Young People's Use of Social Media and Internet for Civic Engagement in 21 Countries

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Abstract

The use of digital technologies for citizenship engagement has become more widespread over recent years and has led to the conceptualisation of 'digital citizenship' as an emerging feature of citizenship participation in societies at the outset of the 21st century. This paper uses data from the recent ICCS 2016 survey to investigate the scope of using social media and the internet for civic engagement among lower-secondary students in 21 countries. It analyses its relationship with context factors and other forms of engagement, and models the influence of a range of contextual and other related variables on variation in students' use of social media for civic engagement.

Background

The continuing development of information and communications technologies (ICT) has led to an increase in the importance of ICT and new social media for civic participation. Social media played an important role in initiating and maintaining support as part of the revolutionary protests in the Middle East, in promoting awareness on sexual assault and harassment through the "#MeToo" movement and in organizing protests against austerity measures in the aftermath of the global financial crisis (see for example Kahne, Middaugh, & Allen, 2014; Milner, 2010; Segerberg, & Bennett, 2011). Even a new concept of 'digital citizenship' has emerged, which broadly refers to membership in a community that uses information and communication technology (ICT) to engage in society, politics and government (Mossberger, Tolbert, & McNeal, 2008)

In view of evidence which indicates declining rates of participation of young people in many democratic countries, it has been suggested that civic participation is more likely when information about political and social issues is conveyed through interactive means (for example, via chat rooms or message boards) instead of the one-way communication offered by more traditional media (Bachen, Raphael, Lynn, McKee, & Philippi, 2008; Rainie, Smith, Schlozman, Brady, & Verba, 2012). Research conducted as part of the youth and participatory politics project in the United States found that youth engagement in an online interest area, irrespective of the nature of that area, had a strong relationship with civic engagement (Kahne, Lee, & Feezell, 2011). Research further suggests that exposure to information reinforcing a person's point of view is associated with higher online engagement (Feezell, 2016). However, some scholars have suggested that young people who use social media for civic-related news are those already active, and that this emerging form of communication is not necessarily mobilising a new audience (see for example Keating and Melis, 2017).

The second cycle of the IEA International Civic and Citizenship Education Study (ICCS 2016) included the use of social media for civic engagement as one of its focus areas and the student questionnaire contained a (limited) set of items focused on the use of this type of media for civic engagement (Schulz, Ainley, Fraillon, Losito, & Agrusti, 2016). Survey results showed that the use of social media for the purpose of civic engagement was still limited but also varied varied considerably across participating countries (Schulz, Ainley, Fraillon, Losito, Agrusti, & Friedman, 2017). Based on data from ICCS 2016, this paper analyses lower-secondary students' use of social media for civic engagement across 21 participating countries that met IEA sample participation rates, and investigates its associations with student background, civic learning and other indicators of engagement.

Data and methods

ICCS 2016, with representative samples of lower secondary students from 24 countries in Europe, Latin America and Asia, provides a good basis for investigating students' use of social media and the internet for civic-related activities, and reviewing its associations with student background, civic learning and other indicators of civic engagement. For the analyses presented in this paper we focused on data from those 21 countries that had met IEA sample participation rates.

To measure students' use of social media and the internet for civic engagement, the international student questionnaire included three items asking about the frequency of different activities (using the internet to find information about political or social issues; posting a comment or image regarding a political or social issue on the internet or social media; sharing or commenting on another person's online post regarding a political or social issue) which were also used to derive a composite indicator (see details in Schulz & Friedman, 2018). The questionnaire also contains single items capturing whether the student anticipated they would take part in the future on activities such as contributing to an online discussion forum about social or political issues, organizing an online group to take a stance on a controversial political or social issue and participating in an online campaign.

Other relevant indicators of engagement include students' interest in political and social issues, their participation in discussion about civic issues, their involvement in civic activities in the community and at school, their sense of citizenship self-efficacy, and their expectations for political/social participation in the future (involvement in legal and illegal activities, electoral and active political participation). Furthermore, ICCS 2016 gathered data about individual characteristics, home background and school contexts from students (as well as teachers and school principals with regard to schools), as well as other student perceptions (e.g. regarding the openness of classroom discussion). In addition, a test consisting of 80 items provided data regarding the students' level of civic knowledge (technical details about the study are described in Schulz, Carstens, Losito, & Fraillon, 2018).

In a first step, this paper reviews the scope and extent of students' use of social media for civic engagement. Further, we investigated how students' use of social media was related to other indicators of participation, in particular to review whether this form of participation was used as an alternative to more traditional means of engagement or whether it is simply another way of expressing opinions and participating in society. Finally, we conducted a multiple regression analysis to review net effects of factors explaining variation of students' use of social media for engagement across participating countries. Predictors include student background (students' gender, socio-economic background, parental interest, student interest, and ICT resources at home), factors related to dispositions for engagement (civic knowledge and citizenship self-efficacy), experience with engagement (in the community and at school) and trust in social media.

Standard errors presented in this paper were estimated using the jackknife repeated replication method (see Schulz, 2018) and missing data were excluded from the analyses. Readers should note that, as a consequence, in some countries there were relatively low proportions of students with valid data for the multiple regression analyses. Country results are annotated accordingly and their results should be interpreted with caution.

Results

Data from the student questionnaire, indicate that on average across ICCS 2022 countries that met sampling requirements, just under one in three students use the internet to find information about political or social issues at least once a week (Table 1). Students from Chinese Taipei undertook this activity the most frequently (almost two out of every three students), whereas students from the

Netherlands did this activity rarely (one in ten students). Across countries, students were much less likely to regularly (once a week at least) post a comment or image regarding a political or social issue on the internet or social media (9%) or share or comment on another person's online post regarding a political or social issue (10%). Students from Chinese Taipei and Dominican Republic were the most likely to undertake in the former activity, and students from the Dominican Republic were also the most likely to undertake the latter activity.

Table 1 Students' reported participation in social media engagement, trust in social media and expected forms of online participation

	At least weekly engagement with social media				Expecting probably or definitely to:								
Country	Using the internet to find information about political or social issues		Posting a comment or image regarding a political or social issue on the internet or social media		Sharing or commenting on another person's online post regarding a political or social issue		Expressing quite or a lot of trust in social media		Contribute to an online discussion forum about social or political issues		Organise an online group to take a stance on a controversial political or social issue		Participate in an online campaign	
Belgium (Flemish)	23 (1.1)	▽	5 (0.6)	▽	6 (0.4)	▽	29 (1.2)	▼	26 (1.1)	▼	20 (1.0)	▼	31 (1.0)	▼
Bulgaria	26 (0.9)	▽	12 (0.9)	△	11 (0.6)	△	60 (1.0)	▲	49 (1.2)	△	47 (1.1)	△	60 (1.0)	▲
Chile	21 (0.6)	▽	9 (0.5)		8 (0.4)	▽	54 (0.9)	▲	48 (0.9)	△	44 (0.9)	△	50 (0.8)	△
Chinese Taipei	65 (1.0)	▲	20 (0.7)	▲	15 (0.6)	△	46 (0.9)	△	61 (0.8)	▲	54 (0.7)	▲	56 (0.8)	△
Colombia	29 (0.9)	▽	11 (0.6)	△	16 (0.8)	△	49 (1.1)	△	61 (1.1)	▲	54 (1.0)	▲	55 (1.2)	△
Croatia	34 (1.2)	△	3 (0.4)	▽	3 (0.4)	▽	48 (1.2)	△	47 (1.2)		34 (1.3)	▽	45 (1.0)	
Denmark†	38 (0.8)	△	3 (0.3)	▽	4 (0.4)	▽	31 (0.7)	▽	29 (0.8)	▼	16 (0.7)	▼	40 (1.0)	▽
Dominican Republic	37 (1.2)	△	19 (0.8)	▲	23 (0.9)	▲	61 (1.0)	▲	72 (1.1)	▲	75 (1.0)	▲	74 (1.1)	▲
Estonia[1]	26 (1.2)	▽	5 (0.4)	▽	8 (0.6)	▽	32 (1.0)	▽	38 (1.0)	▽	27 (1.0)	▼	40 (1.1)	▽
Finland	18 (0.9)	▼	3 (0.3)	▽	3 (0.4)	▽	49 (1.1)	△	31 (0.9)	▼	16 (0.7)	▼	36 (1.1)	▼
Italy	35 (1.0)	△	9 (0.5)		10 (0.6)		54 (0.9)	▲	39 (1.0)	▽	29 (0.9)	▽	41 (0.9)	▽
Latvia[1]	37 (1.2)	△	14 (0.8)	△	14 (0.7)	△	47 (1.4)	△	44 (1.1)		39 (1.0)		46 (1.0)	
Lithuania	37 (1.1)	△	8 (0.6)		9 (0.6)		49 (0.9)	△	58 (1.0)	▲	50 (1.2)	▲	59 (1.1)	▲
Malta	25 (0.7)	▽	7 (0.4)	▽	8 (0.4)	▽	60 (0.9)	▲	45 (0.9)		36 (0.9)	▽	51 (0.9)	△
Mexico	29 (0.8)		12 (0.5)	△	12 (0.5)	△	48 (0.9)	△	60 (0.8)	▲	59 (0.9)	▲	58 (1.0)	▲
Netherlands†	10 (0.7)	▼	3 (0.3)	▽	5 (0.5)	▽	32 (1.2)	▽	22 (1.0)	▼	15 (0.9)	▼	23 (1.1)	▼
Norway (9)[1]	27 (0.7)	▽	4 (0.3)	▽	5 (0.3)	▽	27 (0.7)	▼	36 (0.8)	▽	21 (0.6)	▼	39 (0.7)	▽
Peru	33 (0.9)	△	17 (0.7)	△	18 (0.7)	△	45 (0.8)	△	66 (0.8)	▲	68 (0.8)	▲	64 (0.8)	▲
Russian Federation	40 (1.1)	△	8 (0.5)		10 (0.6)		40 (1.1)		48 (1.0)	△	44 (1.0)	△	51 (1.1)	△
Slovenia	20 (0.9)	▼	3 (0.4)	▽	4 (0.4)	▽	54 (1.1)	▲	33 (1.0)	▼	29 (1.0)	▽	33 (1.1)	▼
Sweden[1]	33 (1.1)	△	5 (0.5)	▽	7 (0.7)	▽	32 (1.0)	▽	42 (0.9)	▽	19 (1.1)	▼	29 (1.0)	▼
ICCS 2016 average	31 (0.2)		9 (0.1)		10 (0.1)		41 (0.2)		45 (0.2)		38 (0.2)		47 (0.2)	

National ICCS 2016 results are:

more than 10 percentage points above average ▲

significantly above average △

significantly below average ▽

more than 10 percentage points below average ▼

() Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent.

* Statistically signficant changes ($p < 0.05$) between 2009 and 2016 are displayed in bold.

(9) Country deviated from international defined population and surveyed adjacent upper grade.

† Met guidelines for sampling paticipation rates only after replacement schools were included.

[1] National Defined Population covers 90% to 95% of National Target Population

[2] Country surveyed target grade in the first half of the school year.

- No comparable data available.

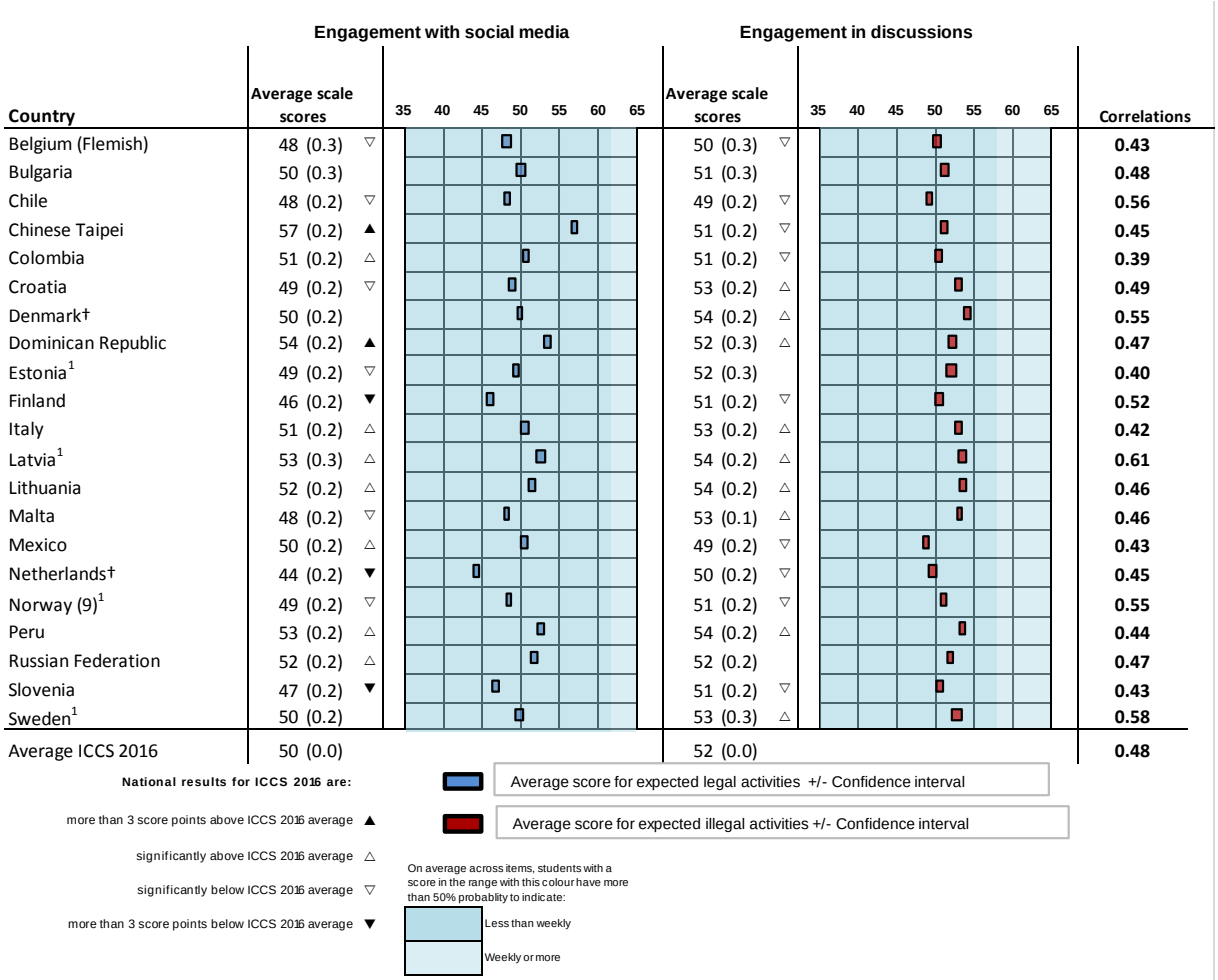
As part of the question asking students about their levels of trust in different institutions, groups and media, one item was concerned with students' trust in social media. In general, students were fairly sceptical regarding the trustworthiness of social media: only 41 percent of students, on average across countries, indicated quite a lot or a lot of trust in social media. Higher levels of trust (60% or more) among students were observed in Bulgaria, Dominican Republic and Malta while the lowest levels of trust in social media (< 30%) were found in Belgium (Flemish) and Norway.

When students were asked if they expected to contribute to an online discussion forum about social or political issues, organise an online group to take a stance on a controversial political or social issue or participate in an online campaign, between 38 and 47 percent (on average across countries) indicated that they expected that they probably or definitely would do each of these activities. The highest percentages of students expecting these activities were recorded in the Dominican Republic, while the lowest proportions were observed among young people in the Netherlands.

Scale scores were derived based on the three items related to student engagement with social media (with a mean of 50 and standard deviation of 10) (see details about how the scales were derived in Schulz & Friedman, 2018). Scale scores were found to be highest among students from Chinese Taipei and the Dominican Republic and lowest for those surveyed in Finland and the Netherlands (Table 2). When scale scores were correlated with the ICCS 2022 scale reflecting student discussions of political and social issues, coefficients indicate that those students who engage more frequently with social-media for political and social issues, were also more likely to engage in discussions of a political and social nature (the average Pearson's r coefficient across countries was 0.48), which were always moderate (0.2 - 0.5) to strong (0.5 or above) across countries.

Table 2 National averages of students' engagement with social media and in discussions of political and social issues

Country	Engagement with social media: Average scale scores	Engagement in discussions: Average scale scores	Correlations
Belgium (Flemish)	48 (0.3) ▽	50 (0.3) ▽	**0.43**
Bulgaria	50 (0.3)	51 (0.3)	**0.48**
Chile	48 (0.2) ▽	49 (0.2) ▽	**0.56**
Chinese Taipei	57 (0.2) ▲	51 (0.2) ▽	**0.45**
Colombia	51 (0.2) △	51 (0.2) ▽	**0.39**
Croatia	49 (0.2) ▽	53 (0.2) △	**0.49**
Denmark†	50 (0.2)	54 (0.2) △	**0.55**
Dominican Republic	54 (0.2) ▲	52 (0.3) △	**0.47**
Estonia[1]	49 (0.2) ▽	52 (0.3)	**0.40**
Finland	46 (0.2) ▼	51 (0.2) ▽	**0.52**
Italy	51 (0.2) △	53 (0.2) △	**0.42**
Latvia[1]	53 (0.3) △	54 (0.2) △	**0.61**
Lithuania	52 (0.2) △	54 (0.2) △	**0.46**
Malta	48 (0.2) ▽	53 (0.1) △	**0.46**
Mexico	50 (0.2) △	49 (0.2) ▽	**0.43**
Netherlands†	44 (0.2) ▼	50 (0.2) ▽	**0.45**
Norway (9)[1]	49 (0.2) ▽	51 (0.2) ▽	**0.55**
Peru	53 (0.2) △	54 (0.2) △	**0.44**
Russian Federation	52 (0.2) △	52 (0.2)	**0.47**
Slovenia	47 (0.2) ▼	51 (0.2) ▽	**0.43**
Sweden[1]	50 (0.2)	53 (0.3) △	**0.58**
Average ICCS 2016	50 (0.0)	52 (0.0)	**0.48**



() Standard errors appear in parentheses.

(9) Country deviated from international defined population and surveyed adjacent upper grade.

† Met guidelines for sampling paticipation rates only after replacement schools were included.

[1] National Defined Population covers 90% to 95% of National Target Population

An "(r)" indicates that data are available for at least 70% but less than 85% of students.

The correlation between national averages at the level of countries was somewhat lower with 0.38 which suggests that there was no clear pattern indicating that countries tended to have higher or lower scores on both of these two scales that are related to individual civic engagement. As can be seen from the graphic display of national averages across countries, there was much more cross-country variation for engagement with social media than there was for engagement in discussions of political and social issues.

Table 3 Correlations of engagement with social media and past/current participation and expected participation

	Past/current participation		Expected engagement in:				
Country	**Community groups and organisations**	**Civic activities at school**	**Legal activities to express opinions**	**Illegal activities to express opinions**	**Electoral participation**	**Active political participation**	**Civic activities at school**
Belgium (Flemish)	**0.22**	0.20	**0.26**	0.09	0.11	0.20	**0.22**
Bulgaria	**0.25**	**0.25**	**0.27**	0.11	0.10	0.15	**0.22**
Chile	**0.28**	**0.27**	**0.29**	0.04	0.19	**0.21**	**0.24**
Chinese Taipei	0.16	**0.24**	**0.24**	0.02	0.16	0.14	**0.26**
Colombia	**0.32**	**0.28**	**0.30**	0.06	0.15	0.18	**0.25**
Croatia	0.17	0.18	**0.28**	0.01	**0.20**	**0.21**	**0.20**
Denmark†	**0.23**	**0.23**	**0.31**	0.04	**0.21**	**0.24**	**0.24**
Dominican Republic (r)	**0.27**	**0.23**	0.19	0.08	0.13	0.15	0.12
Estonia[1]	**0.24**	0.20	**0.28**	0.10	0.13	0.18	0.19
Finland	0.19	**0.21**	**0.34**	0.08	**0.21**	**0.23**	**0.22**
Italy	**0.27**	**0.25**	**0.33**	0.06	0.12	**0.22**	**0.24**
Latvia[1]	0.13	0.03	0.15	0.09	0.01	0.07	0.09
Lithuania	**0.26**	**0.23**	**0.27**	0.03	0.15	0.20	**0.23**
Malta	**0.26**	**0.22**	**0.33**	0.13	0.20	**0.29**	**0.22**
Mexico	**0.30**	**0.24**	**0.23**	0.08	0.12	0.14	0.16
Netherlands†	**0.22**	**0.23**	**0.25**	0.06	0.20	**0.21**	**0.24**
Norway (9)[1]	**0.25**	**0.23**	**0.35**	0.11	0.16	**0.27**	**0.27**
Peru	**0.30**	**0.25**	**0.25**	0.09	0.08	0.19	**0.21**
Russian Federation	**0.25**	**0.22**	**0.32**	0.07	**0.21**	**0.22**	**0.21**
Slovenia	**0.21**	**0.20**	**0.29**	0.08	0.13	0.17	**0.21**
Sweden[1]	**0.25**	**0.25**	**0.37**	0.08	**0.22**	**0.28**	**0.25**
Average ICCS 2016	**0.24**	**0.22**	**0.28**	0.07	0.15	0.20	**0.21**

Correlations below -0.2 or above 0.2 are displayed in **bold** . Because results are rounded to the nearest whole number, some totals may appear inconsistent.

(9) Country deviated from international defined population and surveyed adjacent upper grade.

† Met guidelines for sampling paticipation rates only after replacement schools were included.

[1] National Defined Population covers 90% to 95% of National Target Population

An "(r)" indicates that data are available for at least 70% but less than 85% of students.

We also reviewed the correlations between the scale of student engagement with social media and scales and indicators of past/current and expected civic participation (Table 3). Past or current participation was measured with two questions asking students whether they had participated in groups and organisations in the community and civic activities at school, and two corresponding IRT (Item Response Theory) scales were derived. To measure expected engagement, five IRT scales indicated the extent to which in the future students expected to engage in legal activities to express opinions (for example, participation in a peaceful rally), in illegal activities to express opinions (for example, blocking traffic as a protest), in electoral participation (for example, voting in local elections), in active political participation (for example, by joining a political party), or in civic activities at school (for example, by voting in school elections).

On average across countries, moderately strong correlations were found between the scale of student's engagement with social media for political and social issues and scales of civic participation in the community and at school (average correlation coefficients of 0.24 and 0.22 respectively). Moderately strong correlations (0.20 or above), were also found on average between this scale and scales of expected participation in future legal activities and civic activities at school.

Table 4 Multiple regression coefficients for background variables

Country		Gender (female)	Indicator of socioeconomic background	Parental interest in political/social issues	Students' interest in political/social issues	ICT resources at home
Belgium (Flemish)		-0.3 (0.4)	**-0.5** (0.2)	**1.2** (0.5)	**5.2** (0.4)	**0.6** (0.2)
Bulgaria	(r)	-0.3 (0.4)	**-0.6** (0.3)	0.1 (0.6)	**4.5** (0.5)	**1.1** (0.2)
Chile		**-0.7** (0.3)	0.4 (0.2)	**1.6** (0.3)	**6.2** (0.4)	**0.3** (0.2)
Chinese Taipei		0.3 (0.3)	-0.2 (0.1)	0.4 (0.4)	**3.1** (0.4)	**0.9** (0.2)
Colombia	(r)	-0.1 (0.3)	0.1 (0.2)	**0.7** (0.3)	**4.3** (0.4)	**0.7** (0.2)
Croatia		**-1.1** (0.4)	0.2 (0.2)	0.5 (0.3)	**4.1** (0.4)	**0.4** (0.2)
Denmark†		**-1.5** (0.3)	-0.2 (0.2)	**0.9** (0.4)	**5.0** (0.3)	0.2 (0.1)
Dominican Republic	(s)	**1.5** (0.5)	0.0 (0.3)	**1.6** (0.5)	**3.6** (0.6)	**2.4** (0.3)
Estonia[1]		**-1.1** (0.4)	**-0.5** (0.2)	**1.4** (0.4)	**4.6** (0.3)	**0.6** (0.2)
Finland		**-1.7** (0.3)	0.2 (0.2)	**0.7** (0.3)	**5.1** (0.3)	0.2 (0.2)
Italy		-0.5 (0.3)	-0.2 (0.2)	1.0 (0.5)	**4.2** (0.3)	**0.5** (0.2)
Latvia[1]		-0.8 (0.4)	0.0 (0.3)	0.0 (0.9)	**3.8** (0.5)	**1.0** (0.2)
Lithuania		-0.7 (0.4)	-0.2 (0.2)	**2.6** (0.5)	**3.9** (0.3)	**0.7** (0.2)
Malta		**-0.6** (0.3)	**-0.3** (0.2)	**1.8** (0.3)	**4.9** (0.4)	**0.4** (0.2)
Mexico	(r)	-0.5 (0.4)	**0.6** (0.2)	**0.9** (0.4)	**3.0** (0.4)	**1.6** (0.2)
Netherlands†		**-0.8** (0.3)	0.0 (0.2)	**0.8** (0.3)	**5.5** (0.6)	0.2 (0.2)
Norway (9)[1]		-0.3 (0.3)	-0.3 (0.2)	**1.1** (0.3)	**4.7** (0.3)	0.2 (0.1)
Peru	(r)	**-0.8** (0.3)	**0.7** (0.2)	**1.1** (0.5)	**3.4** (0.4)	**1.8** (0.2)
Russian Federation		**-2.1** (0.3)	**-0.4** (0.2)	0.7 (0.5)	**4.5** (0.4)	**0.6** (0.2)
Slovenia		-0.4 (0.3)	**-0.5** (0.2)	**0.8** (0.4)	**4.1** (0.4)	0.3 (0.2)
Sweden[1]		-0.3 (0.3)	0.2 (0.3)	0.0 (0.5)	**5.4** (0.3)	0.2 (0.2)
ICCS 2016 average		**-0.6** (0.1)	-0.1 (0.0)	**1.0** (0.1)	**4.4** (0.1)	**0.7** (0.0)

* Statistically significant (p<0.05) coefficients in **bold**.

() Standard errors appear in parentheses.

(9) Country deviated from international defined population and surveyed adjacent upper grade.

† Met guidelines for sampling paticipation rates only after replacement schools were included.

[1] National Defined Population covers 90% to 95% of National Target Population

An "(s)" indicates that data are available for at least 50% but less than 70% of students.

An "(r)" indicates that data are available for at least 70% but less than 85% of students.

To analyse which factors are associated with students' engagement with social media, we conducted a multiple regression analysis where scale scores reflecting this variable were regressed on the following variables: gender (female = 1, male =0); socioeconomic background (composite index derived as factor scores based on parental occupation, parental education and the number of books at home); parental interest (1 = at least one parent quite or very interested in political/social issues, 0 = others); students' interest (1= quite or very interested, 0 = others); ICT resources at home (nationally z-standardised factor scores derived from question about the number of computer, tablet devices, and smartphone as well as having internet access at home); civic knowledge (1st plausible value, nationally standardised with mean of 0 and SD of 1); citizenship self-efficacy (IRT scale, nationally standardised with mean of 0 and SD of 1); students' civic participation in the community (IRT scale, nationally standardised with mean of 0 and SD of 1); students' civic participation at school (IRT scale, nationally

standardised with mean of 0 and SD of 1); and trust in social media (1 = quite or complete trust, 0 = others).[1]

The unstandardised regression coefficients for student background variables are shown in Table 4. Students' interest in political and social issues was a consistently positive predictor of their engagement with social media, and an increase of one standard deviation in this variable was associated with more than four scale points on the dependent variable. Having at least one interested parent at home also had positive effects in most countries and the corresponding effects was of about one score point on average. Having ICT resources at home was a significant positive predictor in more than half of the countries, and its effects were strongest in the Dominican Republic, Mexico and Peru. Female gender tended to have negative effects in about half of the countries while socioeconomic background had no consistent association with engagement with social media.

Table 5 Multiple regression coefficients for civic knowledge, engagement and perceptions variables

Country		Civic knowledge	Sense of self-efficacy	Community participation	School participation	Trust in social media	Explained variance
Belgium (Flemish)		**-1.3** (0.2)	**0.6** (0.2)	**1.4** (0.2)	**1.3** (0.2)	-0.1 (0.4)	17
Bulgaria	(r)	**-0.9** (0.3)	**1.5** (0.2)	**0.9** (0.3)	**1.3** (0.2)	0.5 (0.4)	17
Chile		-0.2 (0.2)	**1.4** (0.2)	**1.7** (0.2)	**1.2** (0.2)	0.1 (0.3)	22
Chinese Taipei		0.1 (0.2)	**1.5** (0.2)	**0.8** (0.2)	**1.5** (0.2)	0.5 (0.3)	14
Colombia	(r)	-0.3 (0.2)	**1.2** (0.2)	**2.1** (0.2)	**1.4** (0.2)	0.6 (0.4)	21
Croatia		0.0 (0.2)	**1.6** (0.2)	**0.9** (0.2)	**0.4** (0.2)	0.3 (0.3)	16
Denmark†		**-0.3** (0.2)	**1.2** (0.2)	**1.2** (0.2)	**0.7** (0.1)	0.2 (0.4)	21
Dominican Republic	(s)	0.1 (0.3)	**0.8** (0.3)	**2.4** (0.3)	**1.2** (0.3)	0.0 (0.5)	18
Estonia[1]		**-0.9** (0.2)	**1.3** (0.2)	**1.3** (0.2)	**0.6** (0.2)	**0.9** (0.3)	18
Finland		**0.4** (0.2)	**1.1** (0.2)	**1.1** (0.1)	**0.7** (0.2)	0.5 (0.3)	21
Italy		-0.3 (0.2)	**1.6** (0.2)	**1.5** (0.2)	**1.2** (0.2)	**1.1** (0.3)	19
Latvia[1]		-0.4 (0.3)	**0.8** (0.3)	**1.1** (0.3)	-0.6 (0.3)	**1.4** (0.5)	6
Lithuania		**-0.5** (0.2)	**1.0** (0.1)	**1.5** (0.2)	**0.8** (0.3)	0.5 (0.3)	17
Malta		**-0.4** (0.2)	**1.7** (0.2)	**1.3** (0.2)	**0.8** (0.2)	**0.8** (0.3)	20
Mexico	(r)	-0.1 (0.2)	**0.6** (0.2)	**2.0** (0.3)	**1.1** (0.2)	**1.4** (0.3)	17
Netherlands†		0.1 (0.2)	**1.1** (0.2)	**1.1** (0.2)	**0.8** (0.2)	-0.2 (0.3)	19
Norway (9)[1]		**-1.0** (0.1)	**1.3** (0.1)	**1.2** (0.1)	**1.0** (0.1)	0.1 (0.3)	19
Peru	(r)	**-1.4** (0.2)	**1.1** (0.2)	**2.0** (0.2)	**1.2** (0.2)	**1.0** (0.3)	22
Russian Federation		0.1 (0.2)	**1.2** (0.3)	**1.4** (0.2)	**0.7** (0.2)	**1.7** (0.4)	19
Slovenia		-0.3 (0.2)	**1.1** (0.2)	**1.1** (0.2)	**0.7** (0.2)	0.4 (0.4)	13
Sweden[1]		-0.5 (0.3)	**1.6** (0.2)	**1.5** (0.2)	**0.8** (0.3)	**1.1** (0.5)	23
ICCS 2016 average		**-0.4** (0.0)	**1.2** (0.0)	**1.4** (0.0)	**0.9** (0.0)	**0.6** (0.1)	18

* Statistically significant (p<0.05) coefficients in **bold**.

() Standard errors appear in parentheses.

(9) Country deviated from international defined population and surveyed adjacent upper grade.

† Met guidelines for sampling paticipation rates only after replacement schools were included.

[1] National Defined Population covers 90% to 95% of National Target Population

An "(s)" indicates that data are available for at least 50% but less than 70% of students.

An "(r)" indicates that data are available for at least 70% but less than 85% of students.

When reviewing the regression coefficient for civic knowledge, there were significant, albeit mostly relatively small, negative coefficients in eight and a positive in one country (Table 5). Students' sense

[1] The scales used in these models are described in more detail in the ICCS 2016 technical report (see Schulz, Carstens, Losito & Fraillon, 2018). To measure students' civic knowledge, the analyses are based only on the first of the five plausible values.

of citizenship was consistently and positively associated with social media engagement, the same was true for past or current participation in groups and organisation in the community. Civic participation at school was also positively and significantly associated with the dependent variable in all but one country. Trust in social media had significant positive net associations with social media engagement in eight countries, while in all others we found no significant effects. On average, the model explained 18 percent of the variance in scale scores reflecting engagement with social media, ranging from six percent in Latvia to 23 percent in Sweden.

Conclusion

Results from ICCS 2016 showed that there was relatively limited use of social media for civic engagement as well as substantial variation across the participating countries, which was more pronounced than for students' engagement in discussions of political and social issues. However, this variation appears not to be consistently related to contextual factors related to human development and ICT accessibility as engagement with social media was higher in Chinese Taipei as well as in some Latin American countries.

While there were no consistent associations with gender or civic knowledge, students' interest in political and social issues had positive associations with their civic engagement via social media. Furthermore, this form of engagement had a positive relationship with past or current engagement at school and in the community, as well as with expected engagement in the future (except for illegal protest activities). One peculiar finding was the (relatively weak but at times significant) negative association with students' civic knowledge, which was observed in a number of countries, which suggests that more knowledgeable students are not necessarily those who opt for this type of engagement.

While the results indicate that civic engagement via social media for the age group in question seems to be limited, it is expected that its importance as a means of obtaining information and expressing opinions will increase further in the future. ICCS 2016 results also suggest that this type of activity is not necessarily an alternative to more traditional forms of participation but a rather complementary way of engagement, given that we found no negative associations with other types of engagement.

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