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# Diversity among Bi-ethnic students and differences in educational outcomes and social functioning

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**Abstract** The number of bi-ethnic children is increasing. The focus of this study is on bi-ethnic students in the Netherlands with one parent with an ethnic majority background and one parent with an ethnic minority background. Most studies that have investigated educational outcomes and social functioning in school for bi-ethnic students have not focused on the diversity within this group. In this study, we described the demographic, social and cultural diversity among bi-ethnic students and examined whether, in particular, ethnic background and gender of the migrant parent were related to the educational outcomes and social functioning of bi-ethnic students. Data on a total of 653 sixth grade bi-ethnic students (age 11–12) in primary education of the national Dutch cohort study (COOL<sup>5–18</sup>) were used in this study. To analyse the relationship between the ethnic background and gender of the migrant parent and the educational outcomes and social functioning among

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For reasons of clarity, we did not include full tables of the models. These data are available from the first author, upon request.

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bi-ethnic students, multivariate multilevel analyses were performed. The research findings indicate that bi-ethnic students differ demographically, socially and culturally in a manner dependent on ethnic background and gender of the migrant parent. We also found that the ethnic background and the gender of the migrant parent were related to cognitive outcomes, social-emotional functioning and citizenship competences. When trying to understand and support bi-ethnic students, we must consider the diversity among them.

**Keywords** Mixedrace · Bi-ethnic · School outcomes · Social outcomes · Citizenship

## 1 Introduction

Super-diversity is a major demographic trend in many societies (Vertovec 2007). Super-diversity refers to the growing diversity in society and to the interaction between ethnic background and other background variables that determine where, how and with whom people live. This trend is due to migration and increased interethnic partnering. While 20% of marriages in the Netherlands were interethnic in 2001, a total of 26% were interethnic in 2014 (Centraal Bureau voor de Statistiek [Central Bureau of Statistics]). Children with parents of different mono-ethnic backgrounds are considered bi-ethnic children. As the number of interethnic marriages increases, schools will encounter an increase in bi-ethnic students. Because the issues and questions bi-ethnic students experience can differ according to their demographic, social and cultural background (Brown 2009; Burke and Kao 2013), it is important to obtain insight into the diversity among them so that teachers can understand and effectively support them to succeed in school.

Knowledge on diversity among bi-ethnic students in terms of demographic, social and cultural characteristics is dependent on the societal, historical and cultural context of the country of residence (Xie and Goyette 1997). For example, the diversity within the category of bi-ethnic students may be influenced by the history of migration and colonialism and the ethnic boundaries within countries (Kalmijn and van Tubergen 2006). This study focuses on bi-ethnic students in the Netherlands with one non-migrant parent (with two non-migrant grandparents) and one parent who has migrated to the Netherlands (with two foreign grandparents). Aside from studies in the U.S. (e.g., Panico and Nazroo 2011), relatively little is known about the demographic, social and cultural diversity among bi-ethnic students.

Compared to mono-ethnic students, bi-ethnic students have two ethnic backgrounds in the family, and either the father or the mother is a migrant. These factors are unique to bi-ethnic families and can result in special challenges and strengths that must be understood and addressed for bi-ethnic students to be successful in school (Lopez 2003). Therefore, in addition to insight into the diversity within this group, we also provide insight into the relationship between the ethnicity and gender of the migrant parent and the educational outcomes and social functioning of bi-ethnic students. Studies of bi-ethnic students and school outcomes,

and social functioning in school have, to the best of our knowledge, focused only on differences between mono-ethnic minority, mono-ethnic majority and bi-ethnic students (e.g., Pearce-Morris and King 2012; Schlabach 2013; Karssen et al. 2015) and have not yet sufficiently explored differences among bi-ethnic students from families with different compositions. Important reasons for this lack of literature are due to data limitations and to the assumption that bi-ethnic students can be understood and referred to as ethnic minority students (e.g., for a review, see Stevens et al. 2011). Karssen et al. (2015) have shown that, in educational research, bi-ethnic students cannot simply be grouped together with ethnic minority students because they differ significantly from mono-ethnic minority students in cognitive outcomes, social-emotional functioning and citizenship competences. Therefore, we focus on cognitive outcomes, social-emotional functioning and citizenship competences.

### **1.1 Bi-ethnic students in the Netherlands**

The occurrence of bi-ethnic students in the Netherlands is related to the migration history of the Netherlands (de Hart 2014). The Turkish, Moroccan, Antillean and Surinamese are the four largest groups of migrants in the Netherlands. Moroccans and Turks came as labour migrants from Islamic countries. Surinam and the Netherlands Antilles are former colonies of the Netherlands and, as a result, most people from Surinam and the Netherlands Antilles speak Dutch and are partly familiar with Dutch society. Moroccans and Turks in the Netherlands have to bridge a wider cultural gap compared to Surinamese and Antilleans (Kalmijn and van Tubergen 2006). We do not have exact numbers on bi-ethnic students for the Netherlands, but we do have exact numbers on interethnic relationships. In 2011, a total of 265 thousand bi-ethnic couples were living together, of which 175 thousand were composed of a Dutch partner and a partner from another Western country, and 90 thousand were composed of a Dutch partner and a partner from a non-Western country (CBS 2012). The most common bi-ethnic couples with one non-Dutch Western partner have an Indonesian or German partner. The most common bi-ethnic couples with one non-Western partner have a Surinamese or Antillean partner (CBS 2012).

### **1.2 Influence of family composition on educational outcomes and social functioning**

How bi-ethnic students perform and function socially at school can be influenced by the family composition of bi-ethnic families. We will test this possibility by focusing on two factors within bi-ethnic families: the ethnic composition and the gender of the migrant parent. These two factors are unique for bi-ethnic students.

#### *1.2.1 Ethnic composition of the family*

Ethnicity is related to cognitive outcomes (for reviews, see Kao and Thompson 2003; Stevens et al. 2011), social-emotional functioning in school (for reviews, see

Stevens and Vollebergh 2008) and citizenship competences (Verkuyten and Martinovic 2006; Brug and Verkuyten 2007; Torney-Purta et al. 2007; Zaff et al. 2008; Geijsel et al. 2012). Differences in cognitive outcomes between ethnic groups are usually explained by educational aspirations and expectations (Stevens et al. 2011). Students of parents with higher aspirations and expectations for their children have higher cognitive outcomes (Hsin and Xie 2014). The availability of valuable resources in families with different ethnic backgrounds also helps to explain educational differences (Chew et al. 1989). Studies in the U.S. have found different patterns of developmental outcomes for bi-ethnic students according to their ethnic groups (Harris and Sim 2002; Burke and Kao 2013). Bi-ethnic students with one African-American parent and one European-American parent have lower educational outcomes on average compared to bi-ethnic students with one Asian parent and one European-American parent. To our knowledge, no studies in Europe have investigated differences in educational outcomes between bi-ethnic students with different ethnic backgrounds.

Regarding the explanation of differences in social-emotional functioning, the social position of the ethnic group in society may play a role. According to the racial context theory of Herman (2009), a person's position in society could influence how he or she is treated and perceived by others. The ethnicity of the migrant parent in a bi-ethnic family is important because it is related to experiences with prejudice and racism (Song 2010). Bi-ethnic students can experience stigmatization and discrimination, especially when one of the parents belongs to a group that is a visible minority, for example, because of skin colour. Bi-ethnic students with one Moroccan or Turkish parent in Europe are especially prone to experience prejudice and may therefore experience more social problems than students of other ethnic backgrounds because of the higher negative stigma towards Moroccans and Turks (Verkuyten and Thijs 2002). If the ethnic group is accepted by society in general, then the students belonging to this group have higher educational outcomes (Steele 1997). Studies of bi-ethnic students and social-emotional functioning in school, to the best of our knowledge, have not sufficiently explored differences among bi-ethnic students from different ethnic family compositions.

Little is known about the factors that could explain the differences in citizenship competences between different ethnic groups. Ethnicity has been found to be related to citizenship outcomes, i.e., ethnic minority students were found to have higher citizenship competences than ethnic majority students (Geijsel et al. 2012; Cleaver et al. 2005). Differences in citizenship competences may be related to certain culture-specific values (Cleaver et al. 2005). Some authors argue that child-rearing practices that emphasise equality and autonomy could be related to higher citizenship competence (Netjes et al. 2011). Additionally, greater experience with diversity could be related to higher citizenship competence (Geijsel et al. 2012). Karssen et al. (2015) found that bi-ethnic students differ in citizenship competences from mono-ethnic majority and mono-ethnic minority students. Bi-ethnic students scored higher on citizenship competences than mono-ethnic majority students but lower than mono-ethnic minority students. However, whether bi-ethnic students from different ethnically composed families differ in their citizenship competences is unclear, as, to the best of our knowledge, no studies have examined this question.

### 1.2.2 Gender of the migrant parent

Chew et al. (1989) argued that research on bi-ethnic families should consider which parent is a migrant. These researchers describe this as the 'location' of ethnic diversity. They argue that the resources within the family are dependent on the interaction between the ethnicity and gender of the parent. Financial, social and cultural resources within the family differ according to the gender of the migrant parent (Chew et al. 1989).

Differences in cognitive outcomes between bi-ethnic students with a migrant father or a migrant mother may be explained by financial resources. Cheng and Powell (2007) found that in bi-ethnic families in which the father has an ethnic majority status, financial resources are higher than in bi-ethnic families in which the mother has an ethnic majority status. Having higher financial resources is related to better school outcomes (Bradley and Corwyn 2002). Kalmijn (2015) found that bi-ethnic students score higher on language achievement tests when their parents have a higher socioeconomic status. Panico and Nazroo (2011) showed that bi-ethnic students with higher income parents also have a higher parental education level and more often live in a two-parent household. Surprisingly, they also found that in higher income bi-ethnic homes, the language of the country of the migrant parent is more often spoken. Burke and Kao (2013) found that bi-ethnic adolescents who have a mother with an ethnic majority status have higher school achievements than bi-ethnic adolescents who have a father with an ethnic majority status. Likewise, van Ours and Veenman (2010) found that bi-ethnic students with a Moluccan (Moluccans come from the Moluccas, a group of islands that belong to the Republic of Indonesia) father and a Dutch mother had a higher educational attainment than bi-ethnic students with a Dutch father and a Moluccan mother.

Having higher financial resources is also related to having fewer social-emotional problems (Bradley and Corwyn 2002). However, students may benefit more from the resources of the mother because mothers often have a greater role in rearing and educating children (Bratter and Heard 2009). Additionally, Schlabach (2013) found that bi-ethnic adolescents who have a mother with an ethnic majority status have fewer social and emotional problems than bi-ethnic adolescents whose fathers have an ethnic majority status. The gender of the migrant parent may also be related to the social stigma of the bi-ethnic family. In particular, mothers with an ethnic majority status have been perceived as unqualified to raise bi-ethnic children because they have not experienced what it means to be an ethnic minority (Twine 1999). According to Bratter and King (2008), bi-ethnic families with a European–American female would be particularly prone to experience negative stigma and diminished support from family and friends. Area of residence also influences bi-ethnic students' experiences (Song 2009). Bi-ethnic students have less experience with prejudice and racism in metropolitan areas (Song 2010).

Differences in citizenship competences between bi-ethnic students with a migrant father or a migrant mother may be explained by cultural resources. Parental practices in teaching and transmitting information, values and perspectives on ethnicity to their children are related to a child's cultural resources (Hughes et al. 2006). Children may benefit more from the resources of the mother because mothers

often have a greater role in rearing and educating children (González et al. 2006) and are known to especially encourage ethnically inclusive rearing (the transmission of both ethnic cultures) (Bratter and Heard 2009). Cheng and Powell (2007) found that bi-ethnic families offer greater cultural resources than families from mono-ethnic minority and mono-ethnic majority groups because they make cultural resources available from both cultures within these families. To the best of our knowledge, no research has studied the relationship between gender and ethnicity in bi-ethnic families and the citizenship competences of children in these families. We need insight into the citizenship competences of bi-ethnic students to understand and effectively support them.

### 1.3 Research questions and hypotheses

We formulated the following research questions:

1. How do bi-ethnic students diverge in terms of demographic, social and cultural characteristics?
2. How and to what extent are the ethnic background and gender of the migrant parent related to bi-ethnic students' cognitive outcomes, social-emotional functioning in school and citizenship competences?

We did not formulate any hypotheses for research question 1 because, to our knowledge, relatively little is known about the demographic diversity (ethnic background and gender of the migrant parent, urbanisation level), social (parental educational level, separated parents) and cultural characteristics (language spoken at home) of bi-ethnic students.

For research question 2, we did not formulate any hypotheses for the relation between cognitive outcomes and citizenship competences and the particular ethnic background of the migrant parent. To our knowledge, no previous studies have explored the differences between bi-ethnic students with different ethnic backgrounds for cognitive outcomes and citizenship competences. However, for the relation between social-emotional functioning in school and the particular ethnic background of the migrant parent, we expect, based on the racial context theory of Herman (2009) (a negative position in society can influence the way individuals are treated and perceived by others), that bi-ethnic students with one parent who was born in Turkey or Morocco have more problems with social-emotional functioning in school than other bi-ethnic students. For the relationships between the gender of the migrant parent and cognitive outcomes, social-emotional functioning in school and citizenship competences, we expect, consistent with the resource explanations (gender of the migrant parent is related to financial, social and cultural resources), bi-ethnic students whose mothers have an ethnic majority status to score higher on cognitive skills, to have fewer social-emotional problems in school and to exhibit higher citizenship competences compared to bi-ethnic students whose mothers have migrated to the Netherlands.

## 2 Methods

### 2.1 Sample

Three cohorts from the primary school part of the Cohort Study Education Careers among pupils aged 5–18 years (COOL<sup>5–18</sup>) were used. The COOL study is a national Dutch cohort study with the purpose of describing and explaining students' academic careers. Each cohort consists of data from approximately 550 primary schools, comprising a total of 38,060 students from kindergarten, grade three and grade six. The first wave of the COOL cohort study was conducted in the 2007/2008 school year, the second wave in 2010/2011, and the third wave in 2013/14. We used data for sixth grade (age 11–12) bi-ethnic students in primary education from all three waves. The database includes two samples: a representative sample and a supplementary sample. The purpose of the supplementary sample was to add a relatively larger number of ethnic minorities to the representative sample. As we wanted to have a large sample of bi-ethnic students, we included the supplementary sample because we expected that this sample would also include more bi-ethnic students. To obtain data for the bi-ethnic students, we used information regarding the ethnic background of the students, parents and grandparents. Information on the ethnic background of the students and their parents was obtained from records provided by the school administration. Information on the ethnic background of grandparents was obtained from parent questionnaires. The response rate for the parent questionnaire for students was 67% in the first wave, 65% in the second wave, and 66% in the third wave. Students with any missing values on their parents' or grandparents' ethnic background were omitted from the sample, as this information was needed to code students as bi-ethnic. We coded students as bi-ethnic if one parent and two grandparents were born in the Netherlands and if one parent and two grandparents were born outside of the Netherlands. In total, 726 students were coded as bi-ethnic.

Because there are no statistics on the number of bi-ethnic students in the Netherlands (only statistics on interethnic relationships are available), we are not sure whether our bi-ethnic sample is representative for the Netherlands. However, the COOL study has a representative sample. We performed a non-response analysis that showed that the omission of students with incomplete data may have biased our results. We found that students with complete data scored higher on the cognitive and social-emotional tests than students who had missing data on their ethnic background. However, the effect sizes were very small ( $\eta < 0.10$ ).

### 2.2 Variables and instruments

*Demographic, social and cultural characteristics* Family composition is measured by assessing the ethnic background and the gender of the migrant parent. *Ethnic background of the migrant parent* was categorised into Surinamese, Antillean, Turkish, Moroccan, other Western (non-Dutch) and other non-Western. *Gender of the migrant parent* was coded as father or mother, according to who is the migrant

parent. *Parental educational level* was measured with separate questions regarding the educational levels of the mother and the father and was divided into four categories according to the highest level of education: junior secondary vocational, senior secondary vocational, higher education and unknown. Parental educational level is based on the highest level of education attained within the family. *Language spoken at home* was measured with separate questions regarding the language that was spoken with the student by the mother and by the father. If both parents spoke the Dutch language with the student, the language spoken at home was coded as Dutch. *Family and household composition* was coded as two-parent family or single-parent family. *Urbanisation* was based on the address of the school. Urbanisation was divided into five groups: very high, high, moderate, low and not at all urbanised.

*Cognitive outcomes* cognitive outcomes were measured with two types of variables: reading comprehension and mathematics achievement. The school records provided tests scores on reading comprehension and mathematics from the Dutch National Institute for Educational Measurement (Cito). The schools used different versions of the test. The two versions of the reading comprehension tests use the same scale and are comparable. Both versions show good reliability (Cronbach's  $\alpha > 0.80$ ) (Evers 2002). However, the scores of the two versions of mathematics tests were not on the same scale; therefore, the scores of the old version were converted into the scoring scale of the newer version (formula from Cito).

*Social-emotional functioning in school* social-emotional functioning in school was measured with two variables: well-being of the students in relationship with fellow students and externalising problem behaviour. Students completed a questionnaire with six items pertaining to well-being with fellow students, e.g., 'I like spending time with other students in my class' (Peetsma et al. 2002). The teacher reported on the problem behaviour of the students, which was measured with four items (e.g., 'is often brutal') (Jungbluth et al. 2001). Both scales are 5-point Likert-type scales with options ranging from not applicable to me at all (1) to very applicable to me (5). Both scales had Cronbach's alpha values of 0.82. A higher score for problem behaviour implies more problem behaviours.

*Citizenship competences* citizenship competences were measured with the Citizenship Competence Questionnaire (CCQ) (Ten Dam et al. 2011). We followed the comprehensive framework developed by Geboers et al. (2015) and constructed six subscales. Four subscales measure citizenship orientation: societal interest, prosocial ability, reflective thinking and assertiveness. Societal interest reflects an interest in social issues, other people, and respect for others. Prosocial ability reflects social skills and the ability to converse and empathise with others. Reflective thinking concerns critical reflection on social issues and social structures in society. Assertiveness concerns the skills that are needed to stand up for one's own ideas and clearly formulate them. Items for citizenship orientation were measured on 4-point Likert scales. Two subscales measure citizenship knowledge: societal knowledge and interpersonal knowledge. Societal knowledge reflects knowledge of democratic principles and the norms and organisation of society. Interpersonal knowledge reflects knowledge of prevailing social values, behavioural

rules, and everyday social manners. The citizenship knowledge items involved a multiple-choice test with three response options. The scales had Cronbach's alpha values of 0.87 (societal interest), 0.89 (prosocial ability), 0.94 (reflective thinking), 0.70 (assertiveness), 0.66 (societal knowledge) and 0.67 (interpersonal knowledge).

### 2.3 Data analysis

The research question regarding the relationship between ethnic background and gender of the migrant parent and bi-ethnic students' outcomes and social functioning in school was tested with a multivariate multilevel analyses. Multilevel analysis accounts for nesting within data (students within schools). The data consist of 726 bi-ethnic students within 393 schools (with an average of 1.85 (minimum = 1 and maximum = 9) bi-ethnic students within a school). Besides including a level for students and school in the analyses, we also included an extra level that defines the multivariate structure, as the dependent variables were modelled in the following clusters (multivariate): cognitive outcomes, social-emotional functioning in school and citizenship competences. The multivariate structure reduced the risk of mono-operation bias. By including the relationship between the dependent variables in the model, the risks of type 1 errors (finding a non-existing effect) and type 2 errors (failing to find an existing effect) are reduced (De Maeyer et al. 2010). Additionally, control variables were included. At the student level, cohort, gender, parental educational level, generation of the child, language spoken at home, grade retention (when students are held back), and family and household composition were included. Urbanisation was included at the school level to control for influences outside of school, as the majority of migrants in the Netherlands live in urban areas (CBS 2016). Students with missing data for the control variables (10%) were excluded from the analyses, leaving 653 students.

In addition to the relationships between ethnic background and gender of the migrant parent and student outcomes and social functioning, we also tested whether a particular combination of ethnic background and gender of the migrant parent is related to student outcomes and social functioning. This was done by including interaction effects between the ethnic background and the gender of the migrant parent.

To compare bi-ethnic students with different ethnic backgrounds, ethnic groups were combined to create larger groups. Bi-ethnic students with one Surinamese parent were included with bi-ethnic students with one Antillean parent because these migrant groups tend to have similar migration backgrounds and because both countries were previously Dutch colonies. Bi-ethnic students with one Turkish parent and bi-ethnic students with one Moroccan parent were grouped together because these groups come from countries with majority Muslim populations and have similar migration backgrounds. Bi-ethnic students with one non-Western (other than Surinamese, Antillean, Turkish or Moroccan) migrant parent were grouped together, and bi-ethnic students with a Western non-Dutch migrant parent were grouped together because these groups were too small to stand alone.

### 3 Results

#### 3.1 The diversity among bi-ethnic students

Table 1 describes the demographic, social and cultural diversity among bi-ethnic students in total and for the different ethnic groups as well as for the bi-ethnic students with a migrant father or a migrant mother.

The largest group of bi-ethnic students had a parent with a non-Dutch Western ethnic background (37%) or a parent with a non-Western (other than Surinamese, Antillean, Turkish or Moroccan) ethnic background (36%). Approximately 16% of the bi-ethnic students had a Surinamese or Antillean parent and 11% had a Turkish or Moroccan parent. Overall, almost half of the bi-ethnic students had a father with a migrant background (46%) and half of the students had parents with higher education levels (47%). Most bi-ethnic students speak the Dutch language at home with both parents (85%) and live in a two-parent household (86%). Further, more than half of the bi-ethnic students live in a very highly or highly urbanised area (54%).

The pattern for educational level was clearly differentiated according to the ethnic background of the migrant parent. The largest group of bi-ethnic students with one Turkish or Moroccan parent have parents with low levels of education (39%), and the largest group of bi-ethnic students with one Surinamese or Antillean parent have parents with medium levels of education (46%). Parents of bi-ethnic students with one parent born in a Western non-Dutch country or another non-Western country tend to be highly educated (55 and 52%). An additional important difference between the bi-ethnic students is that, whereas almost all (99%) students with one Surinamese or Antillean parent speak Dutch at home, students with a Western non-Dutch parent speak the least Dutch at home (75%). Students with one Surinamese/Antillean (79%) or one Turkish/Moroccan parent (77%) live less often in a two-parent household compared to students with another non-Western (87%) or a Western non-Dutch parent (90%). We also find that bi-ethnic students with a Western non-Dutch parent live less often in the larger cities of the Netherlands (45%), whereas bi-ethnic students with a non-Western parent (55%) live somewhat more in the larger cities and bi-ethnic students with a Surinamese/Antillean (63%) or Turkish/Moroccan parent (64%) live more often in the larger cities of the Netherlands.

Regarding the gender of the migrant parent, we find that the parents of students with a migrant father are on average lower educated (42% followed higher education) than the parents of students with a migrant mother (53% followed higher education). Students with a migrant father speak somewhat more (88%) Dutch in the home than students with a migrant mother (83%). Furthermore, students with a migrant father live in more urbanised parts of the Netherlands (61%) compared to students with a migrant mother (48%).

When we focus on the differences within the ethnic groups by gender of the migrant parent, we find important differences. While most bi-ethnic students with a Turkish/Moroccan parent have a migrant father (81%), almost half (48%) of the

**Table 1** Diversity among bi-ethnic students by ethnic background and gender of the migrant parent

	Ethnicity of migrant parent						Gender of migrant parent				Total			
	Surinamese/ Antillean		Turkish/ Moroccan		Other Western		Other non- Western		Migrant father		Migrant mother		N	%
	N	%	N	%	N	%	N	%	N	%	N	%		
Gender of migrant parent	51	48%	57	81%	91	38%	100	42%	-	-	-	-	299	46%
Migration level	55	52%	13	19%	148	62%	138	58%	-	-	-	-	354	54%
Education level of the parents	25	24%	27	39%	34	14%	41	17%	70	22%	64	17%	127	19%
Senior vocational education	49	46%	22	31%	74	31%	74	31%	116	36%	116	30%	219	34%
Higher education	32	30%	21	30%	131	55%	123	52%	136	42%	205	53%	307	47%
Language at home	105	99%	63	90%	179	75%	209	88%	262	88%	294	83%	556	85%
Only Dutch	1	1%	7	10%	60	25%	29	12%	37	12%	60	17%	97	15%
Other	84	79%	54	77%	216	90%	206	87%	253	85%	307	87%	560	86%
Family and household composition	22	21%	16	23%	23	10%	32	13%	46	15%	47	13%	93	14%
Other	36	34%	22	31%	36	15%	53	22%	77	26%	70	20%	147	23%
Very highly urbanised	31	29%	23	33%	72	30%	78	33%	106	35%	98	28%	204	31%
Highly urbanised	19	18%	17	24%	59	25%	55	23%	62	21%	88	25%	150	23%
Moderately urbanised	15	14%	8	11%	43	18%	38	16%	38	13%	66	19%	104	16%
Low urbanisation	5	5%	0	0%	29	12%	14	6%	16	5%	32	9%	48	7%
Not urbanised	106	100%	70	100%	239	100%	238	100%	299	100%	354	100%	653	100%
Total														

bi-ethnic students with a Surinamese/Antillean parent and fewer students with a Western (38%) or a non-Western (42%) parent have a migrant father.

### **3.2 Relationship between the ethnic background and the gender of the migrant parent and educational outcomes and social functioning**

We examined how and to what extent the ethnic background and gender of the migrant parent are related to the cognitive outcomes, social-emotional functioning in school and citizenship competences of bi-ethnic students. Table 2 shows mean scores for the dependent variables. In Tables 3, 4 and 5, the results for the final models for cognitive outcomes, social-emotional functioning in school and citizenship competences are presented, after controlling for cohort, gender, parental educational level, generation of the child, language spoken at home, grade retention, family and household composition and urbanisation. P-values and effect sizes (Cohen's *d*) with significant regression coefficients ( $\alpha < 0.05$ ) are shown in bold.

#### *3.2.1 Ethnic background of the migrant parent*

No significant differences were found for cognitive outcomes. For social-emotional functioning in school, however, we did find significant differences between the bi-ethnic students from different ethnic backgrounds. Bi-ethnic students with one parent of Turkish or Moroccan background scored lower on well-being with fellow students and higher on problem behaviour than bi-ethnic students with one Western migrant parent. The effect sizes were medium to large (*ES* for well-being:  $-0.73$ ; *ES* for problem behaviour:  $-0.83$ ). No differences were found for other ethnic groups. Differences in citizenship competence were only found for citizenship knowledge. For citizenship orientation, no differences were found between bi-ethnic students with different ethnic backgrounds. For citizenship knowledge, we found that bi-ethnic students with one Turkish/Moroccan migrant parent scored lower on societal knowledge than bi-ethnic students with one Western migrant parent. The effect size was medium (*ES*:  $-0.61$ ).

#### *3.2.2 Gender of the migrant parent*

The difference in the gender of the migrant parent was only significant for cognitive outcomes in mathematics. Bi-ethnic students with a migrant father scored higher in mathematics than bi-ethnic students with a migrant mother. The effect size was small (*ES*:  $0.29$ ).

#### *3.2.3 Interaction between ethnic background and gender of the migrant parent*

For cognitive outcomes in mathematics, we found a significant interaction effect between ethnic background and gender of the migrant parent. Students with a Surinamese or Antillean migrant father and a Dutch mother scored lower in mathematics than students with a Western migrant father and a Dutch mother. The

**Table 2** Descriptive statistics for bi-ethnic students for the dependent variables (*N*students = 653)

	Ethnicity of migrant parent						Gender of migrant parent					
	Surinamese/Antillean		Turkish/Moroccan		Other Western		Other non-Western		Migrant father		Migrant mother	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
<i>Cognitive outcomes</i>												
Reading comprehension	54.46	17.07	53.68	15.89	58.84	17.46	61.31	18.17	58.17	17.43	58.74	17.92
Mathematics	107.41	10.86	106.98	10.97	111.95	12.89	111.57	9.83	110.50	11.50	110.67	11.49
<i>Social-emotional functioning in school</i>												
Well-being	4.15	0.69	3.98	0.62	4.20	0.60	4.05	0.62	4.14	0.63	4.10	0.63
Problem behaviour	2.23	0.91	2.72	1.00	2.16	0.81	2.08	0.77	2.29	0.90	2.12	0.81
<i>Citizenship competences</i>												
Societal interest	3.05	0.41	3.11	0.41	3.06	0.40	3.08	0.43	3.09	0.40	3.06	0.42
Prosocial ability	2.95	0.43	3.06	0.42	3.05	0.41	3.00	0.40	3.01	0.41	3.01	0.40
Reflective thinking	2.26	0.54	2.39	0.57	2.34	0.55	2.40	0.60	2.35	0.56	2.36	0.58
Assertiveness	3.13	0.49	3.18	0.57	3.16	0.52	3.12	0.56	3.17	0.52	3.12	0.55
Societal knowledge	0.78	0.19	0.75	0.22	0.82	0.18	0.82	0.17	0.82	0.19	0.80	0.18
Interpersonal knowledge	0.79	0.19	0.69	0.26	0.79	0.19	0.77	0.20	0.77	0.22	0.77	0.19

**Table 3** Standardised coefficients and effect sizes (ES) of the multivariate multilevel analyses for cognitive outcomes (*Nstudents* = 626; *Nschools* = 346) and social-emotional functioning in school (*Nstudents* = 603; *Nschools* = 345)

	Reading comprehension			Mathematics			Well-being			Problem behaviour						
	<i>b</i>	<i>SE</i>	<i>p</i>	<i>b</i>	<i>SE</i>	<i>p</i>	<i>b</i>	<i>SE</i>	<i>p</i>	<i>b</i>	<i>SE</i>	<i>p</i>	<i>ES</i>			
Ethnic background (ref = Other Western)	2.00	2.87	0.49	-0.12	0.07	1.86	0.97	0.01	0.14	0.11	0.20	0.23	-0.03	0.14	0.86	-0.03
	-3.98	4.76	0.40	-0.24	-2.79	3.03	0.36	-0.26	<b>-0.44</b>	<b>0.18</b>	<b>0.01</b>	<b>-0.73</b>	<b>0.68</b>	<b>0.23</b>	<b>&lt;0.01</b>	<b>0.83</b>
	1.78	2.04	0.38	0.11	1.08	1.31	0.41	0.10	-0.13	0.08	0.10	-0.21	-0.06	0.10	0.60	-0.07
Gender (ref = Mother)	0.03	2.25	0.99	0.00	<b>3.06</b>	<b>1.45</b>	<b>0.03</b>	<b>0.29</b>	0.09	0.09	0.31	0.14	0.18	0.11	0.11	0.23
Ethnic background*Gender	-0.90	4.04	0.82	-0.05	<b>-5.80</b>	<b>2.61</b>	<b>0.03</b>	<b>-0.55</b>	-0.22	0.15	0.16	-0.35	0.05	0.20	0.82	0.06
	1.61	5.54	0.77	0.10	-1.60	3.55	0.65	-0.15	0.35	0.21	0.09	0.58	-0.32	0.27	0.24	-0.40
	1.04	3.20	0.75	0.06	-2.86	2.06	0.16	-0.27	0.03	0.12	0.78	0.06	-0.14	0.16	0.37	-0.18

Control variables: cohort, gender, parental educational level, generation of the child, language spoken at home, grade retention, family and household composition, and urbanisation

**Table 4** Standardised coefficients and effect sizes (ES) of the multivariate multilevel analyses for citizenship orientation (*Nstudents* = 588; *Nschools* = 340)

	Societal interest			Prosocial ability			Reflective thinking			Assertiveness					
	<i>b</i>	<i>SE</i>	<i>ES</i>	<i>b</i>	<i>SE</i>	<i>p</i>	<i>b</i>	<i>SE</i>	<i>p</i>	<i>b</i>	<i>SE</i>	<i>ES</i>			
Ethnic background	-0.04	0.07	0.60	-0.09	0.07	0.42	-0.14	-0.06	0.10	0.51	-0.12	0.02	0.09	0.84	0.04
(ref = Other Western)															
	-0.09	0.12	0.45	-0.23	0.13	0.49	-0.22	-0.32	0.17	0.06	-0.58	-0.01	0.17	0.94	-0.02
	-0.04	0.05	0.41	-0.10	0.05	0.56	-0.08	0.06	0.07	0.41	0.11	-0.09	0.07	0.17	-0.18
Gender (ref = Mother)	-0.05	0.06	0.42	-0.11	0.01	0.06	0.03	-0.05	0.08	0.49	-0.10	0.00	0.08	0.97	0.01
Ethnic background*Gender	0.05	0.10	0.59	0.13	-0.08	0.10	0.42	-0.04	0.14	0.76	-0.08	-0.08	0.13	0.56	-0.14
	0.21	0.14	0.14	0.52	0.12	0.14	0.42	0.29	<b>0.47</b>	<b>0.20</b>	<b>0.02</b>	<b>0.84</b>	0.04	0.19	0.82
	0.14	0.08	0.09	0.34	-0.05	0.08	0.55	-0.12	0.01	0.11	0.94	0.01	0.14	0.11	0.17

Control variables: cohort, gender, parental educational level, generation of the child, language spoken at home, grade retention, family and household composition, and urbanisation

**Table 5** Standardised coefficients and effect sizes (ES) of the multivariate multilevel analyses for citizenship knowledge ( $N_{students} = 584$ ;  $N_{schools} = 339$ )

		Societal knowledge				Interpersonal knowledge			
		<i>b</i>	<i>SE</i>	<i>p</i>	<i>ES</i>	<i>b</i>	<i>SE</i>	<i>p</i>	<i>ES</i>
Ethnic background	Surinamese/ Antillean	0.00	0.03	0.97	-0.01	0.02	0.03	0.48	0.12
(ref = Other Western)	Turkish/ Moroccan	<b>-0.10</b>	<b>0.05</b>	<b>0.04</b>	<b>-0.61</b>	-0.04	0.06	0.52	-0.20
	Other non-Western	-0.01	0.02	0.59	-0.07	0.00	0.03	0.90	-0.02
Gender (ref = Mother)	Migrant father	0.03	0.02	0.23	0.17	0.03	0.03	0.23	0.17
Ethnic background*Gender	Surinamese/ Antillean *Migrant father	-0.05	0.04	0.20	-0.32	-0.03	0.05	0.51	-0.16
	Turkish/ Moroccan *Migrant father	0.05	0.06	0.39	0.30	-0.07	0.07	0.30	-0.37
	Other non-Western *Migrant father	0.01	0.03	0.70	0.08	-0.04	0.04	0.33	-0.19

Control variables: cohort, gender, parental educational level, generation of the child, language spoken at home, grade retention, family and household composition and urbanisation

effect size was medium ( $ES: -0.55$ ). We also found a significant interaction effect for citizenship orientation (reflective thinking). Students with a Turkish or Moroccan migrant father and a Dutch mother scored higher on reflective thinking than students with a Western migrant father and a Dutch mother. The effect size was large ( $ES: 0.84$ ). For social-emotional functioning in school and for citizenship knowledge, we did not find any significant interaction effects.

## 4 Discussion

First, this study explored the demographic, social and cultural diversity among bi-ethnic students. Bi-ethnic students are clearly differentiated demographically, socially and culturally depending on the ethnic background of the migrant parent. Particularly, bi-ethnic students with a Turkish or Moroccan parent were found to have the lowest levels of education and to live in two-parent households less often. It was also found that for these students in particular, the father is the migrant parent. Religion may be a factor that explains these findings. Whereas Sura 60, verse 10, of the Qur'an prohibits Muslim women to marry non-Muslim men, Sura 5, verse 5, allows Muslim men to marry a Christian or Jewish woman. This could explain why for bi-ethnic students with a Turkish or Moroccan parent it is more often the father who is a migrant. An additional analysis showed that parents in bi-ethnic families with a Turkish or Moroccan parent differ the most in terms of

religious observation (48% of these bi-ethnic families) in comparison to the other bi-ethnic families in our sample (28% non-Dutch Western, 36% Surinamese/Antillean, 42% other non-Western). This finding is in line with a study by Smith et al. (2012), who also found that the divorce rate for interethnic marriages between Moroccan and Dutch individuals is the highest among interethnic marriages in the Netherlands.

Furthermore, bi-ethnic students with one Western non-Dutch parent spoke the Dutch language less often in the home with both parents and lived more often in the small towns of the Netherlands compared to other bi-ethnic students. An explanation could be related to status and prestige of the mother language of the migrant parent. Most western languages have a higher status and prestige than most non-Western languages. In discussions surrounding multilingualism, for example, French, English and German are regarded as 'good' languages, and other immigrant languages such as Arabic and Turkish are regarded as 'bad' languages (Van Avermaet 2008; Agirdag 2010). Verkuyten et al. (1996) also found that in the Netherlands, Western ethnic groups are ranked higher (more preferable) than non-Western ethnic groups. It could also be that most bi-ethnic families with one Western non-Dutch parent feel less pressured by society to integrate compared to other bi-ethnic families. The reason could lie in that families with one Western non-Dutch parent are considered to form part of the majority group and therefore do not feel pressured to speak only the Dutch language in the home. A Western non-Dutch parent may experience less stigmatization and discrimination than a non-Western parent because they are a less visible minority, for example, because of skin colour. A non-Western parent is usually more distinctive, in terms of appearance. This makes the ethnicity more salient than the ethnicity of a typical Western non-Dutch individual. A study found that students with a Western non-Dutch ethnic background feel less discriminated against than students with a non-Western ethnic background (Andriessen et al. 2014). This could also explain why these bi-ethnic families more often live in small towns. Whereas most bi-ethnic students live in larger cities and feel threatened in less metropolitan areas because of experiences with prejudice and racism (Song 2009), bi-ethnic families with one Western non-Dutch parent on average probably feel less threatened to be discriminated against.

Additionally, bi-ethnic students with a migrant father were found to have lower educated parents and live in more urbanised parts of the Netherlands than bi-ethnic students with a migrant mother. A previous study also found that bi-ethnic students with an migrant father live in urbanised areas in higher rates compared to bi-ethnic students with a migrant mother (Kalmijn 2015). Van Ours and Veenman (2010) found that migrant fathers in bi-ethnic relationships have a stronger pull towards their ethnicity compared to migrant mothers. The migrant fathers had more contact within the migrant group, less Dutch friends or acquaintances, and a lower Dutch language proficiency than migrant mothers in bi-ethnic families.

Second, this study examined how and to what extent the ethnic background and gender of the migrant parent are related to cognitive outcomes, social-emotional functioning in school and citizenship competences of bi-ethnic students. The ethnic background of the migrant parent was found to be related to students' social-emotional functioning in school and citizenship knowledge, but no relationship was

found for cognitive outcomes and citizenship orientation. Our findings for social-emotional functioning were consistent with the racial context theory of Herman (2009) (which states that the way that other people perceive an individual and the way that this individual is treated are related to their school outcomes) and with our expectation that the stigmatisation of people with Turkish and Moroccan backgrounds is related to more problem behaviour. We found that bi-ethnic students with one Turkish or Moroccan parent scored lower on (self-reported) well-being in the classroom and higher on problem behaviour than bi-ethnic students with one Western migrant parent, after controlling for educational level of the parents. This finding is also consistent with different international studies of mono-ethnic minorities (Stevens and Vollebergh 2008) that concluded that mono-ethnic students of Moroccan and Turkish ethnic backgrounds show more behaviour problems. No earlier studies have been conducted for bi-ethnic students in this regard. It should be noted that these results do not mean that bi-ethnic students with a Turkish or Moroccan parent actually show more problem behaviour. Problem behaviour was measured through teacher perceptions which may be biased.

For citizenship competences it was found that bi-ethnic students with a parent of Turkish or Moroccan background score lower on societal knowledge than bi-ethnic students with an (other) Western parent. It is not clear why bi-ethnic students with a parent of Turkish or Moroccan background scored lower on citizenship knowledge. Although we controlled for educational level of the parents, it could still be explained by the educational level of the parents. We found that bi-ethnic students with a parent of Turkish or Moroccan background have on average less educated parents than other bi-ethnic students. Higher educated parents have more opportunities to engage civically and to increase civic knowledge (Atkins and Hart 2003).

The gender of the migrant parent was only related to cognitive outcomes. Our findings were consistent with our expectation that bi-ethnic students who have a mother with an ethnic majority status would benefit more from the resources of the mother. Previous studies (Burke and Koa 2013; van Ours and Veenman 2010) also found that bi-ethnic adolescents who have a mother with an ethnic majority status have higher school achievements.

It was found that a particular combination of ethnic background and gender of the migrant parent is related to student outcomes and social functioning. Students with a Surinamese or Antillean migrant father and a Dutch mother scored lower on mathematics than students with a Western migrant father and a Dutch mother. This difference could be explained by educational differences. We performed an additional analysis and found that the differences in educational level between fathers with a Surinamese or Antillean background and fathers with a Western ethnic background are higher (43% lower educated vs. 27% lower educated) compared to mothers with a Surinamese or Antillean background and mothers with a Western ethnic background (31% lower educated vs. 25% lower educated). This means that the differences in educational level of the parents are especially large for bi-ethnic students with a Surinamese or Antillean father in comparison to bi-ethnic students with a non-Dutch Western father. We also found that students with a Turkish or Moroccan migrant father and a Dutch mother scored higher on reflective

thinking than students with a Western migrant father and a Dutch mother. Turkish and Moroccan men are particularly stigmatised in the Netherlands and, therefore, it is possible that these men experience more discrimination and inequality than Turkish or Moroccan mothers (Verkuyten and Thijs 2002). It could be that this experience makes them able to reflect more upon these issues and also teach their children, directly or indirectly, to reflect more on these issues. It is important to note, however, that the sample size ( $N = 653$ ) has some limitations when analysing interaction effects. The magnitude of some interaction effects may be underestimated because of sample size constraints.

A limitation of this study is that we did not focus on other diversity aspects within bi-ethnic students. In addition to the demographic, social and cultural differences, bi-ethnic students can also be very diverse in other aspects, such as parental ethnic socialisation, community composition (school or neighbourhood) and ethnic identity. Future studies should focus on other mechanisms that could influence their school outcomes and social functioning.

Because we do not know the specific ethnic backgrounds of the non-Western and Western migrant parents, more detailed information is necessary. For example, studies in the US have found that bi-ethnic students with one African-American parent and one European-American parent have lower average educational outcomes than bi-ethnic students with one Asian parent and one European-American parent (Harris and Sim 2002; Burke and Kao 2013). Furthermore, ethnic differences could be explained by the migration background of the migrant parent in a bi-ethnic relationship. Whether the migrant parent in a bi-ethnic relationship came to the Netherlands for labour, as a refugee or as an expat (Ogbu and Simons 1998) could be relevant. Moreover, because of the small sample groups, we had to combine bi-ethnic students with one Antillean parent and with one Surinamese parent, and the bi-ethnic students with one Turkish parent and with one Moroccan parent.

This study provides important insights into bi-ethnic students. This study shows that it is important that researchers and policy makers take account of the diversity among bi-ethnic students when trying to understand and support them.

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