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Educational outcomes and functioning of bi-ethnic Dutch children in school

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Background: Changing demographics in societies through international migration have led to an increasing number of bi-ethnic individuals. The focus of this study is on bi-ethnic students with one parent with an ethnic majority background and one parent with an ethnic minority background. Most studies worldwide have grouped these bi-ethnic students with ethnic minority students or have grouped them according to the ethnic background of their mothers with the majority or minority group. However, empirical arguments for these groupings are lacking.

Purpose: The present study examined the educational outcomes and functioning of bi-ethnic students compared with mono-ethnic majority and mono-ethnic minority students in the Netherlands.

Sample: Data on in total 12,841 sixth-grade students (age 11–12) in primary education from two consecutive measurements of the national Dutch cohort study (COOL^{5–18}) were used in this study.

Method: Educational outcomes were measured with test scores on reading comprehension and mathematics. Educational functioning in school was measured with teacher and student questionnaires. Student questionnaires included instruments for well-being of the pupil in relationship with fellow students and citizenship competences. Teachers reported on problem behaviour of the pupils. To analyse the differences in educational outcomes and functioning among bi-ethnic, mono-ethnic minority and mono-ethnic majority students, multivariate, multilevel analyses were performed.

Results: The research findings indicate that bi-ethnic students do not differ from mono-ethnic majority students while they do differ from mono-ethnic minority students in their cognitive achievement, social-emotional functioning and citizenship knowledge. Bi-ethnic students scored higher on cognitive outcomes, social-emotional functioning and citizenship knowledge than mono-ethnic minority students did. For citizenship orientation alone, it was found that bi-ethnic students score in between mono-ethnic majority and mono-ethnic minority students.

Conclusion: This study indicates that researchers should not assume that bi-ethnic students will be similar to mono-ethnic ones.

Keywords: multi-racial; bi-ethnic; minority; school outcomes; social outcomes; citizenship

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Introduction

The number of children living in the Netherlands with parents of different ethnic backgrounds is substantial. In 2014, 15% of the two-parent families with children in the Netherlands were a family with one parent with a Dutch ethnic background and one parent with a non-Dutch ethnic background (CBS 2015). Children with parents of two different ethnic backgrounds are considered bi-ethnic children. However, little is known about these groups. Their substantial numbers indicate the necessity for a broader research base concerning these bi-ethnic minority groups.

Research on bi-ethnic children in Europe is scarce. To date, most studies in Europe have specifically focused on children with parents of the same ethnic group while failing to consider children whose parents have different ethnic backgrounds (e.g. Crul, Schneider, and Lelie 2013). In the US, bi-ethnicity is a well-researched topic. The first wave of research devoted much attention to the negative implications of having parents of different ethnic backgrounds, such as identity problems, low cognitive achievement, behaviour problems and negative self-esteem (Park 1928). However, some have argued that bi-ethnic children have the opportunity to promote social cohesion and more easily accept differences in others (Barnes 2001).

In our study, the term ‘bi-ethnic children’ refers to children with one non-migrant parent (with two non-migrant grandparents) and one migrant parent (with two foreign grandparents); few bi-ethnic children in the Netherlands have two migrant parents (CBS 2015). Most studies worldwide have grouped bi-ethnic students with ethnic minority students or have grouped them according to the ethnic background of their mothers with the majority or minority group (e.g. for a review, see Stevens et al. 2011). However, empirical evidence for these groupings is lacking. This study will provide important insights into this often overlooked group of students.

The aim of this study is to compare the three important aspects of the educational functioning of bi-ethnic children with mono-ethnic minority and mono-ethnic majority children in primary education. We will focus on the *cognitive outcomes* and *social-emotional functioning* of pupils. In addition, we will focus on *citizenship competences* because it is an important educational goal (Bron and Thijs 2011) and because research on this topic is scarce.

Theoretical background

Shih and Sanchez (2005) reviewed differences in developmental outcomes among bi-ethnic, mono-ethnic minority and mono-ethnic majority individuals living in the US. The authors found no strong and clear pattern in qualitative studies. From quantitative studies, they concluded that bi-ethnic individuals do not differ in terms of ethnic identity development and peer relations from their mono-ethnic minority and mono-ethnic majority peers but that bi-ethnic individuals score in between mono-ethnic majority and mono-ethnic minority students on cognitive outcomes and social-emotional functioning in school. Bi-ethnic children score in between those two groups on cognitive outcomes in school; they score the same or better than mono-ethnic minority peers and worse than mono-ethnic majority peers. Bi-ethnic individuals show higher levels of depression than mono-ethnic majority peers do, but their levels are no higher than those of mono-ethnic minority peers. Furthermore, bi-ethnic children exhibit more problem behaviour than mono-ethnic majority and minority peers do. Differences in citizenship competence have not been reviewed.

Herman (2009) defined a racial context theory to explain the academic performance of mono-ethnic minority, mono-ethnic majority and bi-ethnic students. She argued that the way other people perceive the individual, the way the individual is treated and how the individual identifies him/herself are related to academic performance. These terms can also be related to social-emotional functioning and citizenship competence. If a child identifies as or is perceived and treated as a member of a minority group (or majority group), then his/her school functioning and performance may be similar to the functioning and performance of that minority (or majority). However, the way that someone is perceived, treated or identified may also be related to other mechanisms, such as family resources.

Chew, Eggebeen, and Uhlenberg (1989) attempted to explain the differences in outcomes among bi-ethnic, mono-ethnic minority and mono-ethnic majority groups based on family factors. They suggest that the demographic and socio-economic positions of a household are important factors in explaining differences in outcomes. Both parents in a bi-ethnic family resemble the characteristics of their own ethnic group, which makes their family a combination of two mono-ethnic counterparts. According to Chew, Eggebeen, and Uhlenberg (1989), the cultural, economic and social resources of bi-ethnic families fall between those of their composing ethnic groups. Likewise, outcomes for bi-ethnic children tend also to fall between those of the two ethnic groups to which their parents belong. Cheng and Powell (2007) indeed found that bi-ethnic families in the US provide levels of financial resources which fall between those of the mono-ethnic majority and mono-ethnic minority groups (e.g. possession of educational goods and home computers) and social resources (e.g. parental expectations and educational involvement) but offer comparable or greater cultural resources (e.g. reading and non-reading cultural activities). Thus, bi-ethnic families show greater cultural capital investments in their children than families from mono-ethnic minority and mono-ethnic majority groups. The explanation that those researchers offered is that parents of bi-ethnic children make cultural resources available from both cultures within these families.

Studies of the citizenship competences of bi-ethnic children are scarce. Citizenship involves evaluating and exploring different perspectives, democratic engagement and social sensibility, involvement and social adaptability (Westheimer 2008). Because bi-ethnic children interact with family members from diverse ethnic backgrounds, it can be expected that these children are accustomed to encountering differences and can more easily accept differences in norms and values and thus have higher levels of citizenship competence than mono-ethnic minority and mono-ethnic majority children do (Geijsel et al. 2012). According to contact theory (Allport 1954), intergroup contact produces better relationships between social, cultural and ethnic groups under the conditions that groups have an equal status, common goals, intergroup cooperation, and authority support. Equal status is about equivalent group power, for example, emerging from equal legal status, equal academic status or social status. It is important that equal status is expected and perceived in the interethnic family. Some of the conditions pointed out in contact theory as being important for producing better relationships between groups, such as working together for common goals and intergroup cooperation, regularly occur in bi-ethnic families. As Kalmijn and van Tubergen (2006) found, in the Netherlands, most migrant individuals in interethnic couples are highly educated, we do not expect a lower status for the migrant parent on the basis of the educational level. However, the condition of equal status could be difficult to realise because one of the parents in such families has a migrant status.

In a study of bi-ethnic students and social cohesion, it was found that bi-ethnic students in the US tend to embrace and accept differences in people's customs, attitudes, beliefs and physical features (Barnes 2001). Barnes argued that bi-ethnic individuals have the potential to foster social cohesion in numerous contexts.

Research questions and hypotheses

The present study is aimed at examining to what extent and how bi-ethnic, mono-ethnic minority and mono-ethnic majority children differ in their cognitive outcomes, social-emotional functioning in school and citizenship competences. Consistent with previous research and with resource explanations (i.e. that bi-ethnic children have levels of social and economic resources that fall between those of the mono-ethnic majority and mono-ethnic minority groups, and higher resources are related to higher educational outcomes), it was hypothesised that bi-ethnic children outperform mono-ethnic minority children in cognitive outcomes but remain behind mono-ethnic majority children. The same relations are expected for social-emotional functioning (problem behaviour and well-being) in school. Although previous research is scarce, based on resources and contact theory (bi-ethnic children have higher cultural resources and more contact with different cultures), levels of citizenship competences are expected to be higher for bi-ethnic children than for mono-ethnic minority and mono-ethnic majority children.

Methods

Sample

Data from the primary school part of the Cohort Study Education Careers among pupils aged 5–18 (COOL^{5–18}) were available. The COOL study is a national Dutch cohort study with the purpose of describing and explaining students' academic careers. This database consists of data from approximately 550 primary schools with a total of 38,060 students from kindergarten, grade three and grade six. The database includes two samples: a representative sample and a supplementary sample. The purpose of the supplementary sample was to add a relatively large number of disadvantaged pupils to the representative sample so that more valid statements could be made about schools with a diverse ethnic composition. Our demographic data suggested that schools with a larger number of disadvantaged pupils are schools with a high ethnically diverse student composition. As we wanted to have sufficient variation in ethnic and social origin to allow for fairly reliable estimates of the connection between mono-ethnic students and bi-ethnic students, we included the supplementary sample, thus creating an a priori, non-representative sample of students (e.g. Peetsma et al. 2006). We used the data for sixth-grade (age 11–12) students in primary education from the first ($N = 11,609$) and second waves ($N = 12,538$), with a total sample size of 24,147. The first wave of the COOL cohort study was in the 2007/2008 school year, and the second wave was in 2010/2011.

Information on the background characteristics of students and their parents was obtained from records provided by the school administration. Information on the ethnic background of grandparents was obtained from the parent questionnaires. However, because the response in the first wave was 67% and the response in the second wave was 65%, students with any missing values on their parents' or grandparents' ethnic background characteristics were omitted from the sample, as this information was

needed to enable comparison between the ethnic groups; thus, we obtained a total sample of 14,529 (60%). Bi-ethnic students with two parents born outside of the Netherlands (1%) were excluded from the total sample (as these bi-ethnic students are not the focus of this study), leaving 14,396 students. The students were divided into three groups: mono-ethnic majority (those whose parents and grandparents were born in the Netherlands), mono-ethnic minority (those whose parents were born in the same country but whose parents and grandparents were born outside of the Netherlands), and bi-ethnic (those with one parent and two grandparents born in the Netherlands and one parent and two grandparents born outside of the Netherlands). Mono-ethnic majority students who did not have four grandparents who were born in the Netherlands (10% of the mono-ethnic majorities), mono-ethnic minority students who did not have four grandparents who were born outside of the Netherlands (2% of the mono-ethnic minorities), and bi-ethnic students who did not have two grandparents (both from the mothers' side or both from the fathers' side) born outside of the Netherlands (40% of the bi-ethnic students) were excluded from the analyses, yielding a total sample of 12,841 (88% of 14,529). We selected only bi-ethnic students who were 'first-generation bi-ethnic', i.e. the first generation in their family who grow up with parents with different ethnic backgrounds. We think their situation differs from the situation of bi-ethnic children with parents who themselves are bi-ethnic ('second-generation bi-ethnic children'), as the latter group is raised by a parent who has experienced growing up in a family with two ethnic backgrounds him or herself.

The largest mono-ethnic minority groups in the Netherlands come for Surinam (10%), the Dutch Antilles (4%), Turkey (11%) and Morocco (10%) (CBS 2015). Surinam and the Dutch Antilles are former colonies of the Netherlands. Most Moroccans and Turks came as economic migrants.

Table 1 provides an overview of the number of respondents in the different groups. Table 1 shows that 4% of the students in our sample are bi-ethnic students. The CBS statistics show that 15% of the two-parent families with children have bi-ethnic children (CBS 2015). The difference between the two numbers cannot be explained by the representativeness of our sample. The representative sample has an equal percentage of bi-ethnic students as our total sample. The differences can be explained by the definition of bi-ethnic students. Whereas the CBS statistics included bi-ethnic children with one grandparent born outside of the Netherlands and three grandparents born in the Netherlands, we excluded this group of bi-ethnic students. We only focussed on the

Table 1. Number of students in the COOL⁵⁻¹⁸ cohort study (first and second waves) in grade six.

	Bi-ethnic			Mono-ethnic		Total
	Migrant mother	Migrant father	Total	Minority	Majority	
Dutch	–	–	–	–	9961	9961
Surinamese	33	29	62	195	–	257
Antillean	9	11	20	49	–	69
Turkish	6	25	31	841	–	872
Moroccan	5	22	27	667	–	694
Other Western	111	77	188	143	–	331
Other non-Western	114	89	203	454	–	657
Total	278	253	531	2349	9961	12,841

bi-ethnic students with one non-migrant parent (with two non-migrant grandparents) and one migrant parent (with two foreign grandparents).

The students' average age was 11, 6304 (50%) students were boys, and 6407 (50%) were girls. SES was measured by the highest educational level attained by either parent. SES was divided into three groups: no more than junior secondary vocational education, which ranges from no education at all to basic vocational training ($N = 3071$, 24%), senior secondary vocational education, which is professional education at the intermediate level ($N = 5345$, 42%), and higher education, which includes higher professional education and university education ($N = 3971$, 31%). SES information was missing for 454 (4%) students.

Variables and instruments

Cognitive outcomes

Two types of variables for cognitive outcomes were used: reading comprehension and mathematics achievement. Tests scores on reading comprehension and mathematics from the Dutch National Institute for Educational Measurement (Cito) were collected from the school records. Both tests were updated by the Cito between the cohorts. The two versions of the reading comprehension tests use the same scale and are comparable. Both versions had good reliability (Cronbach's $\alpha > 0.80$) (Evers 2002). The scores of the two versions of mathematics tests were not on the same scale; therefore, the scores on the old version were converted into scores on the scale of the newer version (formula from Cito).

Social-emotional functioning in school

Two variables concerning social-emotional functioning in school were used: the well-being of the pupil 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, Wagenaar, and de Kat 2002). The problem behaviour of the students was measured with four items (e.g. 'is often brutal') in teacher reports (Jungbluth, Roede, and Roeleveld 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 α values of 0.82. A higher score for problem behaviour implies more problem behaviours.

Citizenship competences

Citizenship competences were measured with 94 items distributed across 17 scales, including four core components (i.e. attitude, skill, reflection and knowledge) and four social tasks (i.e. acting democratically, acting in a socially responsible manner, coping with conflicts and coping with differences) (Citizenship Competence Questionnaire [CCQ]; ten Dam et al. 2011). Items for attitudes, skill and reflection were measured on four-point Likert scales. The general question for the attitude items is 'How well does this statement apply to you?' (e.g. 'I like knowing something about different religious beliefs'). The basic form of the skill (i.e. self-efficacy) items is the following: 'How good are you at ...?' (e.g. '... finding a solution that satisfies everyone during a disagreement?'). The basic form of the reflection items is 'How often do you think about ...?'

(e.g. ‘whether students are listened to at your school?’). The knowledge items involved a multiple-choice test with three response options (e.g. ‘all children have a right (a) to an allowance, (b) to choose who they want to live with or (c) to education’ (the correct answer is ‘c’)). Following the comprehensive framework developed by Geboers et al. (In press), the scales societal interest (attitude items), prosocial ability (skill items), reflective thinking (reflection items) and assertiveness (skill items), and societal and interpersonal knowledge (knowledge items) were derived. The scales had Cronbach’s α 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).

Data analysis

To analyse the differences in educational functioning and outcomes among bi-ethnic, mono-ethnic minority and mono-ethnic majority students, multilevel analyses were performed. Multilevel analysis is commonly used in educational research because it accounts for nested data (students within schools). The dependent variables were modelled in clusters (multivariate), cognitive outcomes, social-emotional functioning in school and citizenship competences; therefore, besides the levels ‘student’ and ‘school’, we included an extra level that defines the multivariate structure. 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 an a non-existing effect) and type 2 errors (failing to find an existing effect) reduces (De Maeyer et al. 2010). The COOL data include a small number (mean number < 2) of classes per school; therefore, we included only the school level. A number of school and individual characteristics were included as control variables. We assumed that the effect of the control variables on the dependent variables would not differ across the groups. Students with missing data for the control variables (6%) were excluded from the analyses, leaving 11,993 students.

To determine whether a significant predictor is a relevant predictor, the effect sizes were calculated. An effect size of 0.2 is considered small, an effect size of 0.5 is medium, and an effect size of 0.8 is a large effect (Cohen 1988). The effect sizes were calculated by the regression coefficient of the specific variable divided by the square root of the total variance of the 0 model.

Results

Descriptive statistics

Table 2 describes the mean scores and standard deviations of the three groups and the bivariate correlations between the scales for cognitive outcomes, social-emotional functioning in school and citizenship competences. The descriptive statistics of the control variables for the three groups are shown in Table 3. These descriptive statistics should ease interpretation of the results.

As shown in Table 3 bi-ethnic and mono-ethnic students are quite different in terms of their background characteristics. Whereas 43% of the parents of bi-ethnic students completed higher education, 35% of the parents of mono-ethnic majority students and 13% of the parents of mono-ethnic minority students completed higher education. Furthermore, nearly all bi-ethnic students were born in the Netherlands (96%) and speak the Dutch language at home (86%), whereas three quarters of the mono-ethnic minority

Table 2. Mean scores and standard deviation for the three groups of students and correlations between cognitive outcomes, social-emotional functioning in school and citizenship competences ($N_{\max} = 11,892$).

	Mono-ethnic majority		Bi-ethnic		Mono-ethnic minority		1	2	3	4	5	6	7	8	9	
	M	SD	M	SD	M	SD										
Cognitive outcomes	57.78	16.86	58.30	17.35	48.64	15.89	1.00									
1. Reading comprehension																
2. Mathematics	110.96	11.62	110.39	10.93	107.08	11.56	0.56	1.00								
3. Well-being	4.17	0.64	4.11	0.64	4.25	0.62	0.03	0.04	1.00							
4. Problem behaviour	2.22	0.82	2.25	0.86	2.39	0.87	-0.20	-0.12	-0.07	1.00						
5. Societal interest	2.97	0.42	3.08	0.41	3.18	0.41	0.19	0.06	0.12	0.12	1.00					
6. Prosocial ability	2.95	0.42	3.01	0.41	3.08	0.43	0.08	<0.01 ^a	0.16	0.18	0.67	1.00				
7. Reflective thinking	2.23	0.55	2.35	0.56	2.46	0.56	0.04	-0.02 ^a	0.01 ^a	0.04	0.57	0.52	1.00			
8. Assertiveness	3.07	0.54	3.14	0.51	3.19	0.56	0.18	0.13	0.12	-0.11	0.40	0.33	0.23	1.00		
9. Societal knowledge	0.79	0.18	0.80	0.19	0.73	0.19	0.33	0.24	0.06	0.19	0.23	0.22	0.11	0.06	1.00	
10. Interpersonal knowledge	0.78	0.19	0.77	0.20	0.71	0.20	0.49	0.35	0.03	0.14	0.21	0.12	0.04	0.16	0.55	1.00

^aNot significant.

Table 3. Descriptive statistics for the control variables for the three groups of students ($N_{\text{mono-ethnic majority}} = 9416$; $N_{\text{Bi-ethnic}} = 492$; $N_{\text{mono-ethnic minority}} = 2085$).

		Mono-ethnic majority		Bi-ethnic		Mono-ethnic minority	
		N	%	N	%	N	%
School year	2008	4480	48	275	56	1141	55
	2011	4936	52	217	44	944	45
Gender	Boy	4694	50	243	49	1010	48
	Girl	4722	50	249	51	1075	52
Education level of the parents (SES)	Junior vocational education	1528	16	101	21	1180	57
	Senior vocational education	4305	46	161	33	559	27
	Higher education	3305	35	214	43	266	13
	Unknown	278	3	16	3	80	4
Generation of the child	First	0	0	20	4	477	23
	Second	0	0	472	96	1608	77
	N.A.	9416	100	0	0	0	0
Language at home	Dutch	9412	100	424	86	723	35
	Other	4	0	68	14	1362	65
Structure of family composition	Complete	8231	87	412	84	1778	85
	Other	1185	13	80	16	307	15
Grade retention	None	7904	84	386	78	1371	66
	Repetition	1512	16	106	22	714	34
Urbanisation	Very highly urbanised	355	4	93	19	860	41
	Highly urbanised	1927	20	166	34	686	33
	Moderately urbanised	2158	23	123	25	366	18
	Slightly urbanised	3091	33	82	17	136	7
	Not urbanised	1885	20	28	6	37	2

students were born in the Netherlands (77%) and one-third speak the Dutch language at home (35%). Most mono-ethnic minority students (74%), half of the bi-ethnic students (53%) and a quarter of the mono-ethnic majority students (24%) go to very highly or highly urbanised schools.

Differences among bi-ethnic, mono-ethnic minority and mono-ethnic majority students

We examined to what extent and how bi-ethnic students differ from mono-ethnic majority and mono-ethnic minority students in terms of their cognitive outcomes, social-emotional functioning in school and citizenship competences. The results, after controlling for school year, gender, parental education level, the generation of the child, the language spoken at home, grade retention, the structure of the family composition and urbanisation, are presented in Table 4. The p -values and effect sizes with significant regression coefficients ($\alpha < .05$) are shown in bold. Most of the results of the models were comparable with the results of the models without control variables.¹ After including the control variables in the model, we observed that only the results that changed were those for mathematics (the effect of mono-ethnic minority was no longer significant) and assertiveness (the effect of mono-ethnic minority became significant).

Table 4. Standardised coefficients and effect sizes (ES) of the multivariate, multilevel analyses of the final model ($N = 11,892$) for the cognitive outcomes, social-emotional functioning in school and citizenship competences of mono-ethnic students in comparison with bi-ethnic students (reference group).

		Mono-ethnic majority				Mono-ethnic minority			
		<i>b</i>	SE	<i>p</i> -value	ES	<i>b</i>	SE	<i>p</i> -value	ES
Cognitive outcomes	Reading comprehension	-0.27	0.75	0.72	-0.02	-4.58	0.91	<0.01**	-0.29
	Mathematics	0.87	0.51	0.09	0.08	-0.75	0.63	0.23	-0.07
Social-emotional functioning in school	Well-being	0.03	0.03	0.33	0.05	0.19	0.04	<0.01**	0.29
	Problem behaviour	-0.03	0.04	0.44	-0.04	0.03	0.05	0.52	0.04
Citizenship competences	Societal interest	-0.09	0.02	<0.01**	-0.21	0.11	0.02	<0.01**	0.26
	Prosocial ability	-0.05	0.02	<0.01**	-0.13	0.07	0.02	<0.01**	0.16
	Reflective thinking	-0.08	0.03	<0.01**	-0.16	0.10	0.03	<0.01**	0.18
	Assertiveness	-0.04	0.03	0.18	-0.07	0.10	0.03	<0.01**	0.18
	Societal knowledge	<0.01	0.01	0.69	-0.02	-0.02	0.01	0.02*	-0.13
	Interpersonal knowledge	0.01	0.01	0.26	0.06	-0.03	0.01	<0.01**	-0.15

Notes: * $p < 0.05$; ** $p < 0.01$. Control variables: school year, gender, education level of the parents, generation of the child, language spoken at home, grade retention, structure of family composition and urbanisation.

The results contradict the hypothesis that bi-ethnic students have cognitive outcomes and social-emotional functioning that fall between that of the other groups. No significant differences were found for cognitive outcomes and social-emotional functioning between mono-ethnic majority and bi-ethnic students. However, bi-ethnic students were found to have higher scores on reading comprehension and lower scores on well-being compared with mono-ethnic minority students. No significant differences were found for mathematics and problem behaviour between mono-ethnic minority and bi-ethnic students. The results for citizenship competences are inconsistent with resources and contact theory. Bi-ethnic students had scores that fall between the other groups for citizenship orientation (except for assertiveness) and did not receive significantly different scores on citizenship knowledge compared with mono-ethnic majority students. Compared with bi-ethnic students, mono-ethnic minority students scored significantly lower on citizenship knowledge and significantly higher on assertiveness.

Discussion

This study examined to what extent and how bi-ethnic, mono-ethnic minority and mono-ethnic majority children differ in their cognitive outcomes, social-emotional functioning in school and citizenship competences. With respect to cognitive outcomes and social-emotional functioning, the study showed that bi-ethnic students do not differ from mono-majority students while they do differ from mono-ethnic minority students. Compared with mono-ethnic minority students, bi-ethnic students scored higher on reading comprehension and lower on well-being with fellow students. These results differ from earlier findings in the US that showed that bi-ethnic students score between the mono-ethnic majority and mono-ethnic minority groups on cognitive outcomes and social-emotional functioning in school (Shih and Sanchez 2005). This shows that the difference between bi-ethnic and mono-ethnic students is not consistent across different countries. Furthermore, we found no differences in problem behaviour among bi-ethnic, mono-ethnic minority and mono-ethnic majority students, whereas studies in the US found that bi-ethnic students score higher on problem behaviour than both mono-ethnic majority and minority students (Shih and Sanchez 2005). However, for the citizenship

competences of bi-ethnic students, a previously unexplored field of study, it was found that these students score between the other groups on citizenship orientation (majority < bi-ethnic < minority) and that they score higher on citizenship knowledge than mono-ethnic minority students but similar to mono-majority students. These results indicate that researchers should not assume that bi-ethnic students will be similar to mono-ethnic ones, as is typical in educational research (e.g. for a review, see Stevens et al. 2011).

With regard to cognitive outcomes and social-emotional functioning in school, bi-ethnic students' scores were expected to fall between the other two groups because these students would have a level of resources between the other groups (Chew, Eggebeen, and Uhlenberg 1989). It is possible that the resources provided by the parents of bi-ethnic children are underestimated. We found that parents of bi-ethnic students are highly educated. Moreover, Kalmijn and van Tubergen (2006) found that in the Netherlands, migrant individuals in interethnic couples are highly educated. Furthermore, we found that nearly all bi-ethnic students were born in the Netherlands and speak the Dutch language at home. It is possible that their economic and social resources are more comparable with those of mono-ethnic majority students and we therefore find no cognitive and social-emotional difference between bi-ethnic and mono-ethnic majority students.

The findings for the US (Shih and Sanchez 2005) differ from our findings, perhaps because of differences in the context of Dutch society and US society. Kalmijn and van Tubergen (2006) concluded that ethnic boundaries are weaker in the Netherlands than in the US and that the reason for bi-ethnic marriages in the Netherlands for the migrant parent is less often to achieve higher ethnic and SES. Furthermore, the largest minority groups in both societies differ, for example, in their migration background; the largest minority groups in the US are European-American (voluntary immigration in the seventeenth century), African-American (involuntary immigration in the mid-eighteenth century) and Asian-Americans (voluntary immigration in the nineteenth century), whereas the largest groups in the Netherlands are Moroccans, Turkish and Surinamese (voluntary immigration in the mid-nineteenth century). However, Moroccans and Turkish migrants were guest workers, whereas Surinam was a former colony of the Netherlands. The migration background of minorities may thus be related to the school outcomes of their children (Ogbu and Simons 1998).

The finding that bi-ethnic students have scores that fall between those of mono-ethnic majority and mono-ethnic minority students for citizenship orientation was unexpected. Following contact theory (Allport 1954), more intergroup contact produces better relations, and following our idea that bi-ethnic children are accustomed to encountering and accepting differences, we expected that bi-ethnic students would have higher citizenship orientation than mono-ethnic majority and minority students. One explanation for the finding that bi-ethnic students score in-between could be that migrant parents in an interethnic relationship are more integrated into the culture of the majority than migrant parents in a mono-ethnic relationship, resulting in smaller cultural differences within bi-ethnic families than was expected. The cultural differences between the Dutch society and the mono-ethnic minority family could be greater than the cultural differences within the bi-ethnic family, which could lead to higher citizenship competences for mono-ethnic minority students than for bi-ethnic students (Geijsel et al. 2012). The findings that bi-ethnic students score higher on citizenship knowledge than mono-ethnic minority students do, but score similar to mono-majority students were also unexpected. Bi-ethnic students were expected to have greater citizenship knowledge

than mono-ethnic majority and minority students because bi-ethnic students have more cultural resources. Citizenship knowledge refers to cognitive skills; therefore, the results for citizenship knowledge are more comparable to the findings for cognitive outcomes (ten Dam et al. 2011).

A limitation of the study is that we modelled the background characteristics having similar effects across the different groups. Additional analyses showed that in general the effect of the background characteristics on the dependent variables is not different across the groups. However, only for some dependent variables the effect of gender of the student, educational level of the parents and urbanisation level of the school differed for the groups.

Bi-ethnic students are diverse, and the influence of being bi-ethnic can also be diverse. Variations may be based on differences in parentage, gender, SES, ethnicity, community composition (school or neighbourhood) and societal ethnic dynamics. The background of migrant parents can differ according to their migration background (some migrant parents came to the Netherlands for labour, and others are refugees or expats), culture (some migrant parents come from a Western country, whereas others come from a non-Western country) and education level. Therefore, future studies should also focus on the differences between bi-ethnic students, for example in ethnic background of the migrant parent and the education level of the parents.

Various studies have focused on the influence of identity on educational outcomes and functioning in school (e.g. Herman 2009). Although it would have been interesting to include identity in the present study, it was not possible in this research because identity is not measured in the COOL data.

It should be noted that the findings of this study may not be comparable to the outcomes for bi-ethnic students with two migrant parents. Kalmijn and van Tubergen (2006) found high education levels especially in bi-ethnic marriages with one native parent.

This study provides important insights into an often overlooked group of students. Although previous research assumes that bi-ethnic students can be grouped together with minority students, this study has shown that bi-ethnic students cannot simply be grouped together with minority students. When researchers include bi-ethnic students with minority students, they underestimate the specific family background characteristics and advantageous resources of bi-ethnic students.

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Note

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

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