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Wanders, F.H.K.; van der Veen, I.; Dijkstra, A.B.; Maslowski, R.

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The influence of teacher-student and student-student relationships on societal involvement in Dutch primary and secondary schools

Frank H. K. Wanders[a], Ineke van der Veen[a], Anne Bert Dijkstra[a], and Ralf Maslowski[b]

[a]University of Amsterdam; [b]University of Groningen

ABSTRACT

This study examined the association between teacher-student and student-student relationships on societal involvement in Dutch primary and secondary schools. In addition, it studied differences in the effects of teacher-student relationships and student-student relationships among students from various parental backgrounds on societal involvement, indicating the possibilities of schools to reduce social inequalities between students. In two studies, multilevel Hierarchical Linear Modeling analyses on the Cohort Onderzoek Onderwijs Loopbanen[5–18] data were used for students age 12 and age 15 to investigate the relative and lasting association between teacher-student and student-student relationships from primary to secondary school on societal involvement. In analysis A, 9,334 students from 1,036 classes were included in the analyses. In analysis B, 934 students from 667 classes were included. The results showed that teacher-student relationships are positively associated with societal involvement in both primary and secondary school. The association between teacher-student relationships and societal involvement in primary school were also important in secondary school. Moreover, positive teacher-student relationships were more beneficial for societal involvement for students with parents from lower educated backgrounds, indicating that schools can compensate for inequalities between students. Student-student relationships were found to be unrelated to societal involvement in both primary and secondary school.

KEYWORDS

Teacher-student relationships; student-student relationships; civic knowledge; societal involvement; inequality; schools; parents

The current concerns about the erosion of social cohesion and active participation in society give rise to a growing interest in enhancing active citizenship and encouraging harmonious coexistence in Western societies (Jansen, Chionel, & Dekkers, 2006). In the Netherlands—as in many other countries (Keating, 2014)—schools have an obligation to improve active citizenship and social integration (Dijkstra, El Khayati, & Vosse, 2014). It is expected of school to stimulate students' willingness and ability to become responsible citizens, support the central democratic values of society, and contribute to the welfare of students' families, communities, and society. Previous studies showed that to motivate and enable students to participate in society, schools can teach citizenship curricula and create an environment conducive to the stimulation of citizenship and societal participation (Geboers, Geijsel, Admiraal, & Ten Dam, 2013). Since actual opportunities for societal participation are limited for children in primary school, the main focus of this study is on the impact of schools on societal

CONTACT Frank H. K. Wanders F.H.K.Wanders@uva.nl Sociology, University of Amsterdam, PO Box 15508, Amsterdam 1001 NA, The Netherlands.

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involvement. Societal involvement refers to an attitude toward participation and is the perceived importance and affection toward society and societal issues, which have a bearing on children's societal participation later in life (Wanders, Dijkstra, Maslowski, & Van der Veen, 2019).

Earlier research shows that the contribution of schools toward the promotion of citizenship is partially explained by a climate in which there is room for discussion, dialog, and positive interpersonal relationships between students and teachers (Geboers et al., 2013; Ho, McAvoy, Hess, & Gibbs, 2017; Keating & Janmaat, 2015; Knowles, Torney-Purta, & Barber, 2018). Positive relationships between teachers and students and among students contribute to an open and safe climate in which students encounter a microcosm of society and its diversity through their interactions with other people; develop opinions, interests, and commitment; and learn to relate to society and societal issues (Campbell, 2008; Isac, Maslowski, Creemers, & Van der Werf, 2014; Maurissen, Claes, & Barber, 2018; Wentzel & Ramani, 2016). These interpersonal relationships between teachers and students and among students are central to this study.

This study also examines the extent the postulated effect of these relationships works for students from different social backgrounds, as there appear to be differences between students from various social environments with regards to the domain of citizenship (Campbell, 2008; Hooghe & Dassonneville, 2011; Langton & Jennings, 1968; Neundorf, Niemi, & Smets, 2016). These differences in educational effects between students make it useful to examine whether the relationships between students and teachers predict societal involvement, as well as if it differs for students with various social backgrounds. Finally, by focusing on competencies necessary for citizenship, it is expected that civic knowledge is positively associated with higher levels of societal involvement. Students with a higher level of civic knowledge are more likely to participate in discussions, more likely to develop their own views on society, and have a better opportunity to interact and discuss societal issues (e.g., Delli Carpini & Keeter, 1996; Lawy & Biesta, 2006; Niemi & Junn, 1998; Torney-Purta, 2002; Verba, Schlozman, & Brady, 1995).

In sum, to explore the role of the school in enhancing societal involvement, this study examines the extent to which relationships between teachers and students, as indicated by well-being around teachers, stimulate societal involvement. Furthermore, it examines the extent to which relationships between students, as indicated by well-being around classmates, are related to societal involvement in Dutch primary schools and to what extent these relationships in primary school stimulate societal involvement in secondary school, which allows us to obtain a better understanding of the lasting effect of the relationships in primary school. Additionally, we studied the extent to which civic knowledge relates to societal involvement both in primary and secondary school and whether knowledge obtained in primary school is related to societal involvement in secondary school. In addition, this study assesses to what extent knowledge influences the effectiveness of teacher-student and student-student relationships. Finally, this study investigates if these teacher-student relationships compensate or accelerate differences in societal involvement, focusing on differences in the association between civic knowledge and parental education on these relationships.

Theoretical framework

Enhancing the involvement of students in society motivates them for their role as future citizens and to become active members of society. Societal involvement comprises the

perceived relevance or importance of societal issues and topics, which is often based on individual values and interests (Dijkstra, Hofstra, Van Oudenhoven, Peschar, & Van der Wal, 2004; Wanders et al., 2019; Zaichkowsky, 1985, 1994). Based on personal interests, societal involvement encompasses students' understanding of the importance or impact of these issues on themselves or others. It motivates a willingness to participate (Ekman & Amnå, 2012; Martin & Van Deth, 2007), which is necessary if students are to function as citizens. In contrast to other studies (e.g., Brady, Verba, & Schlozman, 1995; Lupia & Philpot, 2005; Torney-Purta & Amadeo, 2003; Van Deth, 2000), the conceptualization of societal involvement does not imply active behavior; instead, it has as a motivational factor. Whereas political and civic engagement in previous studies includes actual behavior and the notions that citizens are self-reliant and responsible for their own lives, they support their own communities, overcome common good problems, and collaborate with others to change and improve their own well-being and that of others (Amnå, 2012; Barrett & Brunton-Smith, 2014; Levy, 2011; Zukin, Keeter, Andolina, Jenkins, & Delli Carpini, 2006), societal involvement entails student attitudes, the appreciation, and understanding of other people and societal issues. It is an attitude towards civic engagement necessary for active participation in society.

Teacher-student relationships and student-student relationships

Adolescents develop their attitudes toward societal participation partly through their interactions with other people, and schools can stimulate this process by creating an open climate in which students are willing and able to interact and discuss societal issues. Teacher-student relationships play a role in creating such a climate in which there is room for sociopolitical discussion (Campbell, 2008; Fraser, 1991; Isac et al., 2014; Loukas, 2007). Positive relationships with teachers encourage students to have a democratic voice (Torney-Purta, Lehmann, Oswald, & Schulz, 2001), to feel free and safe, to be able to discuss and form opinions about their own ideas and those of others, and to engage in citizenship practices (Dijkstra, Geijsel, Ledoux, Van der Veen, & Ten Dam, 2015; Geboers et al., 2013; Keating & Janmaat, 2015). Students who enjoy a better relationship with their teachers are more likely to freely discuss their ideas, are more willing to engage in discussions and citizenship practices at school, and are then more likely to become engaged with societal issues. The perception of teachers as being fair, caring, and open to discussion stimulates the participation within—and even outside—the classroom (Flanagan, Cumsille, Gill, & Gallay, 2007; Midgley, Feldlaufer, & Eccles, 1989; Murdock, 1999; Roeser, Midgley, & Urdan, 1996). As Flanagan et al. (2007) argued, if teachers set standards for respect, equality, and civility, they create a climate promotive of civic learning. It is thus expected that positive teacher-student relationships are associated with higher levels of societal involvement. It is, therefore, expected that students who perceive more positive teacher-student relationships are more involved in society.

Positive student-student relationships can enhance feelings of safety, stimulate the willingness and motivation to participate in class (Baker, Grant, & Morlock, 2008; Hamre & Pianta, 2001; O'Connor, Dearing, & Collins, 2011; Wentzel, 1998), and enhance academic achievement (Roseth, Johnson, & Johnson, 2008). It can also be assumed that students with positive relationships with their fellow students are more likely to participate in discussions in class, which increases opportunities for promoting involvement in

societal issues (Wanders et al., 2019). The nature of student-student relationships can be different from that of teacher-student relationships. Positive student-student relationships, for instance, do not necessarily have a positive effect on creating an open environment and can be disruptive and less stimulating in class (e.g., Blank & Shavit, 2016; Guo, Piasta, Justice, & Kaderavek, 2010; Howes, 2000; Johnson, Maruyama, Johnson, Nelson, & Skon, 1981). This study examines whether the perception of student-student relationships is associated with higher levels of societal involvement.

In addition to individual perceptions of relationships with teachers and other students, effects at the classroom level could also be expected. The better the relationships among students and between students and their teacher(s), the more these students will be involved and actively participate in classroom exchanges and citizenship activities. Thus, the expectation is that students in classes with more positive teacher-student relationships and student-student relationships will become more involved than students in classes in which these relationships are less positive.

Student context: Compensation or acceleration effect?

Students are socialized differently in their respective families; students from more advantaged backgrounds may benefit either more or less from a good relationship with their teachers and peers (Campbell, 2008; Langton & Jennings, 1968; Neundorf et al., 2016). Children from higher-educated families are more likely to practice democratic behavior, discuss societal issues, and to grow up in an environment in which there is room for discussion and where resources are available that enable them to develop as citizens (Bouissou & Tap, 1998; Brady et al., 1995; Hemmerechts, Agirdag, & Kavadias, 2017; Yuen, 2013). The extent to which these background differences between students affect the learning opportunities within the school is unclear. If schools have a compensatory effect, students from lower social backgrounds should benefit more from a teacher-student and student-student relations, assuming conditions for an open climate, than more advantaged students. These latter students will benefit relatively less from the positive effects of their relationships with teachers and peers due to their favorable starting position. This argument is consistent with findings from several studies showing such a compensatory effect (Campbell, 2008; Hooghe & Dassonneville, 2011; Langton & Jennings, 1968; Neundorf et al., 2016). Conversely, students with fewer competencies at the outset of their scholastic career could benefit more from a positive environment and compensate for their initial disadvantage. An acceleratory effect refers to a situation in which students from higher social backgrounds benefit more from having a good relationship with their teachers and peers than other students. These students are more familiar with discussing sociopolitical issues, are more likely exposed to an environment in which these topics are discussed, and are therefore better able to participate in the discussions if conditions for an open climate are set. Recently, Wanders et al. (2019) found that Dutch secondary school students from more highly educated parents benefited more from teacher-student relationships than students from lower educated parents. This study examines whether this finding holds for primary school students and, accounting for these primary school differences, if these differences between students from lower and more highly educated parents hold in secondary school.

Civic knowledge

Finally, it is expected that civic knowledge is positively associated with societal involvement. Students with more civic knowledge are more able and likely to participate in discussions, more likely to develop their own views on society, and have a better opportunity to interact and discuss societal issues (e.g., Delli Carpini & Keeter, 1996; Lawy & Biesta, 2006; Niemi & Junn, 1998; Torney-Purta, 2002; Verba et al., 1995). Civic knowledge is thus positively associated with societal involvement. It seems likely that differences in knowledge of societal issues and citizenship also influence the benefits that students reap from positive relationships in the classroom. Having more knowledge about politics and society shapes the opinions of students (Delli Carpini & Keeter, 1996; Niemi & Junn, 1998; Verba et al., 1995) and enhances participation within and outside the classroom (Cohen & Chaffee, 2012; Lawy & Biesta, 2006; Torney-Purta, 2002), enabling the best possible use of the learning opportunities of a positive environment. It is, therefore, expected that students who are more knowledgeable about societal issues are more willing and able to participate in classroom discussions, increasing the likelihood that they become more involved in societal issues.

Methods

Research design

This study focuses on examining the extent to which teacher-student and student-student relationships and civic knowledge relate to societal involvement in primary education, the analysis of which is the main topic of the first part (analysis A). In analysis A, this study examines to what extent teacher-student relationships and student-student relationships enhanced societal involvement in primary school. Besides the perceived relationship with teachers and peers, this study explores to what extent teacher-student relationships and student-student relationships in the classroom influence societal involvement. Next, it determines to what extent the teacher-student relationships and student-student relationships compensate or accelerate differences concerning societal involvement. Here the focus is on differences between students from families with varying parental education levels. Finally, this study examines the relation between civic knowledge and societal involvement and to what extent teacher-student relationships and student-student relationships predict societal involvement related to civic knowledge.

The second part (analysis B) additionally focuses on the extent to which these primary school relationships and civic knowledge predict societal involvement in secondary school, including a longitudinal element. In addition, analysis B investigates the association of school relationships with societal involvement at the second stage of school careers in secondary education. Analysis B assesses to what extent these relations with societal involvement in primary school predict societal involvement later in secondary school and to what extent the associations in primary school predict future involvement in secondary school. The study also examines the association between the relationships in primary school compared to those in secondary school.

Data

This study used data on two cohorts of the Cohort Onderzoek Onderwijs Loopbanen$^{5-18}$ (COOL$^{5-18}$) study, a large-scale longitudinal cohort study conducted in the Netherlands. It

must be noted that the non-representative total sample in the COOL$^{5-18}$ data was used to include a larger number of students. In addition to the original and representative sample of the Dutch population, a sample consisting of disadvantaged schools and alternative education schools (e.g., Dalton, Montessori, or Waldorf education) was included. However, since the central focus of this study is to examine the relations between these factors, and it is important that there is enough differentiation on the distribution of the variables, the general representation of the variables is less important for these studies (see Dijkstra et al., 2015; Driessen, Mulder, Ledoux, Roeleveld, & Van der Veen, 2009; Peetsma, Wagenaar, & de Kat, 2001).

For analysis A, two rounds of data were collected. First, data were collected on children aged 12 in their final year of primary school (grade six) from two consecutive cohorts in 2008 and 2011. In addition, data were collected in 2008 and 2011 from students in third year of secondary school (grade nine), with children aged 14–15. The first COOL cohort (Driessen et al., 2009) comprised 11,609 students in the last year of primary education from 550 schools, while the second cohort (Driessen, Mulder, & Roeleveld, 2012) comprised 12,185 students from 406 schools. Schools could decide to participate in either a citizenship questionnaire, an English test, or both. Both primary school cohorts were combined on which data were available concerning the citizenship questionnaire, including 10,596 sixth-grade students. After excluding students for which data on the central variables was lacking, a dataset of 9,334 students remained.

For analysis B, a second data wave in secondary school was used from 2008 and 2011, in which 492 students of the first cohort from and 130 students of the second cohort completed the citizenship questionnaire and participated in both primary and secondary school, which resulted in a total sample of 622 students. There were two main reasons for the high attrition between primary and secondary education. First, it is because a relatively large number of schools did not participate in the collection of citizenship competence data. Second, many students from one primary school transitioned to multiple secondary schools, and many of these secondary schools did not agree to participate for various reasons, which made a follow-up questionnaire for students at these secondary schools not possible. To examine the differences between the students who participated in both primary and secondary school (longitudinal group) and students who participated only in primary school (non-longitudinal group), the variables used in the estimated models were compared between these longitudinal group and non-longitudinal group students. Table 1 shows that there were no significant differences between the two groups on most variables, except for three small significant ones:

Table 1. Comparison of longitudinal group (N = 9,334) and non-longitudinal group students (N = 934).

Variables	Min	Max	Mean1	SD1	Mean2	SD2	Mean diff	SE
Gender	1	2	1.510	.500	1.500	.016	.010	.017
Education parents	1	2	1.741	.438	1.761	.427	.020	.019
Ethnicity	0	1	.236	.424	.161	.367	**.075**	.013
Cohort	1	2	1.346	.476	1.490	.500	**.144**	.017
Societal involvement	1	4	2.987	.460	2.950	.432	**.037**	.016
Civic knowledge	0	1	.776	.163	.776	.157	.000	.005
Teacher-student relationships	1	5	4.185	.639	4.195	.609	.010	.021
Student-student relationships	1	5	3.710	.654	3.742	.596	.032	.021
Teacher-student relationships (class)	0	100	71.056	17.216	69.863	20.450	1.193	.837
Student-student relationships (class)	0	100	38.340	23.229	38.701	24.514	.361	.602

Note. Parameters in bold indicate significant effects with $p < .05$.

More longitudinal group students participated in the second cohort than the first cohort (d = .144), higher societal involvement was found in the longitudinal group compared to the non-longitudinal group (d = .037), and more native Dutch students participated in the longitudinal group than in the non-longitudinal group (d = .075). The consequences of the attrition between both studies are, therefore, expected to be limited as there were no differences for the variables related to the mechanisms that are central to these analyses: teacher-student and student-student relationships.

Dependent variable

Societal involvement included nine items from a citizenship questionnaire measuring different attitudes toward citizenship-related topics that are considered relevant for students in primary and secondary education (Ten Dam, Geijsel, Reumerman, & Ledoux, 2011). Students responded to different statements by answering the question "How well does this apply to you?" on a four-point scale (1 = does not apply at all, to 4 = completely applies). This scale measures students' attitudes about understanding and appreciating relationships with others and societal issues. Statements included were "It's important to learn something about other cultures," "It's important that children and other youth contribute to a righteous world," and "I'm curious how people in other countries live." (see Table A1 appendix). These coinciding statements determined whether students consider these social issues important. Factor analyses[1] showed an explained variance of 69%, with factor loadings of all items above .40 in analysis A and 60% variance with factor loadings of all items above .40 in analyses B. In both analyses A and B, the scale generated from these items was internally reliable given the sample with α = .85 in analysis A and α = .81 in the B study.

Predictor variables

Teacher-student relationship. The student perception of the teacher-student relationship was measured with a scale consisting of seven items (Peetsma et al., 2001) in both primary and secondary school. Students were asked to respond to statements about their relationship with their teacher, including statements about questions on the openness of teachers ("I can talk about my issues with my teacher"), empathy ("Teachers understand me"), quality of the relationship ("I have a good contact with my teacher"), and feelings of safety ("I feel comfortable around my teacher"). They indicated their responses on a five-point scale (1 = does not apply at all, to 5 = applies perfectly). The negatively formulated statement, "I would rather have another teacher" was positively recoded. In analysis A, factor analyses showed an explained factor variance of 49%, and in analysis B, an explained factor variance of 50%. Classroom teacher-student relationships were calculated as the mean score of the students in the class based on the individual scores. In both analyses A and B, the scale generated from these items was internally reliable given the sample with α = .82 in analysis A and α = .83 in the B study. Classroom teacher-student relationships were calculated as the mean score of the students in the class based on the individual scores.

Student-student relationships. The perception of student-student relationships was measured in both primary and secondary school, with six statements to which students could respond on a five-point scale (1 = does not apply at all, to 5 = applies perfectly) to reflect their perception of their relationship with their classmates, measuring contact frequency ("I have a lot of contact with my classmates"), quality of the relationship ("I get along with

my classmates"; "I like to hang out with my classmates"), and general opinions ("We have a nice class"). Two negatively formulated questions—"I would rather be in another class" and "I feel alone in my class"—were positively recoded. In analysis A, factor analyses showed an explained factor variance of 57%, and in analysis B, an explained factor variance of 58%. In both analyses A and B, the scale generated from these items was internally reliable given the sample with α = .84 in analysis A and α = .85 in the B study. Student-student relationships were conceived as the mean score of the students in the class based on the individual scores.

Civic knowledge. Civic knowledge was measured in both primary and secondary school by presenting the students with multiple-choice items measuring their knowledge of a variety of citizenship practices that are considered meaningful to students: acting democratically, acting in a socially responsible manner, dealing with conflicts, and dealing with differences (Ten Dam et al., 2011). One example of such an item is "All children have a right to: (a) an allowance, (b) choose who they want to live with, (c) education." Another is "Your teacher is looking for five students to organize a school party. How can these students be chosen in a democratic fashion?" with possible answers being: "(a) the teacher chooses five students who are good at organizing; (b) the teacher has the class vote on who will be allowed to do this; (c) the teacher closes his or her eyes and points to five students." The proportion of correct answers was calculated. For a more detailed description, refer to the technical reports on the COOL$^{5-18}$ data (Driessen et al., 2009, 2012; Zijsling, Keuning, Kuyper, Van Batenburg, & Hemker, 2009; Zijsling, Keuning, Naayer, & Kuyper, 2012) and the citizenship questionnaire by Ten Dam et al. (2011).

Control variables. The background variables included as control variables were taken from the COOL$^{5-18}$ study and were initially provided by the school administrations (Driessen et al., 2009). Parental education was recoded to a dichotomous variable: parents with a lower level of education (0) and parents with a higher level of education (1). The first category included all parents having completed lower vocational education; the second was comprised of all parents with a higher level of education than vocational education. Gender was coded dichotomously with male = 0 and female = 1. Ethnicity was coded as 0 = native Dutch and 1 = non-native Dutch, with the country of birth of the mother being the distinguishing factor.

Analyses

To examine the extent to which relationships with teachers and classmates relate to societal involvement in primary and secondary school, SPSS 24 was used to conduct multilevel regression analyses with maximum likelihood estimations distinguishing the class and student levels. Multilevel regression analyses were performed to account for the nesting of the data. In analysis A, the class ratio was 9.01 with 9,334 students from 1,036 classes. In view of the transition between primary and secondary school in analysis B, the smaller 1.4 student-class ratio (622 students in 444 classes) was to be expected. This low ratio is not expected to lead to biased or inaccurate estimates since the sample size at the individual and classroom level is sufficient (Hox & Maas, 2006). Log-likelihood model estimations were used to examine whether adding variables

improved the model. Using a chi-square test, the differences between models that were statistically significant were assessed. Effect sizes were calculated by standardizing the estimates. To understand to what extent student and teacher relationships relate to societal involvement in primary school and to examine both the lasting (and relative) effects primary school has on societal involvement in secondary school, two series of analyses were conducted.

Analysis A: Societal involvement in primary school

In analysis A, a null model (model A.0) without predictors and with societal involvement as the only dependent variable was estimated, showing a significant intraclass correlation coefficient (ICC) of 12.3% variance ascribed to the class-level at primary schools. In model A.1, the control variables (gender, ethnicity, parental education, and cohort) were added simultaneously to the empty model, to control for possible differences between the combined cohorts in the analyses. In model A.2, teacher-student and student-student relationships were added simultaneously to the model to measure the importance of these classroom relationships. In model A.3, interactions between parental level of education and both teacher-student and student-student relationships were added to investigate the presence of a compensatory or acceleratory effect on student background. In model A.4, civic knowledge was added to examine its direct effect. Model A.5 added the interaction between civic knowledge and teacher-student and student-student relationships to examine whether the association between teacher-student and student-student relationships and societal involvement depends on the level of civic knowledge. In model A.6, teacher-student and student-student relationships, civic knowledge, and the teacher-student and student-student relationships in the classroom were simultaneously added.

Analysis B: Societal involvement in secondary school

In the second series of estimations, the null model showed an ICC of 19% at class-level in secondary school. In this second series, models B.1 to B.6 were estimated in the same way as in the first series, using societal involvement in secondary school as the dependent variable, to examine the lasting effect of the relationships between students and teachers in primary school on societal involvement at age 15. In model B.7, all secondary school factors, measured in secondary school, were added to examine their relative effect on societal involvement at age 15.

Results

Analyses A: Societal involvement in primary school

Table 2 summarizes the standardized results of the multilevel analyses on societal involvement in primary school. All models showed significant improvement compared to the previous model, with the exception of the final model in which class-level teacher-student and student-student relationships were added. Teacher-student relationships showed a significant positive relation to societal involvement (β = .181), and student-student relationships had no significant association with societal involvement. At the class-level, both variables were unrelated to societal involvement. Civic knowledge was positively related to societal involvement (β = .225). There

Table 2. Standardized effects on societal involvement in primary school.[a]

Variables	Model A.0	Model A.1	Model A.2	Model A.3	Model A.4	Model A.5	Model A.6
	B (SE)	*B (SE)*	*B (SE)*	*B (SE)*	*B (SE)*	*B (SE)*	*B (SE)*
Constant	.002 (.015)	**.274** (.035)	**.250** (.033)	**.248** (.033)	**.291** (.032)	**.291** (.033)	**.292** (.033)
Gender student (*ref = boy*)							
Girl		**.292** (.018)	**.251** (.018)	**.260** (.018)	**.195** (.018)	**.195** (.018)	**.195** (.018)
Education parents *(ref = lower)*							
Higher education		**.167** (.023)	**.161** (.022)	**.161** (.022)	**.085** (.022)	**.085** (.022)	**.085** (.022)
Generational background (*ref = native*)							
Non-native		**.385** (.026)	**.388** (.025)	**.387** (.025)	**.425** (.025)	**.425** (.025)	**.425** (.025)
Cohort (*ref = cohort 1*)							
Cohort 2		**.066** (.029)	**.095** (.028)	**.095** (.028)	**.113** (.028)	**−.114** (.028)	**−.112** (.028)
Teacher-student relationships			**.251** (.010)	**.208** (.018)	**.174** (.018)	**.178** (.018)	**.181** (.018)
Student-student relationships			.052 (.009)	.071 (.018)	.062 (.018)	.059 (.018)	.058 (.018)
Civic knowledge					**.224** (.009)	**.225** (.009)	**.225** (.009)
Teacher-student relationships * education parents				**−.058** (.021)	**−.062** (.020)	**−.059** (.021)	**−.059** (.021)
Student-student relationships * education parents				.026 (.021)	.019 (.020)	.016 (.021)	.016 (.021)
Civic knowledge * teacher-student relationships						.008 (.009)	.008 (.009)
Civic knowledge * student-student relationships						−.008 (.009)	−.008 (.009)
Class teacher-student relationships							−.022 (.023)
Class student-student relationships							.039 (.053)
Model fit	29,472.08	29,007.04	28,241.59	28,233.51	27,663.48	27,662.06	27,660.89
Improve fit		**465.04**	**765.45**	**7.08**	**570.03**	**1.42**	1.17
Difference df		5	2	2	3	2	2
ICC	**12.3%**						

Note. Parameters in bold indicate significant effects with $p < .05$.

[a]Teacher-student and student-student relationships were also estimated separately in two different models with comparable results.

was no significant interaction between civic knowledge and parental education. The interaction for teacher-student relationships showed a negative significant interaction with parental education (β = –.059), indicating that students with parents with a higher level of education benefit less from having good teacher-student relationships than students with parents with a lower level of education. Finally, with respect to student background factors, girls showed more societal involvement than boys (β = .195), as did students with parents with a higher level of education (β = .085) in relation to those with more modestly educated parents, and non-native students (β = .425) in relation to native students. Finally, students from the second cohort were slightly less involved than the first cohort students.

Analyses B: Societal involvement in secondary school

Table 3 summarizes the results of the analyses concerning societal involvement in secondary school, including both the lasting and the relative effects of the primary school outcomes. All models showed significant improvement compared to the previous model, with the exception of model B.5, which added class-level teacher-student and student-student relationships.

The lasting effect of the primary school factors at age 12 on societal involvement at age 15 was first examined, disregarding the secondary school factors in model B.6. Teacher-student relationships at age 12 still had a positive association with societal involvement at age 15 (β = .166), and civic knowledge (β = .105) was also positively related to societal involvement at age 15. The interaction between parental education and teacher-student and student-student relationships was not significant, and neither was the interaction between civic knowledge and these relationships. Finally, classroom teacher-student and student-student relationships were also unrelated to societal involvement.

After adding the secondary school variables in model B.7, the results show a positive association between teacher-student relationships in secondary school and societal involvement at age 15 (β = .441). Teacher-student relationships at age 12 were also still positively related to societal involvement (β = .128). Civic knowledge at age 12 is unrelated to societal involvement at age 15, where there is a positive relation between civic knowledge at age 15 and societal involvement (β = .198). All interactions with parental education for both age 12 teacher-student and student-student relationships and civic knowledge were unrelated to societal involvement at age 15. Finally, parental education was unrelated to societal involvement at age 15, girls were more involved than boys (β = .138), and non-native students reported more involvement than native students (β = .452). The students in the second cohort were less involved at age 15 than those in the first cohort (β = –.215).

Conclusion and discussion

To provide a better understanding of the role of the school in enhancing societal involvement, the purpose of this study is threefold. First, we wanted to study to what extent teacher-student and student-student relationships were associated with societal involvement. Secondly, we examined to what extent teacher-student and student-student relationships either compensate for or accelerate differences between students from different social backgrounds. Finally, to understand the role of civic knowledge in

Table 3. Standardized effects on societal involvement in primary and secondary school.

Societal involvement	Model B.0	Model B.1	Model B.2	Model B.3	Model B.4	Model B.5	Model B.6	Model B.7
	B (SE)	*B (SE)*	*B (SE)*	*B (SE)*	*B (SE)*	*B (SE)*	*B (SE)*	*B (SE)*
Constant	007 (.042)	**.418** (.140)	**.384** (.138)	**.383** (.138)	**.333** (.139)	**.326** (.139)	**.321** (.138)	**.286** (.120)
primary school								
Gender (*REF = BOY*)								
Girl		**.257** (.078)	**.252** (.077)	**.245** (.077)	**.212** (,078)	**.209** (.078)	**.209** (.078)	**.138** (.070)
Education parents *(REF = LOWER)*								
Higher education		.150 (.080)	.145 (.080)	.146 (.079)	.096 (.082)	.095 (.082)	.104 (.082)	.051 (.071)
Ethnic background (*REF = NATIVE*)								
Non-native		**.382** (.103)	**.389** (.102)	**.391** (.102)	**.398** (.101)	**.398** (.101)	**.371** (.101)	**.452** (.089)
Cohort (*REF = COHORT 1*)								
Cohort 2		**−.117** (.012)	−**.163** (.100)	**−.159** (.100)	**−.180** (.099)	**−.180** (.099)	**−.163** (.099)	**−.215** (.088)
Teacher-Student relationships			**.154** (.040)	**.217** (.054)	**.203** (.054)	**.196** (.054)	**.166** (.057)	**.128** (.050)
Student-Student relationships			.059 (.040)	.060 (.053)	.063 (.055)	.059 (.055)	.085 (.048)	.089 (.051)
Civic knowledge					**.095** (.041)	**.099** (.042)	**.104** (.042)	.031 (.039)
Teacher-Student relationships * Education parents				.138 (.079)	.128 (.079)	.114 (.083)	.123 (.083)	.104 (.072)
Student-Student relationships * Education parents				−.001 (.079)	−.018 (.079)	−.011 (.082)	−.004 (.082)	−.004 (.072)
Civic knowledge * Teacher-Student relationships						.025 (.042)	.026 (.042)	.006 (.037)
Civic knowledge * Student-Student relationships						.019 (.040)	.016 (.040)	.023 (.034)
Class-level teacher-student relationships							.133 (.072)	.007 (.063)
Class-level student-student relationships							−.237 (.135)	−.142 (.118)
Secondary school								
Teacher-student relationships								**.441** (.035)
Student-student relationships								−.002 (.036)
Civic knowledge								**.198** (.039)
Teacher-student relationships * education parents								.056 (.070)
Student-student relationships * Education parents								−.086 (.075)
Civic knowledge * Teacher-Student relationships								−.018 (.030)
Civic knowledge * Student-Student relationships								.003 (.002)
Class-level teacher-student relationships								.019 (.029)
Class-level student-student relationships								−.003 (.037)
Model fit	1,752.16	1,724.69	1,704.02	1,700.76	1,695.53	1,694.87	1,689.62	1,512.42
Improvement fit		**27.47**	**20.67**	**3.26**	**5.23**	.66	**5.52**	**177.20**
Difference df		5	2	2	3	2	2	9
ICC	19%							

Note. Parameters in bold indicate significant effects with $p < .05$.

stimulating societal involvement, we examined civic knowledge and its association with societal involvement.

We found a positive association between teacher-student relationships and societal involvement at ages 12 and 15. Positive teacher-student relationships at age 12 had a positive association with societal involvement in primary school, and it still had a unique small association with societal involvement in secondary school at age 15. It appears that teachers in primary school have a lasting influence on the societal involvement of their students, stressing the importance of having these positive teacher-student relationships already in primary school to make a unique contribution toward involvement later in life. At the same time, this finding may also mean that students who hold more positive attitudes toward their teachers in primary school will also have more positive relationships with their teachers in secondary school. Teachers in secondary schools make their own contribution toward societal involvement, indicated by the findings that, controlling for previous relationships, secondary school relationships had a medium-sized effect.

These findings support our assumption that students who perceive their teachers as caring, understanding, and attentive are more able and willing to participate in class because they feel safer and are more willing and able to engage in discussions and ultimately become more involved in society (Furrer, Skinner, & Pitzer, 2014; Wentzel & Brophy, 2014). A suggestion to stimulate positive teacher-student relationships within civic education is through student-evaluations of their teachers. Previous researchers suggested that schools that allow students to evaluate teachers have better teacher-student relationships (Barile et al., 2012; Manefield, Collins, Moore, Mahar, & Warne, 2007). Within civic education, these evaluation opportunities may increase students' belief in teacher intentions, their caring, understanding, and attentiveness toward them, which in turn enhances teacher-student relationships. Such evaluation opportunities could improve teacher-student relationships in both primary and secondary schools, increasing societal involvement of students.

Next to this, we examined to what extent schools can compensate for or accelerate differences in societal involvement between students of varying familial educational attainment. In terms of societal involvement, students of age 12 with less educated parents benefit more from having a good relationship with their teachers than students with more highly educated parents. This supports the compensatory effect that students from less advantaged backgrounds benefit more from an open climate (Campbell, 2008), as we found that students with lower educated parents benefit more from their teachers, indicating that positive teacher-student relationships may decrease inequality. The compensatory effect in primary school did not continue into secondary school, which further stresses the importance of having positive teacher-student relations already in primary school for societal involvement.

Student-student relationships showed no association with societal involvement in both primary and secondary school. This finding does not coincide with our previous findings (Wanders et al., 2019) and our idea that student-student relationships are positively related to feeling safe in class and that good relationships with classmates enhance the willingness and ability to discuss issues affecting society and participate in citizenship activities. As stated before, positive student-student relationships do not necessarily stimulate a positive learning environment and can also stimulate disruptive

behavior and decrease motivation for active participation in class (e.g., Blank & Shavit, 2016; Guo et al., 2010; Howes, 2000; Johnson et al., 1981). Some scholars (e.g., Dostie-Goulet, 2009) also have stated that the positive influence of friends becomes increasingly important later in life. As adolescents age, it is expected that friends play a more important role in their lives and may even become primary socializers in addition to parents and teachers (Berndt, 1982; Blyth & Traeger, 1988; Dostie-Goulet, 2009).

Finally, civic knowledge positively relates to societal involvement at ages 12 and 15. These findings are consistent with earlier research into the relationship between social and political knowledge and active participation in society (Cohen & Chaffee, 2012; Torney-Purta, 2002; Torney-Purta & Vermeer, 2006). The results show that more civic knowledge at age 12 is positively related to societal involvement at age 15 and as the effect disappears when accounting for secondary school knowledge, secondary schools are able to enhance and stimulate knowledge and have a role in enhancing societal involvement for 15-year-old students. The positive association between civic knowledge and societal involvement indicates that teaching students civic knowledge in primary school contributes to societal involvement later in life. A good formal civic education curriculum, found to be one of the strongest predictors for civic knowledge (Geboers et al., 2013), could stimulate civic knowledge.

We faced some limitations when conducting our analyses. A possible limitation was that societal involvement was measured through student self-reporting. Self-reports have been argued to have some limitations, such as social desirability, acquiescence bias, and response sets (Jobe, 2000; Sapsford & Jupp, 2006). Nevertheless, to measure personal motivation and relationships with others, self-reports are considered a useful tool for assessing attitudes. Still, in follow-up research on the effect of relationships between students and teachers on societal attitudes, it is advisable to also use more qualitative observation methods. In this way, classroom climate can also be assessed through observations, which would allow the actual discussions about society and societal issues to be analyzed. Used to supplement self-reports, qualitative data can confirm the self-reports on these classroom relationships of students and give insight into the mechanisms of these relationships. In addition, specific instruments developed to measure the classroom climate could provide a better understanding of the mechanisms underlying an open climate. As this study showed that teacher-student relationships were positively associated with societal involvement, using more specific "open climate" indicators can further enhance our understanding of the mechanisms through which teachers can create an open climate and to what extent this influences societal involvement (see also Ho et al., 2017; Maurissen et al., 2018).

This study shows that teachers are important socializers for enhancing societal involvement of students in primary and secondary school. In the context of civic education and in addition to deliberately teaching students about society, social issues, politics, and citizenship, good teacher-student relationships are a necessary condition for societal involvement. Having good relationships with teachers positively stimulates societal involvement and in primary school such relationships seem more beneficial to more disadvantaged students. Teaching civic knowledge is also important and appears to have an effect on societal involvement three years later. Our longitudinal design enabled us to show that both good teacher-student relationships and knowledge learned in primary school have a lasting effect, and we also found that secondary schools further develop societal involvement of students.

Note

1. Principal Component Analyses (PCA).

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Appendix A

Table A1. Items for main variables in analyses.

Societal involvement	Teacher-student relationships	Student-student relationships
1) I think it's important to talk with other about issues in the world	1) I can talk about my issues with my teacher	1) I have a lot of contact with my classmates
2) I think it's important to say something if we talk about the news	2) Teachers understand me	2) I get along with my classmates
3) It's important that children and other youth contribute to a righteous world	3) I have a good contact with my teacher	3) We have a nice class
4) It's important to learn something about other cultures	4) I feel comfortable around my teacher	4) I like to hang out with my classmates
5) I'm curious how people in other countries live	5) I would rather have another teacher	5) I feel alone in my class
6) It's important consort with people with differences traditions	6) If I feel unhappy I can talk about this with my teacher	6) I would rather be in another class
7) It's important that people know others with a different religion	7) Teachers know how I feel	
8) I think different cultures contribute to life		
9) I enjoy learning about other cultures		