

Schools' we-mentality and students' civic engagement - A text-based approach

*Hendrik Hüning**

January 3, 2022

Abstract

This paper studies the role of schools' we-mentality in shaping students' civic outcome. A school's we-mentality is important for the students' perception and education of sense of community. The novelty of the paper is that we-mentality is measured by an automated content-analysis approach applied to the schools' general principle. Conducting a survey in 13 German schools with 488 students, we find that stronger we-mentality is associated with more students being engaged in local civic activities. Moreover, students that exhibit stronger trust in others and are willing to engage with new and unknown tasks show more positive attitudes towards civic issues. The results hold relevance for the educational design of schools in fostering adolescents' civic education and participation.

Keywords: Civic engagement, sense of community, school climate, text as data

*Department of Economics, Hamburg University, Von-Melle-Park 5, 20146 Hamburg, Germany, Email address: hendrik.huening@uni-hamburg.de

I am grateful to Lydia Mechtenberg for valuable feedback and to the WISO lab of Hamburg University for the outstanding technical assistance. This work has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 822590. Any dissemination of results here presented reflects only the author's view. The Agency is not responsible for any use that may be made of the information it contains. This study received ethical approval from the Institutional Review Board of the University of Hamburg. Written consent was obtained from participants and their parents before the study took place. The data for this study can be made available under reasonable request, except of the textual data from schools' homepages that would directly identify the schools which violates privacy agreements with the schools and responsible ministries. No material from other sources was used. I have no conflicts of interest to declare.

1 Introduction

Civic participation is a cornerstone in democratic societies. The interest, attitudes and engagement of individuals towards civic issues fundamentally shape the functioning of our democratic systems. Thus, it is not surprising that scholars from various disciplines are interested in the contextual factors and conditions that shape attitudes and engagements towards civic issues.

Schools are considered to play an important role as institutions educating young people democratic principles and to serve as niches for the development of civic engagement (Guillaume et al. 2015). Understanding the influence of different actors, activities and interactions that shape political participation and engagement of the youth is crucial for developing standards of civic education (Dudley and Gitelson 2002).

This paper studies the effect of individual- and school-level characteristics on civic attitudes and engagement of 488 students from 13 German schools. Students' civic attitudes and engagement are measured through eight survey questions covering their attitudes towards their own role in society, their engagement at and outside of school with regard to honorary offices and their local and online engagement with regard to political or societal issues. School-level we-mentality is captured performing a dictionary-based content analysis on the schools' general principles (German: Leitbild) that are published on the schools' corresponding homepages. This approach contributes to the growing economic and political science literature using "text as data" (Gentzkow et al. 2019).

The main finding of the paper is that schools that express higher we-mentality exhibit more students that engage in civic activities within and outside of school. This result is robust to the choice of the model, i.e. standard OLS regressions or a multi-level approach that takes into account the nested structure of students within schools.¹ Moreover, students' individual trust in others exhibits a sizable effect on their attitudes towards civic issues.

The paper contributes to the literature on the role of individual characteristics and schools' contextual factors on students' civic behavior. With regard to individual characteristics Castillo et al. (2015) show that children from families with lower socioeconomic status exhibit less political participation. Not only students' background affect later engagement but also interaction with peers. Luengo Kanacri et al. (2017) demonstrate that students' pro-social behavior towards close peers constitute foundations for later civic engagement. Moreover, civic engagement has been shown to be more

¹Barrett and Brunton-Smith (2014) argue that in order to understand the various factors (on different levels) influencing civic engagement, a multi-level approach is needed.

pronounced for students with stronger sense of belonging to the school and its community (Encina and Berger 2021).

With regard to contextual factors, recent studies find a positive effect of a school's social climate on students' civic behavior. Castillo et al. (2015) investigate the role of civic knowledge and classroom climate on political participation and find a positive influence. Jagers et al. (2017) also study the role of classroom climate on civic engagement of Black and Latino middle school students. They find that equitable school climate predict higher civic attitudes one year later. Moreover, research suggests that a school's climate cannot only directly affect students' civic outcomes but also as a moderating factor. In an empirical study with students from middle schools, Guillaume et al. (2015) find that individual positive perceptions of a school's climate are positively related to school connectedness that in turn affects civic engagement. Schulz et al. (2017) find a positive association between classroom climate, which they measure as students' perception of the openness of classroom discussions about political and societal issues, and students' interest in political and societal issues. More recently, Encina and Berger (2021) find that a school's social climate can effectively moderate students' sense of belonging and valuing of the school that in turn fosters their civic behavior. Understanding these interactions between a school's climate, individual characteristics and their civic engagement is of major interested to develop measures of civic education.

As this previous research suggests, a school's social climate is not clearly defined and empirical studies came up with conceptual approaches that focus on different components and processes (Encina and Berger 2021). For instance, while Guillaume et al. (2015) and Quin (2017) use students' individual perceptions of teacher-student or student-student relationships, Jagers et al. (2017) use students' perceptions of equitable treatment of racial, socioeconomic, and gender groups. In contrast, Encina and Berger (2021) measure school climate on the teacher- and school-staff level by asking about the schools' disciplinary structure and student support. Their measure rests on authoritative school climate theory.

In contrast to previous studies, this study develops a novel approach in measuring a school's social climate. I apply automated content analysis, i.e. a dictionary approach that detects we-mentality in natural language text, to the schools' general principle (German: Leitbild) that is published on the schools' homepages. A general principle is a school's self-description that summarizes the pedagogical goals, teaching convictions and focuses. We-mentality that is expressed in the general principle captures part of a school's "implemented curriculum" (Akker 2004 and Bron and Thijs 2011). The curriculum perspective of education distinguishes (a) the *intended curriculum*

that is predetermined by education authorities (b) the *implemented curriculum*, that is actually taught at schools and (c) the *attained curriculum* that is actually achieved by students. Thus, the study investigates how the implemented curriculum, i.e. how important a school deems we-mentality in their educational approach, relates to the attained curriculum, i.e. students' civic attitudes and engagement.

Finally, from a theoretical perspective, this work relates to the psychological concept of sense of community (SOC). While McMillan and Chavis (1986) formulate a four-dimensional framework with membership, influence, needs fulfillment, and shared emotional connection as the driving forces of sense of community, Nowell and Boyd (2010, 2014) introduce human needs theory to the concept of SOC and distinguish community as a resource and responsibility.²

The SOC concept has been investigated in many communities such as workplace (Brodsky and Marx 2001), religious communities (Miers and Fisher 2002) and student communities (Pretty 1990). The school as a community is special in this context because sense of community cannot only be experienced in schools but the schools' educational approach might explicitly teach the value of community as a resource and responsibility through their activities and value of togetherness. As Nowell and Boyd (2014) point out: "there is still much left under-theorized and untested about the experience of community and the mechanisms through which these perceptions and experiences translate into action" (p. 239). This paper highlights the channel of we-mentality (togetherness) through which sense of community at schools can be experienced and educated. We-mentality fulfills students' needs of sense of belonging. When the community meets students' needs, they will more likely be engaged in civic issues (Nowell and Boyd 2010).

The remainder of the paper is structured as follows: Section 2 introduces the survey design and procedures. Section 3 presents the data. The empirical results are summarized and discussed in Section 4. Section 5 concludes.

2 Survey Design

For the survey, students from secondary schools in Berlin and Hamburg were recruited.³ Students were from 11th or 12th grade and needed to be at least fifteen years old to participate in the study. Overall, 214 schools were con-

²Conceptually related constructs are sense of responsible togetherness (Procentese et al. 2019) and sense of community responsibility (Prati et al. 2020).

³The survey was part of a larger research project at schools that also involved an experiment, see Biermann et al. (2021).

tacted by phone and afterwards informed about the survey and its procedures in written form by E-mail. Sixteen schools agreed to participate. The survey was conducted between December 2019 and March 2020 in thirteen of these schools. Four of those are located in Berlin and nine are located in Hamburg. Unfortunately, in March 2020, the fieldwork had to be stopped because of the COVID-19 pandemic and school closings. For this reason, the survey could not be conducted in the remaining three schools.

The survey was conducted in schools during the students' regular lessons. The survey was entirely computer-based, i.e. students separately used a computer or laptop to participate in the survey. The computer infrastructure was either provided by the schools themselves or tablets were provided by the researchers via the mobile laboratory of the WISO-lab at Hamburg University. The program for the survey was designed using the software o-tree (Chen et al. 2016). Parents and students were informed about the procedures of the study two weeks in advance and written consent was obtained from both, parents and students. The survey was not incentivised.

3 Data

3.1 Student-level data

Overall, 501 students in 19 sessions participated in the survey. Due to technical malfunction, data from 13 students had to be dismissed, leaving 488 observations for the analysis. Table 1 present some descriptive characteristics of the sample. Students are between 15 and 21 years old, averaging 17 years. Overall, 56% of students are female and one student is diverse. From all participating students, 27% went to schools in Berlin. Almost all students are born in Germany (96%).

Moreover, eight survey items were developed that capture students' civic attitudes and engagement. Following the reasoning in Kahne and Sporte (2008), these items reflect community-based forms of civic attitudes and engagement rather than more formal forms of political activities such as working on campaigns, engagement within parties or voting. Young students less likely engage in formal political action making a broader perspective of civic engagement necessary. The items reflect their general attitudes towards society and their engagement with a local and online community with regard to societal issues. The items are summarized as follows (See Table A1 for the exact reading of the items):

- a) the importance of giving something back in society (Variable name: *soc_return*)

Table 1: Summary statistics

Variable	Mean	St. Dev.	Min	Max
Age	17	0.91	15	21
Share female	0.56	0.50	0	1
Share school in Berlin	0.27	0.44	0	1
Share born in Germany	0.96	0.20	0	1
Pocket money (in Euro)	24.89	39.36	0	450
School size	805	239	159	1075
Share private school	0.31	0.46	0	1
Share catholic school	0.23	0.42	0	1
Share music school	0.19	0.39	0	1
Share bilingual school	0.25	0.43	0	1
Share natural science	0.17	0.37	0	1

Notes: The number of observations is 488.

- b) the importance of being informed about what is happening in the society (Variable name: *informed_soc*)
- c) the students' own role in making a change in society (Variable name: *change_soc*)
- d) being a member in a club or association (Variable name: *mem_club*)
- e) having taken a school office such as elected representative of the pupils (Variable name: *school_off*)
- f) having taken honorary post outside of school matters (Variable name: *hon_out_school*)
- g) writing letters to magazines/newspapers or writing a comment online on an (news)page with regard to societal or political topics (Variable name: *write_let*)
- h) having online discussions with others on social media regarding political or societal issues (Variable name: *onl_media*)

These eight items reflect a student's individual attitudes and engagement with regard to civic issues. The last two items, i.e. *write_let* and *only_media*, account for "distance" and online participation in political and civic discourse and engagement. In modern societies and the age of the Internet, political participation more often means taking part in online discussions or organize

political protest online.⁴ As Nelson et al. (2017) shows for the U.S., digital civic engagement nowadays often substitutes more conventional, e.g. local, civic engagement.

In order to reduce the dimensionality of these individual measures, principal component analysis (PCA) is used to reduce the eight measures to a lower number of factors, i.e. components, that capture most of the variance of the original items. First, I investigate if the eight measures are suitable for a PCA. The Kaiser-Meyer-Olkin (KMO) criterion for these eight measures takes the value 0.67 indicating substantial correlations between the measures to justify the use of PCA. Second, investigating the scree plot (see Figure B1) indicates that three components are sufficient to represent the eight measures, i.e. three eigenvalues are above one.

Results of a PCA with three components is depicted in Table B1. The variables *informed_soc*, *change_soc* and *soc_return* display strong loadings on component one. The variables *mem_club*, *hon_out_school* and *school_off* have strong loadings on component two and finally, the variables *write_let* and *onl_media* have strong loadings on component three. Thus, component one generally reflects students' attitudes towards civic issues. In the following, component one is called *attitudes*. Component two seems to reflect students' engagement in and outside of schools, i.e. in their local environment and is denoted as *eng_local*. Finally, component three reflects students' engagement with newspapers and online comments. Component three is denoted as *eng_onl*. Subsequently, these three components are used to investigate the effect of school characteristics on civic attitudes and engagement.

In order to explain students civic attitudes and engagement, the following student-individual attitudes and characteristics were collected through the survey (compare Table A2). A student's perception of the social status of the parents (*social_ladder_parents*), individual attitudes towards refugees (*refugee_attitudes*), their willingness to spend some time abroad after school (*prob_abroad*), willingness to donate to a charity (*donation*), trust in others (*trust_others*), willingness to engage with tasks that might not be solvable (*solvable_tasks*), and finally attitudes towards party-democracy and the European Union (*partydemo_attitudes*, *eu_attitudes*) as well as students' willingness to further engage with issues related to party-democracy and the European Union (*partydemo_willingness* and *eu_willingness*). Finally *age* is numeric and controls for students' age and *female* is a dummy variable that is equal to one for female students and zero otherwise.

⁴A good example is the international climate movement Fridays for Future.

3.2 School-level data

With regard to school characteristics, the following publicly available data are collected and used to construct the following variables. First, the variable *private* is equal to one if a school is funded by a private institution and zero otherwise. Second, the variable *catholic* is equal to one for schools that have catholic principles and zero otherwise.⁵ Third, *music* is equal to one for schools that have a strong focus on music, i.e. students dedicate a substantial time at school learning an instrument, and zero otherwise. Fourth, *naturalscience* is equal to one for schools that have a focus on natural sciences, i.e. the school promotes a strong education in mathematics, physics, chemistry and biology, and zero otherwise. Fifth, *bilingual* is equal to one for schools that offer bilingual education, i.e. some of the classes the students have to attend are taught in English or another European language, and zero otherwise. Sixth, the variable *size* controls for the size of the schools, i.e. number of students.

Table 1 summarizes these characteristics. On average, a school in our sample has 805 students. With regard to the organisational structure and funding, 31% of students attend a private school, 23% attend a catholic school. Moreover, 19% attend a school with strong focus on music, 17% with a focus on natural science and 25% a school that teaches some classes in a foreign language (bilingual schools).

Beside these indicator and quantitative variables, a qualitative measure from schools' general principles (German: Leitbild) is extracted. The general principle is publicly available on each school's website. It states a school's educational goals, general teaching ideas and convictions, ethos and focus of teaching, if applicable. From these textual data, I extract the we-mentality with a dictionary approach.⁶ Thus, all words in a given general principle are counted that are associated with togetherness such as the words "collaboration", "helpfulness" or "jointly". The hypothesis that I want to test is: The more a school's climate is governed by we-mentality, the more positive students' attitudes are towards civic issues and the more students are civically engaged.

The variable *we-mentality* is defined as the share of words in school i's general principle that are associated with a "we-together-culture", i.e. the

⁵This usually also means that the school is (at least partly) funded by the catholic church.

⁶As an alternative, one could have thought of using the textual content from the entire school's website. Beside the general principle, however, the websites are very different in structure and focus. This would potentially add noise to the measure that is calculated with the general principles.

number of togetherness words divided by the total number of words in that same general principle (See the full word list of *we-mentality* in Table C1). More formally,

$$We-mentality_i = 100 * \frac{WeWords_i}{TotalWords_i}. \quad (1)$$

Thus, we-mentality is the percentage of words that can be attributed to "togetherness". Needless to say that using this measure assumes that a school's ethos and community principles that are put into practice by school officials and teachers are (at least partly) expressed in its general principle. As a robustness check, we also employ a shorter version of this dictionary that only contains the words "we", "us" and "our" ("wir", "uns", "unser", "unsere", "unserem", "unseren"). This shorter version resembles the German version of the "We-category" of the LIWC dictionary (Meier et al. 2018). Compared to other measures of a school's climate that were proposed in the literature, e.g. asking teachers about the classroom climate, this measure is less prone to social desirability bias. Although a school's general principle might also be prone to social desirability, it is less obvious how this relates to the use of "we-words" in it.

Table 2 provides an overview over the number of we-words and total words as well as the measure of we-mentality for each of the 13 schools of the sample. We-mentality ranges from 0.17% to 0.89%. Although the absolute values are quite low, the differences across schools are quite remarkable. Before turning to regression analysis, the association between a school's we-mentality and students' average civic attitudes and engagement is illustrated. Results are depicted in Figure 1. Panel b) shows that there is a strong positive association between a school's *we-mentality* and the average local engagement of students. The association between *we-mentality* and *attitudes* and *eng_onl* are a lot less strongly pronounced (panel a) and c)). This is confirmed by Pearsons' correlation coefficients that are 0.44, -0.05 and 0.05, respectively.

4 Results

First, I investigate the effect of student-level characteristics on civic attitudes and engagement. The principal components *attitudes*, *eng_local* and *eng_onl* serve as the dependent variables. Results are depicted in Table 3.

The results demonstrate that students' individual trust in others exhibits a positive and significant effect on attitudes towards civic issues. Students that are willing to engage with new and unknown matters (variable

Table 2: Overview: We-mentality in schools' general principle

School id	We-Words	Total Words	We-mentality (in %)
1	3	1716	0.17
2	6	3525	0.17
3	29	5899	0.49
4	67	7529	0.89
5	20	2261	0.88
6	21	4297	0.49
7	46	8625	0.53
8	18	5569	0.32
9	67	10589	0.63
10	20	3510	0.57
11	13	3201	0.41
12	15	5318	0.28
13	6	981	0.61

Notes: The table displays frequencies and percentages of we-words per school.

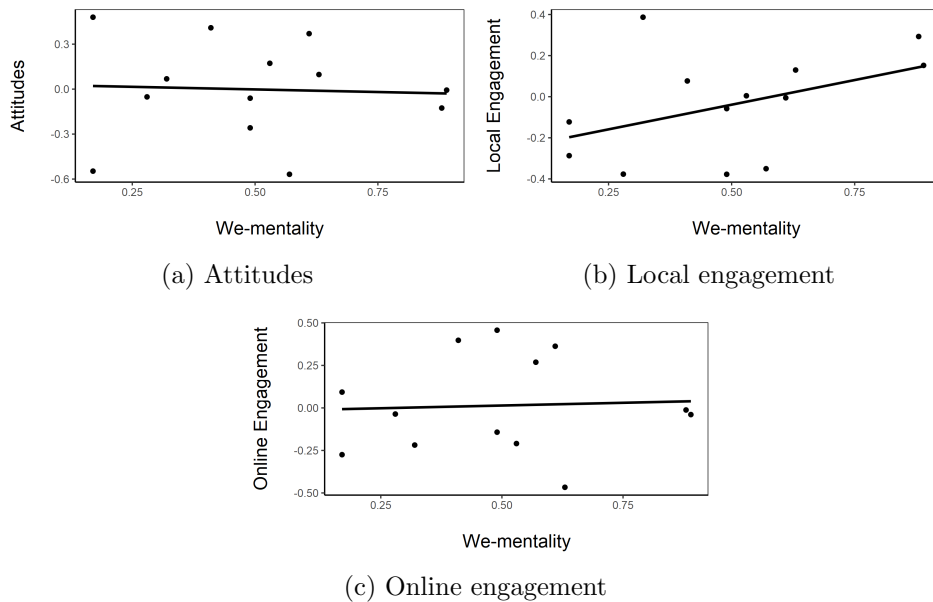


Figure 1: Association between we-mentality and civic attitudes and engagement

try_new_things exhibit more positive attitudes towards civic issues. Moreover, positive attitudes towards party-democracy and willingness to further engage with this topic, also have a significant effect on civic attitudes. The latter also affects students' online civic engagement.⁷

Moreover, as the R^2 indicates, adding school fixed effects to the OLS regressions substantially improves the model fit (See column 2,4 and 6). This is a first indication that the school environment also exhibits an influence on individual attitudes and engagement towards civic issues.

In the standard multivariate OLS framework, however, it is not possible to estimate the effects of observed and unobserved school characteristics separately. This framework assumes each observation, i.e. a student, to be independent. If the school has an influence on students' civic attitudes and engagement, it is, however, reasonable to assume that students from the same school are more similar with regard to civic attitudes and engagement than students from different schools. In the following, multi-level regressions are applied that specifically account for the fact that students are "clustered" within a school that also might exhibit an influence on their civic attitudes and engagement. The school is considered to be the second level of a two-level model.⁸

Before investigating the effect of school characteristics on individual attitudes and engagement towards civic issues, I test if there is substantial variation across schools with regard to our outcome variables to justify the use of a multi-level approach. For this, the random intercept model and the intraclass correlation coefficient (ICC) are reported. Results are depicted in Table 4. The ICC indicates that between 3% and 8% of the variability in individual attitudes and engagement towards civic issues can be attributed to differences in schools. Thus, a substantial share of variation can be explained by the school. This serves as a first justification for the use of a multi-level approach, where the distinct clustering of students within schools is accounted for.⁹ A test for the significance of the random effects in the

⁷Results from OLS regressions using our eight survey items instead of principal components are depicted in Table D1 to Table D3 and detail which specific item drive our results with regard to effects of individual characteristics in Table 3.

⁸One could also think of the class environment as the second level that exhibits an influence on students' civic attitudes and engagement. 11th and 12th graders from German schools taking part in the study, however, do not attend fixed classes anymore such as lower graders. They rather attend courses that vary in the composition with regard to students and teachers. Therefore, I abstain from using the class as the second level but rather the school.

⁹The ICC of the random intercept models are comparable to similar studies. Kahne and Sporte (2008) report an ICC of 2.2%. While Quintelier (2010) report a value of about 7%, Reichert and Print (2018) values between 2.5% and 7.4% and Encina and Berger

Table 3: Civic attitudes and engagement - OLS

	attitudes	attitudes	eng_local	eng_local	eng_onl	eng_onl
female	0.140 (0.089)	0.132 (0.095)	-0.084 (0.096)	-0.037 (0.101)	-0.105 (0.094)	-0.159 (0.098)
age	-0.060 (0.047)	-0.016 (0.055)	0.006 (0.053)	0.100* (0.057)	0.085* (0.051)	0.014 (0.057)
social_ladder_parents	-0.034 (0.055)	-0.047 (0.057)	0.092 (0.065)	0.084 (0.066)	-0.041 (0.063)	0.017 (0.063)
refugee_attitudes	0.060** (0.027)	0.041 (0.027)	-0.049* (0.029)	-0.046 (0.030)	0.061** (0.029)	0.061** (0.029)
prob_abroad	0.033 (0.037)	0.028 (0.037)	0.119*** (0.038)	0.090** (0.038)	0.048 (0.038)	0.074* (0.038)
donation	0.008 (0.011)	0.003 (0.011)	0.017 (0.012)	0.014 (0.011)	0.003 (0.012)	0.005 (0.012)
trust_others	0.122*** (0.039)	0.120*** (0.040)	0.029 (0.042)	0.043 (0.043)	-0.043 (0.044)	-0.001 (0.042)
try_new_things	0.127** (0.052)	0.118** (0.052)	0.031 (0.054)	0.002 (0.054)	0.047 (0.055)	0.066 (0.054)
solvable_tasks	0.009 (0.040)	0.018 (0.041)	0.082* (0.046)	0.121*** (0.045)	0.011 (0.046)	0.006 (0.044)
partydemo_attitudes	0.075*** (0.024)	0.067*** (0.024)	0.021 (0.028)	0.019 (0.028)	-0.038 (0.027)	-0.028 (0.027)
eu_attitudes	0.022 (0.026)	0.022 (0.026)	0.012 (0.029)	0.022 (0.028)	-0.015 (0.030)	-0.004 (0.030)
partydemo_willingness	0.212*** (0.042)	0.198*** (0.042)	0.052 (0.052)	0.058 (0.051)	0.161*** (0.051)	0.168*** (0.050)
eu_willingness	0.102** (0.052)	0.104** (0.052)	0.030 (0.052)	0.023 (0.050)	0.004 (0.054)	-0.012 (0.051)
Constant	-2.360*** (0.884)	-2.572** (1.032)	-1.450 (0.976)	-3.455*** (1.039)	-2.240** (0.931)	-1.901* (1.030)
Obs.	485	485	485	485	485	485
R ²	0.287	0.311	0.066	0.117	0.064	0.148
School FE	No	Yes	No	Yes	No	Yes
F Statistic	14.613***	8.268***	2.564***	2.426***	2.493***	3.178***

Notes: The table reports results of OLS regressions with *attitudes*, *eng_local* and *eng_onl* as the dependent variables. Heteroscedasticity-consistent standard errors are reported in parentheses. * indicates significance at the 10% level, ** at the 5% level and *** at the 1% level.

three models in Table 4 further supports the use of a multi-level approach (p-values are 0.000, 0.029 and 0.000, respectively).

Table 4: Civic attitudes and engagement (Multi-level with random intercept only)

	attitudes	eng_local	eng_onl
Constant	0.004 (0.091)	-0.019 (0.066)	0.015 (0.080)
Obs	487	487	487
Groups (school_id)	13	13	13
ICC	0.08	0.03	0.05
AIC	1361.60	1382.77	1372.50
BIC	1374.16	1395.34	1385.07
Log Likelihood	-677.80	-688.39	-683.25

Notes: The table reports results of multi-level regressions (with random intercept only) with *attitudes*, *eng_local* and *eng_onl* as the dependent variables. * indicates significance at the 10% level, ** at the 5% level and *** at the 1% level.

Since a substantial proportion of the variation in students' civic attitudes and engagement is explained by the school, I investigate the effect of specific school characteristics in more detail by adding explanatory variables on both levels to the random intercept model. Results are depicted in Table 5. First, the previous findings with regard to the effects of individual characteristics, i.e. the effect of trust in others, the willingness to try new things and attitudes and willingness to engage with party-democracy, are robust to the model choice and remain highly significant within the multi-level framework.

With regard to school-level characteristics, I find that schools that are funded by the catholic church have students that are more engaged with online civic issues. Students that attend schools that offer bilingual education exhibit more local engagement. Attitudes of students from private schools are significantly less positive with regard to civic issues than those from public schools. Moreover, students from private schools exhibit significantly less engagement online than those from public schools. Local engagement within or outside of school, however, is positively but insignificantly related to *private*. This last finding contrasts with that of Encina and Berger (2021) who find a positive and significant effect of private school administration on (2021), of around 11%.

Table 5: Multi-level with individual- and school-level predictors

	attitudes	eng_local	eng_onl
female	0.111 (0.085)	-0.044 (0.096)	-0.148 (0.094)
age	-0.044 (0.048)	0.094* (0.054)	-0.004 (0.053)
social_ladder_parents	-0.040 (0.058)	0.095 (0.065)	0.010 (0.064)
refugee_attitudes	0.049* (0.026)	-0.047* (0.029)	0.060** (0.028)
prob_abroad	0.034 (0.033)	0.093** (0.037)	0.064* (0.036)
donation	0.007 (0.010)	0.013 (0.012)	0.005 (0.011)
trust_others	0.114*** (0.039)	0.035 (0.044)	-0.001 (0.043)
try_new_things	0.131*** (0.046)	0.010 (0.052)	0.059 (0.051)
solvable_tasks	0.015 (0.040)	0.117*** (0.045)	0.008 (0.044)
partydemo_attitudes	0.068*** (0.025)	0.020 (0.027)	-0.032 (0.027)
eu_attitudes	0.023 (0.027)	0.021 (0.030)	-0.006 (0.029)
partydemo_willingness	0.204*** (0.044)	0.059 (0.050)	0.168*** (0.049)
eu_willingness	0.105** (0.047)	0.018 (0.053)	-0.007 (0.052)
size	-0.0001 (0.0002)	0.001*** (0.0002)	-0.001*** (0.0002)
we_mentality	0.189 (0.282)	0.839*** (0.316)	0.199 (0.310)
private	-0.265** (0.134)	0.182 (0.150)	-0.300** (0.147)
catholic	0.086 (0.161)	0.276 (0.180)	0.458*** (0.176)
music	0.015 (0.187)	0.337 (0.209)	-0.590*** (0.205)
naturalscience	-0.041 (0.161)	-0.274 (0.180)	0.177 (0.177)
bilingual	0.031 (0.147)	0.497*** (0.165)	0.057 (0.162)
Constant	-2.380** (0.978)	-4.276*** (1.096)	-0.346 (1.075)
Obs.	485	485	485
Groups (school_id)	13	13	13
ICC	0.00	0.00	0.00
Log Likelihood	-604.152	-659.099	-649.839
AIC	1,254.304	1,364.197	1,345.678
BIC	1,350.539	1,460.433	1,441.914

Notes: The table reports results of multi-level regressions with *attitudes*, *eng_local* and *eng_onl* as the dependent variables. Explanatory variables are on the individual and school level. * indicates significance at the 10% level, ** at the 5% level and *** at the 1% level.

students' civic behavior within schools. Finally, the more we-mentality is expressed in the general principle, the more are the students engaged with local civic issues. The results are robust using simple OLS regressions with student- and school-level characteristics but without FE (See Table D4). Moreover, the results are also robust using a more simplistic measure of we-mentality by only considering the words "we", "us" and "our" ("wir", "uns", "unser", "unsere", "unserem", "unseren") from Table C1. Results are depicted in Table D5.

If we-mentality is interpreted as a proxy for teacher-student and student-student relationships, i.e. the more we-mentality the more friendly and open are teacher-student and student-student interactions, the results are consistent with the findings in Guillaume et al. (2015) and Quin (2017) that measure teacher-student and student-student relationships directly from survey items and find a positive association with civic engagement.

Using the eight survey items instead of the principal components in the multi-level regressions reveals an even more detailed account of what is driving the results. Results are depicted in Table D6 to Table D8. It shows that we-mentality exhibits a positive and significant effect on the percentage of students being engaged in a local club or association (*mem_club*) as well as their willingness to take on a school office (*school_off*). The percentage of students taking on an honorary post outside of school (*hon_out_school*), however, is not affected by the schools' we-mentality.

With regard to the schools' administrative dependency, students from private schools less strongly believe that it is important to make a change in society by being involved. In catholic schools, students more often take on a school office or an honorary office outside of school. In schools that offer bilingual classes, more students are either engaged as a member of a club or association or take responsibility for an office in school (e.g. representative of the pupils). Finally, students attending rather large schools are more often engaged in a club or association. The same is true with engagement with an honorary office outside of school.

5 Conclusion

This paper studies the effect of school characteristics on students' civic attitudes and engagement. Civic attitudes and engagement are measured with eight items that stem from a survey conducted with 488 students in 13 German schools. The schools' social climate is measured by we-mentality that is captured with a content-analysis approach that is applied to the general principle that is published on the schools' homepage.

The main finding is that a school's we-mentality affects students' willingness to take on activities in their local community, i.e. being engaged in a local club or association or taking on a honorary post within or outside of their school. Moreover, students individual trust in others as well as willingness to try new things and attitudes towards party-democracy significantly influence their civic outcome. Overall, individual civic attitudes and engagement are mostly driven by students' individual characteristics such as trust in others, attitudes towards Europe and the party system and their willingness to engage with new and/or complicated tasks. School-level characteristics explain a rather small part of the overall variation.

The finding, however, that a school's we-mentality fosters students' local civic engagement within and outside of school, is intriguing and deserves scrutiny in further studies. If this result is confirmed by other studies, it would suggest enhancing civic education by improving the community-feeling and we-mentality at schools.

References

- Akker, J. v. d. (2004). *Curriculum Perspectives: An Introduction*. Dordrecht: Springer.
- Barrett, M. and I. Brunton-Smith (2014). Political and civic engagement and participation: Towards an integrative perspective. *Journal of Civil Society* 10(1), 5–28.
- Biermann, J., H. Hüning, and L. Mechtenberg (2021). How to talk about an out-group: Effects on in-group trust and out-group generosity. Available at SSRN: <https://ssrn.com/abstract=3945496>.
- Brodsky, A. E. and C. M. Marx (2001). Layers of identity: Multiple psychological senses of community within a community setting. *Journal of Community Psychology* 29(2), 161–178.
- Bron, J. and A. Thijs (2011). Leaving it to the schools: citizenship, diversity and human rights education in the netherlands. *Educational Research* 53(2), 126–136.
- Castillo, J. C., D. Miranda, M. Bonhomme, C. Cox, and M. Bascopé (2015). Mitigating the political participation gap from the school: the roles of civic knowledge and classroom climate. *Journal of Youth Studies* 18(1), 16–35.
- Chen, D. L., M. Schonger, and C. Wickens (2016). otree—an open-source platform for laboratory, online, and field experiments. *Journal of Behavioral and Experimental Finance* 9, 88–97.
- Dudley, R. L. and A. R. Gitelson (2002). Political literacy, civic education, and civic engagement: A return to political socialization? *Applied Developmental Science* 6(4), 175–182.
- Encina, Y. and C. Berger (2021). Civic behavior and sense of belonging at school: The moderating role of school climate. *Child Indicators Research* 14(4), 1453–1477.
- Gentzkow, M., B. Kelly, and M. Taddy (2019). Text as data. *Journal of Economic Literature* 57(3), 699–746.
- Guillaume, C., R. J. Jagers, and D. Rivas-Drake (2015). Middle school as a developmental niche for civic engagement. *American Journal of Community Psychology* 56, 321–331.

- Jagers, R. J., F. T. Lozada, D. Rivas-Drake, and C. Guillaume (2017). Classroom and school predictors of civic engagement among black and latino middle school youth. *Child Development* 88(4), 1125–1138.
- Kahne, J. E. and S. E. Sporte (2008). Developing citizens: The impact of civic learning opportunities on students' commitment to civic participation. *American Educational Research Journal* 45(3), 738–766.
- Luengo Kanacri, B., N. Eisenberg, E. Thartori, C. Pastorelli, L. Uribe Tirado, M. Gerbino, and G. Caprara (2017). Longitudinal relations among positivity, perceived positive school climate, and prosocial behavior in colombian adolescents. *Child Development* 88(4), 1100–1114.
- McMillan, D. W. and D. M. Chavis (1986). Sense of community: A definition and theory. *Journal of Community Psychology* 14(1), 6–23.
- Meier, T., R. L. Boyd, J. W. Pennebaker, M. R. Mehl, M. Martin, M. Wolf, and A. B. Horn (2018). "liwc auf deutsch": The development, psychometrics, and introduction of de-liwc2015. Technical report.
- Miers, R. and A. T. Fisher (2002). *Being Church and Community*. Boston, MA: Springer.
- Nelson, J. L., D. A. Lewis, and R. Lei (2017). Digital democracy in america: A look at civic engagement in an internet age. *Journalism & Mass Communication Quarterly* 94(1), 318–334.
- Nowell, B. and N. Boyd (2010). Viewing community as responsibility as well as resource: deconstructing the theoretical roots of psychological sense of community. *Journal of Community Psychology* 38(7), 828–841.
- Nowell, B. and N. M. Boyd (2014). Sense of community responsibility in community collaboratives: Advancing a theory of community as resource and responsibility. *American Journal of Community Psychology* 54(3-4), 229–242.
- Prati, G., F. Procentese, C. Albanesi, E. Cicognani, A. Fedi, F. Gatti, T. Mannarini, A. Rochira, S. Tartaglia, N. Boyd, B. Nowell, and S. Gattino (2020). Psychometric properties of the italian version of the sense of community responsibility scale. *Journal of Community Psychology* 48(6), 1770–1790.
- Pretty, G. M. H. (1990). Relating psychological sense of community to social climate characteristics. *Journal of Community Psychology* 18(1), 60–65.

- Procentese, F., F. Gatti, and A. Falanga (2019). Sense of responsible togetherness, sense of community and participation: Looking at the relationships in a university campus. *Human Affairs* 29(2), 247–263.
- Quin, D. (2017). Longitudinal and contextual associations between teacher-student relationships and student engagement: A systematic review. *Review of Educational Research* 87(2), 345–387.
- Quintelier, E. (2010). The effect of schools on political participation: a multilevel logistic analysis. *Research Papers in Education* 25(2), 137–154.
- Reichert, F. and M. Print (2018). Civic participation of high school students: the effect of civic learning in school. *Educational Review* 70(3), 318–341.
- Schulz, W., J. Ainley, J. Fraillon, B. Losito, G. Agrusti, and T. Friedman (2017). *Becoming Citizens in a Changing World*. Amsterdam: International Association for the Evaluation of Educational Achievement (IEA).

Appendix A

Table A1: Measures of attitudes and engagement towards civic issues

No.	Question	Variable name
Attitudes		
1	Society is giving much to individuals. I think, one should give something back. [7-Point likert scale: From totally agree to totally disagree]	soc_return
2	I think that it is important to be informed about what is happening in society and politics. [7-Point likert scale: From totally agree to totally disagree]	informed_soc
3	I think that it is important to make changes happening in society by being involved. [7-Point likert scale: From totally agree to totally disagree]	change_soc
Engagement		
4	Are you a member of an association or club? [Yes/No]	mem_club
5	Did you, during your time at school, apply being elected representative of the pupils of the school or applied for similar functions? [Yes/No]	school_off
6	Did you take a honorary post outside of school matters before? [Yes/No]	hon_out_school
7	Did you ever write a letter to the editor of a magazine/newspaper or formulated an article online with regard to a societal or political topic, e.g. you wrote a comment online on a (news) page? [Yes, frequently / Yes, once before / No]	write_let
8	How often do you have online discussions on (social) media with others on societal or political topics? [Very frequently, frequently, neither frequently nor infrequent, infrequent, very infrequent]	onl_media

Notes: The items were developed by the author to reflect civic attitudes and engagement that are suitable in the context of students.

Table A2: Measures of students' individual attitudes

No.	Question	Variable name
1	Imagine a ladder that represents the social hierarchy of the German society. Where do you think your parents are located? [10-Point Likert scale from 1 to 10]	social_ladder_parents
2	Due to civil war in Syria, refugees flee to Germany. How strongly are your positive/negative attitudes towards refugees? [5-point Likert scale from strongly pronounced to not at all pronounced]	refugee_attitudes
3	How likely will you spend time abroad within the next five years? [5-point Likert scale from very likely to very unlikely]	prob_abroad
4	At the end of the survey, a lottery will decide that one of the participants wins an extra 10 Euros. If you are chosen, how much would you donate to 'Doctors without borders'? [Numerical value between 0 and 10]	donation
5	Do you think that most other people can be trusted or that you need be very careful with other people? [5-Point Likert scale from you can trust most people to one needs to be very careful with other people]	trust_others
6	How strongly do you agree with the following statement. I like to engage with tasks if these are solvable. [5-Point Likert scale from totally agree to totally disagree]	solvable_tasks
7	How strongly are your positive/negative attitudes towards party-democracy? [5-point Likert scale from strongly pronounced to not at all pronounced]	partydemo_attitudes
8	How strongly are your positive/negative attitudes towards the European Union? [5-point Likert scale from strongly pronounced to not at all pronounced]	eu_attitudes
9	How strong is your willingness to further engage with the topic of party-democracy topic? [5-point Likert scale from very high to very low]	partydemo_willingness
10	How strong is your willingness to further engage with the topic of European Union topic? [5-point Likert scale from very high to very low]	eu_willingness

Notes: The items were developed by the authors.

Appendix B

Results of the principal component analysis (PCA): The scree plot indicates three potential components, i.e. three eigenvalues of components are above one. A PCA with three components shows that individual civic attitudes load strongly on component one, local engagement measures on component two and online engagement measures on component three.

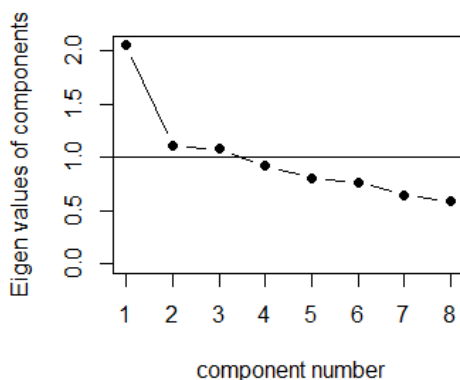


Figure B1: Scree plot

Table B1: Results of PCA (n=3 components)

Variables	Comp1	Comp2	Comp3	h2	u2	com
informed_soc	0.80			0.65	0.35	1.0
change_soc	0.66			0.55	0.45	1.5
soc_return	0.65			0.49	0.51	1.3
mem_club		0.69		0.51	0.49	1.1
hon_out_school		0.66		0.48	0.52	1.2
school_off		0.59		0.40	0.60	1.3
onl_media			0.78	0.61	0.39	1.0
write_let			0.71	0.56	0.44	1.2
SS loadings	1.55	1.40	1.31			
Proportion Var	0.19	0.17	0.16			
Cumulative Var	0.19	0.37	0.53			
Proportion Explained	0.36	0.33	0.31			
Cumulative Proportion	0.36	0.69	1.00			

Notes: With regard to the factor loadings in the first part of the table, only loadings above 0.5 are displayed. The mean item complexity is 1.2.

Appendix C

Table C1: Dictionary used to detect "we-mentality"

German word	English translation
wir	we
uns	us
unser (unsere, unserem, unseren)	our
zusammen	together
miteinander	with each other
füreinander	for each other
Zusammenarbeit	collaboration
zusammenarbeiten	cooperate/work together
Zusammenleben	living together
sozial	social
soziale	social
sozialen	social
soziales	social
gemeinwesen	community/collective
kooperativ	cooperative
kooperatives	cooperative
kooperative	cooperative
kooperieren	cooperate
kooperierend	cooperating
kooperierenden	cooperate
kooperiert	cooperate
kooperation	cooperation
Kooperationsfähigkeit	ability to cooperate
gemeinschaft	community/collective
schulgemeinschaft	school community
lerngemeinschaft	study group
gemeinsam	together
gemeinsamer	together
gemeinsamen	together
solidarität	solidarity
solidarisch	showing solidarity
hilfsbereit	helpful
Hilfsbereitschaft	helpfulness
mitwirken	collaborate
kollegial	cooperative/loyal
kollegiale	cooperative/loyal
Empathie	empathy
Empathiefähigkeit	ability for empathy
Mitmenschen	fellow men
Teamfähigkeit	ability to work in a team
Teamgeist	team spirit
zusammenwachsen	coalescence
gegenseitig	mutual
gegenseitige	mutual
gegenseitigem	mutual
Nächstenliebe	altruism/charity
zwischenmenschlich	interpersonal
Zusammengehörigkeitsgefühl	feeling of belonging together

Notes: The dictionary was developed by the author.

Appendix D

Table D1: OLS with attitude variables

	soc_return	soc_return	informed_soc	informed_soc	change_soc	change_soc
female	-0.043 (0.084)	-0.075 (0.089)	0.035 (0.058)	0.046 (0.063)	0.179*** (0.068)	0.180** (0.072)
age	-0.056 (0.045)	-0.002 (0.052)	-0.065** (0.031)	-0.061* (0.036)	0.055 (0.038)	0.097** (0.042)
social_ladder_parents	0.006 (0.059)	-0.014 (0.060)	0.023 (0.034)	0.021 (0.035)	-0.092** (0.044)	-0.086* (0.044)
refugee_attitudes	0.018 (0.028)	0.011 (0.028)	0.007 (0.017)	-0.003 (0.018)	0.087*** (0.021)	0.074*** (0.021)
prob_abroad	0.036 (0.032)	0.021 (0.032)	0.009 (0.024)	0.008 (0.024)	0.056** (0.027)	0.057** (0.027)
donation	0.026** (0.010)	0.022** (0.011)	-0.007 (0.008)	-0.008 (0.008)	0.009 (0.008)	0.005 (0.008)
trust_others	0.179*** (0.043)	0.183*** (0.044)	0.027 (0.022)	0.022 (0.024)	0.034 (0.032)	0.048 (0.033)
try_new_things	0.089* (0.048)	0.079* (0.047)	0.061* (0.034)	0.059* (0.034)	0.075** (0.038)	0.066* (0.038)
solvable_tasks	0.051 (0.045)	0.054 (0.045)	-0.007 (0.025)	-0.004 (0.026)	-0.002 (0.032)	0.015 (0.031)
partydemo_attitudes	0.069*** (0.026)	0.068*** (0.025)	0.042*** (0.015)	0.036** (0.015)	0.008 (0.019)	0.006 (0.020)
eu_attitudes	0.018 (0.028)	0.008 (0.028)	0.021 (0.016)	0.025 (0.016)	-0.017 (0.021)	-0.011 (0.022)
partydemo_willingness	0.075 (0.048)	0.055 (0.047)	0.127*** (0.027)	0.126*** (0.027)	0.157*** (0.036)	0.154*** (0.035)
eu_willingness	0.125** (0.050)	0.132*** (0.049)	0.067** (0.033)	0.066** (0.033)	-0.009 (0.039)	-0.015 (0.040)
Constant	1.624* (0.854)	1.109 (0.960)	4.214*** (0.570)	4.361*** (0.654)	1.575** (0.713)	0.862 (0.781)
Obs.	486	486	486	486	486	486
School FE	No	Yes	No	Yes	No	Yes
R ²	0.206	0.241	0.190	0.208	0.209	0.243
F Statistic	9.447***	5.845***	8.534***	4.834***	9.588***	5.918***

Notes: The table reports results of OLS regressions with *soc_return*, *informed_soc* and *change_soc* as the dependent variables. Heteroscedasticity-consistent standard errors are reported in parentheses. * indicates significance at the 10% level, ** at the 5% level and *** at the 1% level.

Table D2: OLS with local engagement variables

	mem_club	mem_club	school_off	school_off	hon_out_school	hon_out_school
female	-0.042 (0.047)	0.006 (0.049)	-0.018 (0.047)	-0.024 (0.049)	0.002 (0.047)	0.006 (0.049)
age	-0.036 (0.026)	0.022 (0.029)	-0.006 (0.024)	0.002 (0.028)	0.048* (0.025)	0.071** (0.028)
social_ladder_parents	0.031 (0.033)	0.026 (0.033)	0.016 (0.031)	0.018 (0.031)	0.041 (0.032)	0.039 (0.032)
refugee_attitudes	-0.024* (0.015)	-0.024* (0.015)	-0.018 (0.014)	-0.015 (0.014)	-0.005 (0.014)	-0.006 (0.014)
prob_abroad	0.034* (0.018)	0.014 (0.019)	0.046** (0.019)	0.041** (0.019)	0.038** (0.018)	0.038** (0.019)
donation	0.001 (0.006)	-0.0004 (0.006)	0.005 (0.006)	0.005 (0.006)	0.008 (0.006)	0.007 (0.006)
trust_others	0.022 (0.022)	0.024 (0.022)	0.012 (0.021)	0.023 (0.022)	-0.017 (0.021)	-0.012 (0.021)
try_new_things	0.008 (0.026)	-0.008 (0.026)	0.011 (0.026)	0.009 (0.026)	0.030 (0.026)	0.021 (0.026)
solvable_tasks	-0.001 (0.023)	0.013 (0.023)	0.039* (0.023)	0.047** (0.023)	0.053** (0.022)	0.071*** (0.022)
partydemo_attitudes	0.016 (0.014)	0.015 (0.014)	0.021 (0.014)	0.021 (0.014)	-0.009 (0.014)	-0.010 (0.013)
eu_attitudes	-0.022 (0.015)	-0.013 (0.015)	0.019 (0.015)	0.022 (0.015)	0.018 (0.015)	0.020 (0.015)
partydemo_willingness	0.021 (0.026)	0.026 (0.025)	0.051** (0.025)	0.048* (0.025)	0.052** (0.025)	0.056** (0.025)
eu_willingness	0.044 (0.028)	0.040 (0.027)	-0.007 (0.027)	-0.008 (0.027)	0.00001 (0.027)	-0.004 (0.027)
Constant	0.803* (0.476)	-0.377 (0.532)	-0.071 (0.446)	-0.350 (0.515)	-1.074** (0.467)	-1.628*** (0.507)
Obs.	485	485	486	486	486	486
School FE	No	Yes	No	Yes	No	Yes
R ²	0.041	0.110	0.063	0.091	0.079	0.120
F Statistic	1.539*	2.270***	2.431***	1.851***	3.131***	2.514***

Notes: The table reports results of OLS regressions with *mem_club*, *school_off* and *hon_out_school* as the dependent variables. Heteroscedasticity-consistent standard errors are reported in parentheses. * indicates significance at the 10% level, ** at the 5% level and *** at the 1% level.

Table D3: OLS with online engagement variables

	write_let	write_let	onl_media	onl_media
female	-0.093*	-0.109**	-0.116	-0.152
	(0.048)	(0.049)	(0.116)	(0.120)
age	-0.001	-0.032	0.064	0.040
	(0.024)	(0.028)	(0.061)	(0.068)
social_ladder_parents	0.011	0.037	-0.050	-0.006
	(0.033)	(0.033)	(0.080)	(0.079)
refugee_attitudes	0.024*	0.023	0.025	0.029
	(0.014)	(0.015)	(0.034)	(0.034)
prob_abroad	0.047**	0.051***	0.002	0.021
	(0.019)	(0.019)	(0.044)	(0.044)
donation	0.0001	-0.0004	0.006	0.011
	(0.006)	(0.006)	(0.014)	(0.014)
trust_others	0.008	0.019	-0.031	0.022
	(0.022)	(0.022)	(0.051)	(0.052)
try_new_things	0.024	0.029	0.055	0.074
	(0.026)	(0.026)	(0.065)	(0.066)
solvable_tasks	-0.013	-0.017	0.040	0.039
	(0.023)	(0.023)	(0.056)	(0.055)
partydemo_attitudes	-0.006	-0.004	-0.015	-0.002
	(0.014)	(0.014)	(0.035)	(0.035)
eu_attitudes	0.008	0.010	-0.053	-0.038
	(0.015)	(0.015)	(0.041)	(0.040)
partydemo_willingness	0.024	0.028	0.261***	0.262***
	(0.025)	(0.025)	(0.062)	(0.061)
eu_willingness	0.022	0.013	0.060	0.051
	(0.026)	(0.026)	(0.070)	(0.066)
Constant	-0.071	0.248	0.428	-0.308
	(0.461)	(0.512)	(1.149)	(1.283)
Obs.	486	486	486	486
School FE	No	Yes	No	Yes
R ²	0.050	0.103	0.076	0.138
F Statistic	1.926**	2.108***	2.991***	2.934***

Notes: The table reports results of OLS regressions with *write_let* and *onl_media* as the dependent variables. Heteroscedasticity-consistent standard errors are reported in parentheses. * indicates significance at the 10% level, ** at the 5% level and *** at the 1% level.

Table D4: OLS with school-level variables

	attitudes	eng_local	eng_onl
female	0.111 (0.093)	-0.045 (0.100)	-0.148 (0.095)
age	-0.044 (0.050)	0.094* (0.054)	-0.004 (0.053)
social_ladder_parents	-0.040 (0.056)	0.095 (0.064)	0.010 (0.062)
refugee_attitudes	0.049* (0.027)	-0.047* (0.028)	0.060** (0.029)
prob_abroad	0.033 (0.038)	0.093** (0.038)	0.064* (0.037)
donation	0.007 (0.011)	0.013 (0.011)	0.005 (0.012)
trust_others	0.114*** (0.040)	0.035 (0.043)	-0.001 (0.042)
try_new_things	0.131** (0.053)	0.011 (0.053)	0.059 (0.053)
solvable_tasks	0.015 (0.041)	0.116** (0.045)	0.008 (0.044)
partydemo_attitudes	0.068*** (0.024)	0.020 (0.028)	-0.032 (0.027)
eu_attitudes	0.023 (0.026)	0.020 (0.028)	-0.006 (0.029)
partydemo_willingness	0.204*** (0.043)	0.058 (0.051)	0.168*** (0.048)
eu_willingness	0.105** (0.052)	0.018 (0.051)	-0.007 (0.052)
size	-0.0001 (0.0002)	0.001*** (0.0002)	-0.001*** (0.0002)
we_mentality	0.197 (0.269)	0.775*** (0.292)	0.180 (0.302)
private	-0.264* (0.143)	0.192 (0.149)	-0.297* (0.152)
catholic	0.089 (0.148)	0.248 (0.163)	0.450** (0.175)
music	0.021 (0.172)	0.325 (0.201)	-0.594*** (0.210)
naturalscience	-0.042 (0.148)	-0.246 (0.178)	0.185 (0.179)
bilingual	0.035 (0.138)	0.485*** (0.158)	0.053 (0.162)
Constant	-2.391** (1.031)	-4.235*** (1.054)	-0.332 (1.061)
Obs.	485	485	485
School FE	No	No	No
R ²	0.296	0.114	0.141
F Statistic	9.735***	2.973***	3.823***

Notes: The table reports results of OLS regressions with *attitudes*, *eng_local* and *eng_onl* as the dependent variables. No school-FE are included. Explanatory variables are on the individual- and school-level. Heteroscedasticity-consistent standard errors are reported in parentheses. * indicates significance at the 10% level, ** at the 5% level and *** at the 1% level.

Table D5: Multi-level with individual- and school-level predictors (simple we-mentality measure)

	attitudes	eng_local	eng_onl
female	0.111 (0.085)	-0.045 (0.096)	-0.149 (0.094)
age	-0.041 (0.048)	0.101* (0.054)	-0.001 (0.053)
social_ladder_parents	-0.041 (0.058)	0.093 (0.065)	0.010 (0.063)
refugee_attitudes	0.049* (0.026)	-0.046 (0.029)	0.060** (0.028)
prob_abroad	0.033 (0.033)	0.094** (0.037)	0.064* (0.036)
donation	0.007 (0.010)	0.013 (0.012)	0.005 (0.011)
trust_others	0.115*** (0.039)	0.038 (0.044)	-0.0003 (0.043)
try_new_things	0.132*** (0.046)	0.011 (0.052)	0.060 (0.051)
solvable_tasks	0.015 (0.040)	0.116** (0.045)	0.009 (0.044)
partydemo_attitudes	0.069*** (0.024)	0.022 (0.027)	-0.032 (0.027)
eur_attitudes	0.023 (0.026)	0.019 (0.030)	-0.006 (0.029)
partydemo_willingness	0.202*** (0.045)	0.055 (0.050)	0.166*** (0.049)
eu_willingness	0.105** (0.047)	0.019 (0.053)	-0.007 (0.052)
size	-0.0002 (0.0002)	0.001*** (0.0003)	-0.001*** (0.0003)
we-mentality (simple)	0.194 (0.216)	0.595** (0.242)	0.175 (0.237)
private	-0.289** (0.139)	0.132 (0.156)	-0.319** (0.153)
catholic	0.120 (0.167)	0.274 (0.187)	0.477*** (0.184)
music	-0.047 (0.152)	0.048 (0.170)	-0.656*** (0.167)
naturalscience	0.016 (0.131)	-0.012 (0.147)	0.238* (0.144)
bilingual	0.033 (0.139)	0.432*** (0.156)	0.051 (0.153)
Constant	-2.394** (0.967)	-4.090*** (1.085)	-0.333 (1.063)
Obs.	485	485	485
Groups (school_id)	13	13	13
ICC	0.00	0.00	0.00
Log Likelihood	-603.976	-659.615	-649.775
AIC	1,253.951	1,365.230	1,345.550
BIC	1,350.186	1,461.466	1,441.786

Notes: The table reports results of multi-level regressions with *attitudes*, *eng_local* and *eng_onl* as the dependent variables. Explanatory variables are on the individual and school level. * indicates significance at the 10% level, ** at the 5% level and *** at the 1% level.

Table D6: Multi-level with attitude variables

	soc_return	informed_soc	change_soc
female	-0.053 (0.088)	0.028 (0.054)	0.152** (0.068)
age	-0.023 (0.049)	-0.061** (0.030)	0.058 (0.038)
social_ladder_parents	-0.002 (0.059)	0.021 (0.037)	-0.084* (0.046)
refugee_attitudes	0.013 (0.026)	0.002 (0.016)	0.080*** (0.021)
prob_abroad	0.030 (0.033)	0.009 (0.021)	0.057** (0.026)
donation	0.025** (0.011)	-0.008 (0.007)	0.008 (0.008)
trust_others	0.173*** (0.040)	0.024 (0.025)	0.042 (0.031)
try_new_things	0.082* (0.047)	0.066** (0.029)	0.076** (0.037)
solvable_tasks	0.055 (0.041)	-0.006 (0.026)	0.010 (0.032)
partydemo_attitudes	0.066*** (0.025)	0.039** (0.016)	0.005 (0.020)
eu_attitudes	0.018 (0.027)	0.023 (0.017)	-0.013 (0.021)
partydemo_willingness	0.077* (0.046)	0.120*** (0.028)	0.157*** (0.036)
eu_willingness	0.128*** (0.049)	0.067** (0.030)	-0.012 (0.038)
size	0.0001 (0.0002)	-0.0001 (0.0001)	-0.0002 (0.0002)
we-mentality	-0.112 (0.305)	0.257 (0.179)	0.215 (0.227)
private	0.007 (0.148)	-0.158* (0.085)	-0.214** (0.108)
catholic	-0.119 (0.173)	0.086 (0.102)	0.222* (0.129)
music	0.004 (0.201)	0.052 (0.118)	-0.134 (0.150)
naturalscience	0.137 (0.175)	-0.139 (0.102)	0.053 (0.129)
bilingual	0.050 (0.159)	0.030 (0.093)	0.097 (0.118)
Constant	1.126 (1.011)	4.209*** (0.619)	1.560** (0.785)
Obs.	486	486	486
Groups (school.id)	13	13	13
ICC	0.00	0.00	0.00
Log Likelihood	-618.632	-383.824	-499.289
AIC	1,283.263	813.648	1,044.579
BIC	1,379.546	909.931	1,140.861

Notes: The table reports results of multi-level regressions with *soc_return*, *informed_soc* and *change_soc* as the dependent variables. Explanatory variables are on the individual- and school-level. * indicates significance at the 10% level, ** at the 5% level and *** at the 1% level.

Table D7: Multi-level with local engagement variables

	mem_club	school_off	hon_out_school
female	-0.004 (0.048)	-0.023 (0.048)	-0.001 (0.048)
age	0.022 (0.027)	-0.002 (0.027)	0.065** (0.027)
social_ladder_parents	0.029 (0.032)	0.026 (0.032)	0.041 (0.032)
refugee_attitudes	-0.024* (0.014)	-0.018 (0.014)	-0.005 (0.014)
prob_abroad	0.017 (0.018)	0.041** (0.018)	0.035* (0.018)
donation	0.001 (0.006)	0.004 (0.006)	0.007 (0.006)
trust_others	0.022 (0.022)	0.017 (0.022)	-0.014 (0.022)
try_new_things	-0.005 (0.026)	0.013 (0.026)	0.025 (0.026)
solvable_tasks	0.011 (0.023)	0.045** (0.023)	0.070*** (0.023)
partydemo_attitudes	0.016 (0.014)	0.020 (0.014)	-0.010 (0.014)
eu_attitudes	-0.014 (0.015)	0.022 (0.015)	0.017 (0.015)
partydemo_willingness	0.027 (0.025)	0.048* (0.025)	0.051** (0.025)
eu_willingness	0.039 (0.027)	-0.011 (0.027)	-0.004 (0.027)
size	0.0005*** (0.0001)	-0.00004 (0.0001)	0.0002** (0.0001)
we_mentality	0.344** (0.158)	0.425*** (0.157)	0.195 (0.157)
private	0.161** (0.075)	-0.047 (0.075)	-0.028 (0.075)
catholic	-0.077 (0.090)	0.238*** (0.090)	0.218** (0.090)
music	0.097 (0.104)	0.129 (0.104)	0.086 (0.104)
naturalscience	-0.053 (0.090)	-0.163* (0.090)	-0.084 (0.090)
bilingual	0.171** (0.082)	0.194** (0.082)	0.131 (0.082)
Constant	-0.813 (0.548)	-0.407 (0.546)	-1.719*** (0.546)
Obs.	485	486	486
Groups (school_id)	13	13	13
ICC	0.00	0.00	0.00
Log Likelihood	-322.797	-322.389	-322.627
AIC	691.595	690.778	691.255
BIC	787.830	787.061	787.537

Notes: The table reports results of multi-level regressions with *mem_club*, *school_off* and *hon_out_school* as the dependent variables. Explanatory variables are on the individual- and school-level. * indicates significance at the 10% level, ** at the 5% level and *** at the 1% level.

Table D8: Multi-level with online engagement variables

	write_let	onl_media
female	-0.101** (0.048)	-0.148 (0.117)
age	-0.027 (0.027)	-0.004 (0.066)
social_ladder_parents	0.032 (0.033)	-0.006 (0.079)
refugee_attitudes	0.025* (0.015)	0.022 (0.035)
prob_abroad	0.050*** (0.018)	0.011 (0.044)
donation	-0.0002 (0.006)	0.010 (0.014)
trust_others	0.024 (0.022)	0.011 (0.054)
try_new_things	0.026 (0.026)	0.066 (0.063)
solvable_tasks	-0.013 (0.023)	0.036 (0.055)
partydemo_attitudes	-0.004 (0.014)	-0.009 (0.034)
eu_attitudes	0.012 (0.015)	-0.040 (0.036)
partydemo_willingness	0.028 (0.025)	0.270*** (0.061)
eu_willingness	0.016 (0.027)	0.052 (0.065)
size	-0.0003** (0.0001)	-0.001*** (0.0003)
we_mentality	0.143 (0.159)	0.179 (0.386)
private	-0.077 (0.076)	-0.226 (0.184)
catholic	0.166* (0.091)	0.282 (0.220)
music	-0.160 (0.105)	-0.688*** (0.255)
naturalscience	-0.025 (0.091)	0.399* (0.221)
bilingual	0.111 (0.083)	-0.058 (0.201)
Constant	0.381 (0.552)	1.925 (1.337)
Obs.	486	486
Groups (school_id)	13	13
ICC	0.00	0.00
Log Likelihood	-328.426	-758.208
AIC	702.852	1,562.416
BIC	799.135	1,658.699

Notes: The table reports results of multi-level regressions with *write_let* and *onl_media* as the dependent variables. Explanatory variables are on the individual- and school-level. * indicates significance at the 10% level, ** at the 5% level and *** at the 1% level.