation immigrants (previous studies worked with exchange students and mostly first-generation immigrants); so, students in our sample have never lived in the country of origin of their (grand-)parents and the family home is for many of them the only place where they are exposed to their ethnic culture. Therefore, the influence of the ethnic culture may have eroded even though they have still enough knowledge of their culture of origin to appreciate the distance between that culture and the mainstream culture

in Germany. There may not be an immediate association of this culture or any differences experienced between this culture and the mainstream culture with early adolescents' acculturation orientations and outcomes, but how the parents are dealing with the intercultural situation (e.g., their acculturation expectations and cultural practices) may be more important.

Another reason why perceived cultural distance was not associated with acculturation orientations and outcomes in our study could lie in the composition of our sample, which included a high share of immigrants with a Muslim background. It turned out that items describing the most visible distinctions between Muslim and non-Muslim groups, namely those related to gender roles and dress, varied most between regions. This suggests that our measure of cultural distance mainly picked up the difference between Muslim and non-Muslim immigrants. In that respect, it may have tapped into similar aspects as our measure of the importance of religion in the family, which also varied most between Muslims and non-Muslims as described below. Although the correlation between these two variables was not very high, they show a similar pattern of relationships with the other variables in the model. It seems therefore likely that the importance of religion explained some variance, which would otherwise have been explained by perceived cultural distance.

Perceived parental acculturation expectations were most strongly associated with early adolescents' own orientation, suggesting high rates of cultural transmission in this domain (Schönpflug, 2009). This is in line with a study by Nauck (2001), who found very high rates of ethnic identity transmission among adolescent immigrants and their parents. As we measured adolescents' perceptions of their parents' acculturation attitudes, the question arises, to what extent these reflect parents' actual expectations and to what extent they are a projection of adolescents' own acculturation orientations. However, research suggests that although projection does play an important role in this age group (Gniewosz & Noack, 2006), early adolescents' perceptions of intergroup attitudes are still significantly linked with parents' actual attitudes.

As expected, the use of the mainstream language at home significantly predicted early adolescents' mainstream orientation. The fact that it is also linked with a lower ethnic orientation is most likely mainly a measurement effect, as the use of mainstream and ethnic language at home was measured with a single item rather than with two separate dimensions for ethnic and mainstream language. Still, our findings are in line with previous literature highlighting the importance of the language use at home for immigrant children's acculturation orientations (Nauck, 2001) and outcomes (Esser, 2006). Finally, more religion at home is associated with higher levels of ethnic maintenance and lower levels of adoption of the mainstream culture. This is in line with previous research, suggesting that religious practice is a prominent way of maintaining one's culture of origin, especially among Muslim immigrants (Güngör et al., 2013; Ward, 2013).

In summary, it appears that early adolescents' acculturation orientations are more strongly associated with perceived parental attitudes toward acculturation and cultural practices in the family than they are with perceived differences between the ethnic and the mainstream culture. Cultural transmission within the family is still high in this age group. These findings emphasize the role of the parents and the family home as an important microcosm shaping children's intercultural experience and acculturation process. Furthermore, notably parents' personal school involvement seems to promote integration and adjustment. This highlights again the importance of perceived family support in adolescents' acculturation process (Edwards & Lopez, 2006) and is especially encouraging as parents may not be able to show more behavioral forms of involvement in their children's school life (Kao, 2004; Seginer, 2006).

Differences Between Immigrant Groups

The importance of religion at home shows the greatest systematic differences between immigrants' regions of origin, followed by ethnic maintenance. The fact that adolescents from regions

with many Muslims (Schachner, Van de Vijver, & Noack, 2014) score particularly high on both confirms earlier suggestions that especially for these immigrants practicing their religion is an important way of maintaining their culture of origin (Güngör et al., 2013; Ward, 2013). The practice of religion may further be increased among Muslim immigrants as a reaction to rising prejudices against their group in the mainstream society. Indeed, a consistent increase of the practice of Islam among Muslim immigrants, particularly those in the second or third generation, has been observed following the terrorist attacks in the United States in 2001. Turkish immigrants in particular are one of the most visible minorities, which are often stigmatized and generally have a low status in German mainstream society.

Ethnic maintenance was also higher among the bigger immigrant groups, suggesting that it may be easier to keep up one's ethnic culture if there are more peers around who share this culture. When conducting our study, we came across classrooms where students with a Turkish background formed the biggest ethnic group, even outnumbering the Germans. Also, the ethnic community outside of schools may be more vital for bigger groups (Suanet & Van de Vijver, 2008), providing additional opportunities for cultural maintenance.

Taken together with our findings concerning perceived cultural distance, the main cultural differences in our sample involve the distinction between Muslim and non-Muslim immigrant groups. Therefore, the importance of religion appears to be more predictive than a broader perception of cultural differences. This supports what Ward (2013) suggests in her recent review, namely, that despite the substantial overlap, religious identity can be even more important than ethnic identity for Muslim immigrants. The strong religious identity, however, can also be connected to the high levels of anti-Muslim sentiments these immigrants are exposed to in many countries (Güngör et al., 2013). A larger and more vital ethnic community and a higher number of ethnic peers in class may further facilitate ethnic maintenance in these groups.

Limitations and Future Directions

Despite the comprehensiveness of our study, there are some shortcomings that should be mentioned. Firstly, although the proportion of different immigrant groups in our sample was a reflection of their relative proportion in the general population, some of the groups in our sample were quite small. This prevented us from testing all potentially relevant relationships in a multilevel framework or multigroup analyses, which would have allowed us to better examine cultural variations in them. Such analyses should be a goal for future research. Secondly, as it is typical for the context in Germany and many other countries (Berry et al., 2006b), the vast majority of adolescents in our sample represented the second- and third-generation immigrants. Out of the small number of first-generation immigrants, most had migrated at a very young age. It is therefore likely that the majority of first-generation immigrants in our sample have very few if any memories of the migration experience. This did not allow us to systematically study differences based on immigrant generation in the different immigrant groups. Future research should aim to include a higher proportion of first-generation immigrants to address this issue. Thirdly, the question arises which cultural groups are actually most relevant for early adolescent immigrants as in our sample. Especially for Muslim immigrants, their religious identity may be more salient than their ethnic identity (Ward, 2013). To better understand the interplay between ethnic and religious culture, future studies should make an effort to disentangle the two and examine their unique role in the acculturation process. Finally, while the strength of our study is that it provides an overview of the patterns between a broad range of antecedents and outcomes and there are valid reasons to expect effects going into the direction that was tested in our study, the issue of causality cannot be addressed using cross-sectional data. Future studies should focus on a smaller set of variables but assess them longitudinally. This would also allow the investigation of developmental processes, which may be intertwined with acculturative processes in adolescence (e.g., Michel, Titzmann, & Silbereisen, 2012).

Conclusion and Implications

Taken together, our study is one of very few which tests the acculturation framework (Arends-Tóth & Van de Vijver, 2006) with all its main components. By studying the family context as an acculturation condition, we provide insight into a core developmental and acculturative context for adolescent immigrants (Bronfenbrenner, 1986; Motti-Stefanidi et al., 2012) and its associations with their acculturation orientations and school adjustment. Taking into account many different aspects on the antecedent and outcome side and drawing on adolescent immigrants from more than 50 countries, we could provide a comprehensive overview of the relationships between variables, also taking into account differences between immigrant groups. This is to this extent rarely done. Given the size and diversity of the sample and the comprehensiveness of our framework, we could make an important contribution to the knowledge on acculturation processes among adolescent immigrants in general. At the same time, our results also shed light on some conditions and associations that are specific to the German context as a specific type of immigrant-receiving country (ethnist/assimilationist) and with specific immigrant groups (predominantly second and third generation and with a high share of Muslim immigrants). Our study is therefore of international but also of local relevance.

The findings suggest that, studying acculturation in a framework with conditions, orientations, and outcomes can help to better understand the mechanisms by which certain conditions are translated into outcomes. A bi-dimensional conceptualization and measurement of acculturation orientations seem to be most useful in terms of explaining the unique antecedents and effects of the orientation toward ethnic and mainstream culture. For second- and third-generation early adolescent immigrants, perceived cultural differences with the country of origin are not very predictive, but rather how this is reflected in their immediate environment at home and how the parents deal with and think of the intercultural situation. In particular, the role of religion in the family appeared to differ between immigrant groups and was strongly linked to early adolescents' acculturation orientations and outcomes.

Acculturation expectations and orientations by parents and children were strong predictors for early adolescents' adjustment. Interventions to promote early adolescents' psychological and sociocultural adjustment in schools should therefore focus on acculturation attitudes held in the school and how they might affect acculturation attitudes by immigrant students and their parents. Often, schools focus on the promotion of formal aspects of parental involvement and integration of immigrant students and their parents (mostly understood as assimilation). Measures include providing additional support to learn the mainstream language to students and offering information on the local school system and mainstream language classes to immigrant parents. These measures are important for promoting mainstream adoption of immigrant students and parents and school involvement of immigrant parents. Yet, given the importance of ethnic orientation and identity notably for psychological outcomes, it may be much more important to create a welcoming and multicultural climate, which promotes integration as the preferred acculturation style and prevents separation tendencies among students. Such a climate has been shown to positively affect immigrant students' orientations toward both cultures and adjustment (Schachner, Noack, Van de Vijver, & Eckstein, 2014). There is research showing that a positive school climate can also have an effect on parents, which may further add to the positive effect on students' outcomes (Hamilton, Marshall, Rummens, Fenta, & Simich, 2011). Creating an integrative school climate should be an important goal in school and teacher development activities in ethnically heterogeneous schools.

Finally, given the importance of religion as one of the main vehicles of maintaining one's culture of origin, particularly among Muslim immigrants (Ward, 2013), combined with the high levels of Islamophobia recently observed in many countries (Güngör et al., 2013), increasing efforts have to be made to allow for integration also concerning religious beliefs and practices and thereby avoid segregation of Muslim immigrants. An important step in this direction may be the establishment of a more Western form of Islam and Islamic institutions, such as the education of imams at European Universities, which has also just started in Germany.

Appendix

Correlations Between Observed Variables in the Path Model (N = 695)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 PCIM	1														
2 PPSI	.22**	1													
3 Perceived cultural distance	.00	.04	1												
4 Ethnic maintenance expectation	.05	.10*	.17**	1											
5 Mainstream adoption expectation	.13**	-.01	-.18**	.16**	1										
6 Use of mainstream language	.09*	.05	-.07	-.07	.11**	1									
7 Importance of religion	.03	.14**	.15**	.26**	-.06	-.08*	1								
8 Ethnic orientation	.04	.23**	.08*	.51**	.06	-.13**	.31**	1							
9 Mainstream orientation	.14**	.08*	-.16**	-.02	.56**	.21**	-.15**	-.11**	1						
10 Well-being	.08*	.32**	-.06	.20**	.26**	.10**	.12**	.33**	.31**	1					
11 Psych. problems	-.09*	-.22**	.01	-.02	-.07	-.02	-.03	-.10**	-.19**	-.20**	1				
12 Behav. problems	.05	-.15**	.09*	.01	-.08*	-.09*	.05	-.02	-.07	-.32**	.11**	1			
13 School track	.15**	.13**	.03	-.02	-.03	.01	-.00	-.03	.09*	.08*	-.11**	-.09*	1		
14 Comp. mainstr. language	.11**	.09*	-.06	.00	.10*	.17**	-.05	.00	.17**	.20**	-.05	-.06	.18**	1	
15 Mainstr. friends	.08*	-.01	-.07	-.09*	.09*	.06	-.18**	-.10**	.16**	.05	-.01	.03	.10**	.06	1

Note. PCIM = provision cognitive-intellectual material; PPSI = Parents' personal school involvement.

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

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