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Journal

Applied Developmental Science, 18(1)

Author

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Publication Date

2014-01-31

Copyright Information

Peer reviewed

Examining Students' Perception of Classroom Openness as a Predictor of Civic Knowledge: A Cross-National Analysis of 38 Countries

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Published online: 31 Jan 2014.

Routledge
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Examining Students' Perception of Classroom Openness as a Predictor of Civic Knowledge: A Cross-National Analysis of 38 Countries

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Civic knowledge is critical to interpreting various policy and candidate issues that are necessary to participating in certain political activities, such as voting in elections or attending public demonstrations. Various studies have examined students' perceptions of classroom openness, which reflects perceived levels of political discussion supported by peers in the classrooms, to understand how this measure relates to students' civic behaviors. This study analyzes data from the 2009 International Civic and Citizenship Education Study, in which approximately 134,000 students were sampled from 38 countries across Europe, Asia, and Latin America. Results from three-level hierarchal linear modeling suggest that students' perceptions of classroom openness are strongly related to their civic knowledge scores. Further analyses indicate that the relationship strength between these two measures do not vary across students from different socioeconomic backgrounds. These findings reaffirm the importance of curricular approaches that emphasize political discussions in classrooms to prepare students for active citizenship.

Civic education scholars emphasize that civic knowledge plays a critical role in helping individuals become active and informed citizens (Delli Carpini & Keeter, 1997; Galston, 2001; Popkin & Dimock, 2000; Torney-Purta, 2002). This type of knowledge is necessary to helping people interpret various forms of political communication, which contributes toward certain political activities such as voting and participating in public demonstrations (Torney-Purta, 2002). Further, an individuals' knowledge about the political process is considered to be a stronger predictor of their voting behavior in comparison with their level of trust in government institutions (Delli Carpini & Keeter, 1997; Popkin & Dimock, 2000). Similarly, these findings apply to adolescents who are highly knowledgeable of government and political processes because they are also more likely to participate in civic matters (Galston, 2001). In a majority of Western democratic countries, curriculum standards require schools to meet certain civic education goals related to preparing students to become informed of the political process (Kerr, 1999; Osler & Starkey, 2006). Schools operate like "mini polities" because students have opportunities for democratic practices that involve interacting with peers and teachers who hold diverse opinions and beliefs (Wray-Lake & Syvertsen, 2011). This study seeks to examine how students learn about the political process through civic education courses in schools.

Civic education is generally required coursework, offered in the secondary grade levels (e.g., Government and Civics), that informs students about how government structures and processes operate (Ehman, 1980; McIntosh & Munoz, 2009; Niemi & Junn, 2005). In its traditional form, civic education is based on teaching students general facts about the political process, which encompasses a broad range of topics including government structures, citizens' rights and duties, and public policy issues (Althof & Berkowitz, 2006; Biesta, 2007). In a major study that examined data from the 1988 NAEP Civics Assessment, Niemi and Junn (2005) found that civics course work raises overall civic knowledge by four percent. However, when students experience course work that is combined with regular classroom discussion of current events, this figure rises to eleven percent. This author

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reviewed several types of curricular interventions designed to supplement civic education courses and identified *citizenship education* as a participatory form of civic education that encourages teachers and students to engage in classroom discussions of politics (Lin, 2013). The central goal of citizenship education is to provide students with meaningful opportunities to engage in discussions about their political opinions and help students reinforce their understandings about politics (Althof & Berkowitz, 2006; Hoge, 2002; Lin, 2013; Niemi & Junn, 2005).

Based on an international dataset called the International Association for the Evaluation of Educational Achievement (IEA) Civic Education Study (CIVED) that was completed in 1999, a number of researchers have analyzed data on the political behavior of 90,000 14-year-olds in 28 countries (Campbell, 2008; Torney-Purta, 2002; Torney-Purta, Barber, & Wilkenfeld, 2007). These studies provide evidence suggesting that students' perceptions of classroom discussion are strongly related to their civic knowledge scores or understandings about the political process (Campbell, 2006; Papanastasiou & Koutselini, 2003; Torney-Purta, 2002). The present study seeks to expand on past research by using an international dataset completed in 2009, the International Civic and Citizenship Education Study (ICCS), to investigate the relationship between students' perceptions of classroom openness and civic knowledge across students sampled in 38 countries. Secondary analysis consists of determining if the relationship strength between classroom openness and civic knowledge varies across students from different socioeconomic backgrounds. This research focuses on students in the lower secondary grades (ages 12–16) because adolescents typically reach a critical developmental stage of understanding abstract concepts regarding democracy (Hoge, 2002; Sapiro, 2004; Torney-Purta, 2004). Demonstrating the importance of students' participation in civics classes is critical for civic education researchers to understand how curriculum and classroom structures can make a difference in how students learn about the political process.

INTERNATIONAL CIVIC STUDIES BASED ON THE IEA AND ICCS DATASET

The IEA, an international cooperative of national research institutions, collected data on 90,000 14-year-olds across 28 nations with measures related to their civic competencies. The Civic Education Study (CIVED) includes students in various regions across Europe, Southern/Latin America, Asia, and the Pacific. Based on a subset of students in a particular country or region, various studies have analyzed the relationship between students' perceptions of classroom openness and a number of self-reported civic engagement outcomes including voting interest and volunteering for community services (Campbell, 2007,

2008; Torney-Purta, 2002; Torney-Purta et al., 2007). In a study of American schools, Campbell (2008) used multilevel modeling that accounts for nesting at the classroom level and found that an aggregate measure related to students' perceptions of classroom openness significantly predicted civic knowledge scores and voting interest. Fjeldstad and Mikkelsen (2003) reported that students' perceptions of classroom openness—as indicated by peer dialogue and exchange of arguments—were highly correlated with their civic knowledge scores in a sample of ninth grade Norwegian students. Other studies also suggest that students' perceptions of classroom climate is significantly associated with civic knowledge scores as demonstrated in a sample of students enrolled in schools located in Israel (Ichilov, 2007) and Taiwan (Yang & Chung, 2009).

In a more recent study completed in 2009, the IEA expanded data collection efforts to 38 countries across Europe, Southern/Latin America, Asia, and the Pacific regions. Approximately 140,000 students (ages 12–16 years old) were assessed on a number of civic engagement outcomes including knowledge, behaviors, and dispositions. The IEA released a report in 2009 with evidence suggesting that various factors at the student and school level can contribute towards students' development of civic knowledge and participation (Schulz, Ainley, Fraillon, Kerr, & Losito, 2010). In the report, the authors state the need for subsequent analyses that highlight students' learning of the political process, in particular to possible interactions between students' classroom learning environment and family background (e.g., socioeconomic status). Although there have been a number of studies based on the 1999 CIVED dataset, scholars and researchers have yet to fully capitalize on the 2009 ICCS dataset (Campbell, 2008; Torney-Purta, 2002; Torney-Purta et al., 2007). This study proposes to understand the relationship between students' perceptions of classroom openness and civic knowledge scores in the 2009 ICCS dataset, which includes several countries not featured in the previous dataset.[1] It is evident that students' perceived levels of classroom discussions may be strongly related to how well they will perform on civic knowledge assessments. More clarity, however, is necessary to examine the cognitive processes involved in peer discussions about civic issues.

COGNITIVE MEDIATION MODEL

Communication scholars highlight two cognitive processes underlying the *cognitive mediation model* that

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[1]The 2009 ICCS includes 22 of the same countries featured in the 1999 CIVED study. The 16 countries added to the study include: Austria, Chinese Taipei, Dominican Republic, Guatemala, Indonesia, Ireland, Korea, Liechtenstein, Luxembourg, Malta, Mexico, Netherlands, New Zealand, Paraguay, Spain, and Thailand. The six countries from the 1999 CIVED dataset that are not part of the 2009 ICCS dataset include: Australia, Germany, Hungary, Portugal, Romania, and the United States.

serves to explain the link between peer discussions and civic knowledge (Eveland, 2004; Eveland & Thomson, 2006; Kwak, Williams, Wang, & Lee, 2005; McLeod & Becker, 1974). According to Eveland (2004), one process involves the *anticipatory elaboration process*, which posits that anticipating future discussions about politics may serve as an internal motivator to devote increased attention to news content. The individual is concerned with learning news content information so that he or she is prepared to defend and elaborate on a particular worldview. The *discussion-generated elaboration process* proposes that elaborating on a topic through discussion may force meaningful information processing in two ways: self and conversation-partner generated elaboration (Eveland, 2004; McLeod et al., 1999). During a discussion, a person has to reprocess the information as it is recalled from memory (self-generated elaboration). This process involves summarizing knowledge about a particular topic and expressed in a way that is comprehensible to their conversation partners. In discussions with conversation partners (conversation-partner generated elaboration), these discussions can spark ideas and connections already held in the persons' memory (Gastil & Dillard, 1999). In a national study that sampled adults and their political behavior, Eveland (2004) found evidence in support of the cognitive mediation model. Participants' reported frequency of gathering news information in anticipation of future political discussions strongly predicted their knowledge about political issues, after controlling for news media use, education, and income. It is apparent from the cognitive mediation model research that peer discussion can serve as powerful strategy to reinforce recall of factual knowledge in regards to political issues. The next section examines how adolescents from various social and economic backgrounds may experience different contexts in learning civics.

ACCELERATION VERSUS COMPENSATION DEBATE

Civic education scholars have been interested in understanding the degree to which civic knowledge scores may vary depending on adolescents' socioeconomic status (SES)[2] (Campbell, 2008; Schulz et al., 2010). More specifically, Campbell (2008) examined if the relationship strength between students' perceptions of classroom openness and civic knowledge is stronger for students from high and low income backgrounds. The *acceleration hypothesis* posits that the relationship strength between students' perceptions of classroom openness and civic

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[2]In civic education research, the most widely used measure of socioeconomic status (SES) consists of an index that considers family income, parental education, and occupational status (Bradley & Corwyn, 2002; Entwislea & Astone, 1994).

knowledge is stronger for students from more privileged backgrounds. Students from higher SES backgrounds tend to read public affairs news more frequently and engage in social interactions that require knowledge about politics (Drew & Reeves, 1980; McDevitt & Chaffee, 2002). As a result, these students have stronger foundations for understanding politics because of their own cognitive abilities and opportunities to engage in frequent political discussions at home. It is also possible that students with higher academic scores are also more likely to be chosen by their teachers to contribute during classroom discussions (Campbell, 2008).

The *compensation* hypothesis proposes that the relationship strength between students' perceptions of classroom openness and civic knowledge is stronger for students from lower SES backgrounds (Campbell, 2008). Students from lower SES backgrounds are less likely to be informed about politics because they have parents who are less likely to engage in discussions of political topics (Campbell, 2008; Gimpel, Lay, & Schuknecht, 2003; Langton & Jennings, 1968; McDevitt & Chaffee, 2002; Pacheco & Plutzer, 2008). Despite this apparent setback, students from lower SES backgrounds may be more motivated to participate in classroom discussions because these students are likely to encounter new and conflicting information about political issues (Langton & Jennings, 1968). Students from higher SES backgrounds are more likely to experience "information redundancy" because they are accustomed to discussions about social issues with peers and family members (Langton & Jennings, 1968, p. 859). Based on these findings, this study proposes to analyze the relationship strength between students' perceptions of classroom openness and socioeconomic status to determine if civic knowledge learning is equal across groups.

OTHER CONTRIBUTORS TO CIVIC KNOWLEDGE

Previous studies suggest that a number of characteristics are related to an individuals' civic knowledge (Alivernini & Manganelli, 2011; Campbell, 2008; Delli Carpini & Keeter, 1997; Kao & Thompson, 2003; Schulz, 2002). Female adolescents are slightly more inclined to participate in political matters in comparison with males (Campbell, 2008). Adolescents from immigrant backgrounds also tend to perform poorly on various academic assessments (Alivernini & Manganelli, 2011; Kao & Thompson, 2003), while those with well-educated parents and ample literary resources may be more equipped to learn civics content in comparison with those from less privileged backgrounds (Delli Carpini & Keeter, 1997). Similarly, students who plan to obtain additional years of schooling not only demonstrate strong cognitive abilities, but also motivation to improve their own knowledge about civic matters (Schulz, 2002).

In addition to these individual characteristics, students' civic knowledge may also depend on their access to alternative sources of political information. A person's habit of engaging in political discussions with friends and family members strongly predicts knowledge about political matters (Eveland, 2004). Regular access to news media is also particularly important to helping adolescents not only improve their reading ability, but devote attention to news information (Eveland, McLeod, & Horowitz, 1998). Taking these findings together, it is important to consider how these alternative sources of information may supplement students' knowledge about political matters.

THE PRESENT STUDY

This study intends to test whether the findings from the CIVED 1999 study extends to a more recent sample of countries examined in the 2009 dataset (Campbell, 2007, 2008; Torney-Purta, 2002; Torney-Purta et al., 2007). Although there is a difference of ten years between the 1999 and 2009 dataset, the IEA sampled a high percentage of the same countries (22 out of 28 countries) that were featured in the 1999 CIVED study, including England and Chile. Based on the literature discussed, the primary research question in this study is to estimate the extent to which students' perceptions of classroom openness predicts their civic knowledge scores. The secondary analysis of this study focuses on understanding if the relationship strength between students' perceptions of classroom openness and their civic knowledge scores varies across different socioeconomic backgrounds.

METHODS

Research Design

This study is based on an cross-national analysis of the International Civic and Citizenship Education Study (ICCS) 2009 data set, which features civic competence data on 140,000 students at the lower secondary grade level from 38 countries in the Europe, Southern/Latin America, Asia, and the Pacific regions (IEA, 2009). The IEA employed a sampling procedure based on a two-stage stratified cluster design (Schulz et al., 2010). First, approximately 150 schools in each country were sampled using probability proportional to size. Second, from each selected school only one intact class was sampled with all students participating in the study. More detailed information about sampling procedures can be found in the report, *ICCS 2009 International Report: Civic knowledge, attitudes and engagement among lower secondary school students in thirty-eight countries*, authored by Schulz and colleagues (2010).

Table 1 presents information on the countries sampled. Countries were organized into regions based on the geographic groupings developed in Schulz's (2002) study. The exceptions are the English-speaking countries, as these countries were grouped because of the common language and similarities in their historical, political, and cultural backgrounds (Schulz, 2002). The most notable difference between the previous dataset (1999 CIVED study) and the 2009 ICCS dataset is that the newer dataset has a larger sampling of regions that include: Latin/Southern America (e.g., Dominican Republic and Guatemala) and Asia (e.g., Taiwan and Indonesia). The third column in Table 1 displays the Human Development Index (HDI), which is a composite index measuring average achievement in three basic dimensions of human development (e.g., healthy life, access to knowledge, and a decent standard of living). A large number of countries (29 out of 38) have very high HDI (above 0.91), which indicates these countries are highly developed (e.g., England, Finland and Korea). In contrast, nine are considered developing countries (e.g., Russian Federation and Indonesia) because they have a medium HDI score of 0.5 to 0.8.

Sample

The full sample includes 140,650 students in 6,008 classrooms across public and private schools in 38 countries. Most of the sampled students are from Mexico ($n=6,365$, 4.8%), followed by Colombia ($n=5,512$, 4.1%) and Korea ($n=5,230$, 3.9%). Age of the sampled students varied widely with a range between 12 to 18 years old. In order to limit the age range to the traditional age of lower secondary grades (between ages 12 to 16), 4,174 students (3.1% of the full sample) were removed.[3] This subset of students mainly consisted of those enrolled in Latin/Southern American schools that include: Guatemala ($n=1,108$), Dominican Republic ($n=593$), and Colombia ($n=526$). Also, 2,677 students (1.9% of the full sample) missing the key classroom openness variable were removed. The full sample has a final total of 133,799 students who were analyzed in this study.

Measures

Civic Knowledge

The dependent variable assessed in this study is *civic knowledge*, which refers to students' knowledge on a series of 79 test items related to their country's politics.

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[3]In a study that examined mortality differences associated with educational levels in nine industrialized countries, Kunst and Mackenbach (1994) considered adolescents aged 12–16 years old as the traditional age range of students in the lower secondary grades.

TABLE 1
Summary of Sampled Students' Demographic Data in 38 Countries Organized by Region

Description			Sampled Students				Sampled Classrooms	
	Region	HDI	n	%	% Female	% Non-Native	n	Average No. of Students Per Classroom
Hong Kong	Asia	0.94	2,693	2.0	0.49	0.05	77	34.97
Indonesia	Asia	0.73	4,810	3.6	0.53	0.62	143	33.64
Korea	Asia	0.94	5,230	3.9	0.43	0.00	172	30.41
Taiwan	Asia	0.94	5,142	3.8	0.48	0.17	150	34.28
Thailand	Asia	0.78	5,163	3.9	0.54	0.04	151	34.19
Bulgaria	Balkans and Russia	0.84	3,122	2.3	0.51	0.10	158	19.76
Russia Federation	Balkans and Russia	0.82	4,188	3.1	0.50	0.06	209	20.04
Estonia	Baltic	0.88	2,593	1.9	0.52	0.04	141	18.39
Latvia	Baltic	0.87	2,647	2.0	0.52	0.08	155	17.08
Lithuania	Baltic	0.87	3,820	2.9	0.50	0.05	196	19.49
Czech Republic	Eastern Central Europe	0.90	4,547	3.4	0.46	0.02	238	19.11
Poland	Eastern Central Europe	0.88	3,191	2.4	0.51	0.01	150	21.27
Slovak Republic	Eastern Central Europe	0.88	2,923	2.2	0.50	0.04	138	21.18
Slovenia	Eastern Central Europe	0.93	3,036	2.3	0.50	0.06	160	18.98
England	English-speaking	0.95	2,878	2.2	0.52	0.07	124	23.21
Ireland	English-speaking	0.97	3,315	2.5	0.49	0.09	151	21.95
New Zealand	English-speaking	0.95	3,891	2.9	0.50	0.09	182	21.38
Chile	Latin American	0.88	5,009	3.7	0.52	0.01	176	28.46
Colombia	Latin American	0.81	5,512	4.1	0.54	0.01	199	27.70
Dominican Republic	Latin American	0.78	3,437	2.6	0.57	0.02	144	23.87
Guatemala	Latin American	0.70	2,785	2.1	0.50	0.05	142	19.61
Mexico	Latin American	0.85	6,365	4.8	0.52	0.02	208	30.60
Paraguay	Latin American	0.76	2,902	2.2	0.53	0.29	149	19.48
Denmark	Scandinavia	0.96	4,285	3.2	0.52	0.05	229	18.71
Finland	Scandinavia	0.96	3,255	2.4	0.52	0.03	178	18.29
Norway	Scandinavia	0.97	2,949	2.2	0.51	0.09	147	20.06
Sweden	Scandinavia	0.96	3,384	2.5	0.50	0.15	168	20.14
Cyprus	Southern Europe	0.91	3,081	2.3	0.50	0.07	155	19.88
Greece	Southern Europe	0.94	3,115	2.3	0.51	0.06	153	20.36
Italy	Southern Europe	0.96	3,332	2.5	0.48	0.05	151	22.07
Malta	Southern Europe	0.90	2,118	1.6	0.47	0.18	112	18.91
Austria	Western Central Europe	0.96	3,293	2.5	0.52	0.15	151	21.81
Belgium	Western Central Europe	0.95	2,938	2.2	0.50	0.11	166	17.70
Liechtenstein	Western Central Europe	0.95	336	0.3	0.49	0.14	23	14.61
Luxembourg	Western Central Europe	0.96	4,592	3.4	0.52	0.92	271	16.94
Netherlands	Western Central Europe	0.96	1,894	1.4	0.53	0.09	82	23.10
Spain	Western Central Europe	0.97	3,203	2.4	0.51	0.19	149	21.50
Switzerland	Western Central Europe	0.95	2,825	2.1	0.50	0.20	160	17.66
Total		0.90	133,799	100.0	0.51	0.12	6,008	22.39

Note. HDI, provided by the United Nations Development Programme (UNDP), is a composite index measuring average achievement in three basic dimensions of human development including a healthy life, access to knowledge, and a decent standard of living. The HDI is also used as one of the means of classifying a country as developed (HDI greater than a 0.9) and developing (HDI below 0.9). Non-native refers to students who reported not being able to speak or understand the language used in the assessment. Adapted from "ICCS 2009 International Report: Civic knowledge, attitudes, and engagement among lower-secondary school students in 38 countries" by W. Schulz, J. Ainley, J. Fraillon, D. Kerr, and B. Losito. Copyright 2010 by the International Association for the Evaluation of Educational Achievement.

In general, students answered test items about their country's politics in regards to the following civics domains: society and systems, principles, participation, and identities (see Appendix). Students attaining the highest proficiency in the civic knowledge assessment demonstrate strong application of knowledge to evaluate or justify policies, practices, and behaviors based on their understanding of civics and citizenship (Schulz et al., 2010). The test items were organized around the following categories: reasoning and analyzing (75%) and knowing certain facts (25%). Format of the test items consists of 73 multiple-choice and 6 constructed-response items. The national Rasch scores were standardized to have a mean score of 150 points and a standard deviation of 10 points (Brese, Jung, Mirazchiyski, Schulz, & Zuehlke, 2011).

TABLE 2
Elements of the Classroom Openness Index

When Discussing Political and Social Issues During Regular Lessons, How Often Do the Following Things Happen?	n	M (1–4)	SD	Factor Loading (Varimax Rotation)
Teachers encourage students to make up their own minds	132,976	3.07	0.98	0.69
Teachers encourage students to express their opinions	132,779	3.36	0.87	0.74
Teachers encourage students to discuss the issues with people having different opinions	132,878	2.36	0.96	0.56
Teachers present several sides of the issues when explaining them in class	133,018	2.89	0.93	0.62
Students bring up current political events for discussion in class	132,915	2.68	1.02	0.74
Students express opinions in class even when their opinions are different from most of the other students	132,896	3.05	0.96	0.69
Eigenvalue				2.6

Note. Questions on a scale of *Never*=1, *Rarely*=2, *Sometimes*=3, *Often*=4; Weighted values.

Students' Perceptions of Classroom Openness

The primary independent variable is the classroom openness measure, which refers to students' assessment of how much freedom is supported by the classroom to discuss political topics in their civics courses. This study relies on the classroom openness scale developed by the IEA, which is reported as having a scale reliability (Cronbach's alpha) of 0.76 for the pooled ICCS sample and the country reliabilities ranged from 0.65 to 0.84 (Schulz, Ainley, & Fraillon, 2011). Table 2 displays the items that were used to create the classroom climate index. In response to the main item, "When discussing political and social issues during regular lessons (civics courses), how often do the following things happen?" students answered six statements in regards to their perceived level of political discussions found in the classroom based on a four-point Likert scale of 1 (*Never*), 2 (*Rarely*), 3 (*Sometimes*), and 4 *(Often)*. Students evaluated if teachers and students achieved certain goals that support open and student-oriented discussions of political and social issues. For example, students answered if their teachers facilitated discussions that consist of evaluating both sides of the issues and encouraging students to make up their own minds. Similarly, students answered in regard to how often they observed peers, "bring up current political events for discussion in class" and "express opinions in class even when their opinions are different from most other students."

Past studies share a common weakness in relying primarily on students' self-reports to estimate the amount of openness in political discussion that is supported in the classroom (McIntosh & Munoz, 2009; Torney-Purta, 2002). This approach may lead to overestimating the amount of openness in political discussions because of the possibility that more civically engaged students may perceive higher degrees of discussions in their classrooms. This study works around this problem by adopting Campbell's (2008) approach, which relies on "grouping students' perceptions of classroom openness by averaging the perceptions of multiple respondents in the same classroom" (p. 443). This measure reflects the average view of openness from multiple students in the same classroom (minimum of ten students per classroom). In addition to including aggregate measures of classroom openness, it is still important to include students' individual perceptions of classroom openness because students may differ in their opinions about how much discussion of political topics is supported in the classroom. Thus, students' individual perceptions (*INDIVIDUAL LEVEL CLASSROOM OPENNESS*) and the aggregate measures (*CLASSROOM OPENNESS*) of classroom openness are included in the models for analyses. The complications of including both classroom and individual-level measures of classroom climate in the same equation were resolved by purging any correlations between the two measures.[4]

Control Variables

The models analyzed in this study control for a number of variables related to students' individual traits. Table 3 presents demographic characteristics of students who participated in the study. Gender (*FEMALE*) is a dichotomous variable coded as female (1) or male (0) students. Non-native speaker status is identified by the dichotomous variable *(NON-NATIVE SPEAKER)*, which

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[4]The students' individual perceptions of classroom climate were regressed on the class mean, with the residuals saved as the Individual-level Classroom Openness. The residuals reflect the degree to which an individual's own score deviates from the aggregate value; thus, the two are by definition uncorrelated. Next the classroom mean was regressed on the individual's perceptions of classroom climate, and the resulting residuals were saved as Classroom-level Openness. This procedure produces a different classroom climate score for each respondent, which means that it must be regarded as an individual-level variable. To test the procedure's success, I included the "unpurged" measure of classroom climate into the model as a classroom-level variable and found that the results are identical. The author credits Campbell (2008) for his permission to use this methodological approach.

TABLE 3
Descriptive Statistics of Unstandardized Individual-Level Variables

Variables	n	M	SD	Min	Max
Female	133,144	0.51	0.50	0.00	1.00
Non-native speaker	132,732	0.21	0.40	0.00	1.00
Expected education	133,799	2.56	0.79	0.00	4.00
Socioeconomic status (SES)	133,151	2.93	1.42	1.00	5.00
Students' perception of classroom openness	133,799	3.05	0.97	1.00	4.00
Political discussion with parents	133,037	2.97	1.02	1.00	4.00
Newspaper reading	132,609	2.20	1.06	1.00	4.00
Watching TV news	132,773	3.08	1.04	1.00	4.00

Note. Weighted values.

reflects students' ability to speak the language used in the civic assessment (0) or not (1). The variable (*EXPECTED EDUCATION*) refers to a five-point scale indicating students' expectations of graduating with: 0 (*Below a high school degree*), 1 (*High school degree*), 2 (*2-year college*), 3 (*4-year college*), and 4 (*Graduate school*). The variable (*SES*) is derived from the IEA's national index of students' socioeconomic background, which consists of the following three indices: highest occupational status of parents, highest educational level of parents in approximate years of education, and the approximate number of books at home (with midpoints of category ranges as values). According to Schulz and colleagues (2011), the index was reported to have strong correlations between the three latent factors ($r = 0.68 - 0.79$).

Last, students were assessed on their frequency of accessing alternative sources of political information that may be found in discussing politics with parents, reading the newspaper and watching television. Students' reported about how often they discussed national politics with their parents (*POLITICAL DISCUSSION*). Students were also assessed on how often they read the newspaper for national and international news (*NEWSPAPER READING*). Similarly, students reported on how often they watched television for national and international news (*TELEVISION VIEWING*). Students responded to these three items based on a four-point scale: 1 (*Never or hardly ever*), 2 (*At least once a month*), 3 (*At least once a week*), and 4 (*Daily or almost daily*). Tests were conducted to ensure that these three measures did not have high correlations ($r = 0.29 - 0.34$), which is important to minimizing potential multicollinearity when these measures are added in the models (Belsey, Kuh, & Welsch, 1980).

Data Analysis

Hierarchical Linear Modeling (HLM) was used to consider the nested structure of the ICCS 2009 data. In the three-level model adopted in this study, student

background is considered as level 1. The classroom is considered level 2, in which students are clustered within classrooms. Country is considered level 3, in which classrooms are clustered within countries. The HLM analysis used in this study does not consider classrooms clustered at the school level. Sampling was designed in which the ICCS research team sampled one classroom per school, which limits studies using this particular dataset from being able to disentangle the classroom-level and school-level variance (Schulz et al., 2011). Based on the data structure of the study, it can be assumed that a student nested in a classroom is virtually the same as being nested within a school.

The advantage of using HLM is that the analyses account for the nested data structure, thereby estimating correct standard errors and permitting unbiased significance tests (Raudenbush, Byrk, & Congdon, 2002). Additionally, HLM is the method of choice for studying the moderating influences of the environment on relationships that occur at the individual level (Lau & Nie, 2008). HLM examines the individual, classroom, and country level simultaneously and estimates the proportion of variance accounted for by each of these levels.

The primary research question will be assessed by conducting these two analytic strategies: (1) separate estimates of two-level (students and classrooms) models within each country and (2) analyses from three-level (students, classrooms and countries) models that considers the full sample of countries. Equations of the multilevel models are presented in this section.

The cross-national comparison is based on separate estimates of two-level HLM models (students and classroom) within each country. In the two-level equation, the individual (level 1) and classroom (level 2) predictors were included as covariates to predict the civic knowledge score ($CIVIC\ KNOWLEDGE_{ij}$) for student i in classroom j. The individual and classroom-level equations are specified as:

$$
\begin{aligned}
CIVIC\ KNOWLEDGE_{ij} = {} & \beta_{0j} + \beta_{1j}\,(SES_{ij}) \\
& + \beta_{2j}(NON\text{-}NATIVE\ SPEAKER_{ij}) \\
& + \beta_{3j}\,(FEMALE_{ij}) \\
& + \beta_{4j}\,(EXPECTED\ EDUCATION_{ij}) \\
& + \beta_{5j}\,(NEWSPAPER\ READING_{ij}) \\
& + \beta_{6j}\,(TELEVISION\ VIEWING_{ij}) \\
& + \beta_{7j}\,(POLITICAL\ DISCUSSION_{ij}) \\
& + \beta_{8j}\,(INDIVIDUAL\ LEVEL \\
& \qquad CLASSROOM\ OPENNESS_{ij}) \\
& + rij, \quad\quad (1)
\end{aligned}
$$

$$
\begin{aligned}
\beta_{0j} &= \gamma_{00} + \gamma_{01}\,(CLASSROOM\ OPENNESS_{0j}) + \mu_{0j} \\
\beta_{1j} &= \gamma_{10} + \mu_{1,}
\end{aligned} \quad (2)
$$

The individual-level equation includes the overall grand mean (β_{0j}), SES (SES_{ij}) and various level-1 predictors. In the classroom-level equation [Eq. (2)], γ_{01} is the fixed regression coefficients for the level-2 predictor

(*CLASSROOM OPENNESS*$_{0j}$), which refers to the aggregate measure of students' perceptions of classroom openness.

In the analysis based on the full sample of countries, three-level HLM models were developed to consider students at level 1, students nested within classrooms at level 2, and classrooms nested within countries at level 3. The individual-level equation is indicated as:

$$
\begin{aligned}
CIVIC\ KNOWLEDGE_{ijk} = {} & \pi_{0jk} + \pi_{1jk}\,(SES_{ijk}) \\
& + \pi_{2jk}\,(NON\text{-}NATIVE\ SPEAKER_{ijk}) \\
& + \pi_{3jk}\,(FEMALE_{ijk}) \\
& + \pi_{4jk}\,(EXPECTED\ EDUCATION_{ijk}) \\
& + \pi_{5jk}\,(NEWSPAPER\ READING_{ijk}) \\
& + \pi_{6jk}\,(TELEVISION\ VIEWING_{ijk}) \\
& + \pi_{7jk}\,(POLITICAL\ DISCUSSION_{ijk}) \\
& + \pi_{8jk}\,(INDIVIDUAL\ LEVEL \\
& \qquad CLASSROOM\ OPENNESS_{ijk}) \\
& + e_{ijk}, \quad\quad\quad\quad\quad\quad\quad\quad (3)
\end{aligned}
$$

where *CIVIC KNOWLEDGE*$_{ijk}$ is the civic knowledge score for student i within classroom j in country k. π_{0jk} is an estimate of the adjusted mean achievement score for classroom j in country k, and e_{ijk} is an individual-level residual. The classroom-level equation is indicated as:

$$
\begin{aligned}
\pi_{0jk} &= \beta_{00k} + \beta_{01k}\,(CLASSROOM\ OPENNESS_{0jk}) + r_{0jk} \\
\pi_{qjk} &= \beta_{q0k} + r_{qjk} \quad\quad\quad\quad\quad\quad\quad\quad\quad (4) \\
\pi_{1jk} &= \beta_{10k} + r_{1jk,}
\end{aligned}
$$

In the classroom-level equation, the coefficients noted in the individual-level equation ($\pi_{1jk}\ldots, \pi_{8jk}$) are modeled as functions of classroom characteristics and r_{qjk} is a classroom-level residual. β_{01k} is the fixed regression coefficients for the level-2 predictor (*CLASSROOM OPENNESS*$_{0jk}$), which refers to the classroom average of students' perceptions of classroom openness.

In the country-level equation, the model does not include country-level (level 3) variables to predict any of the other coefficients in the individual and classroom-level equations. Country-level variables were not included because the study's main concern is the relationship between students' perceptions of classroom openness and civic knowledge scores [Eq. (4)]. The country-level equation is indicated as:

$$
\begin{aligned}
\beta_{00k} &= \gamma_{ooo} + \mu_{00k} \\
\beta_{01k} &= \gamma_{o1o} + \mu_{01k,} \quad\quad\quad\quad\quad (5)
\end{aligned}
$$

In the secondary research question, a model was developed to consider cross-level interactions between students' perceptions of classroom openness and their SES backgrounds. The same aforementioned three-level models were run with additional cross-level interaction terms. The classroom-level equation is indicated as:

$$
\begin{aligned}
\pi_{0jk} &= \beta_{00k} + \beta_{01k}\,(CLASSROOM\ OPENNESS_{0jk}) + r_{ijk} \\
\pi_{1jk} &= \beta_{10k} + \beta_{11k}\,(CLASSROOM\ OPENNESS_{1jk}) + r_{1jk,} \quad (6)
\end{aligned}
$$

Substituting Equation (6) into Equation (4) produces the final model estimated in the analysis. Thus, it can be seen that the regression of the level-2 slope (π_{1jk}) on the SES variable (SES_{ijk}) results in a cross-level interaction with the classroom openness variable (*CLASSROOM OPENNESS*$_{1jk}$).

RESULTS

Cross-National Analysis

Table 4 presents results for students' civic knowledge scores and perceptions of classroom openness in each country. The first three columns display the scaled civic knowledge scores for each country and the weighted civic knowledge scores for each region. It is evident that countries in the Scandinavia ($n=13{,}688$, $M=553$) and the English-speaking ($n=10{,}019$, $M=523$) regions have the highest civic knowledge scores, which are also regions with the highest average Human Development Index (HDI) scores (ranging between 0.88 and 0.91). The regions with the lowest performance on the civic knowledge assessment include the Latin America ($n=25{,}947$, $M=446$), Balkan ($n=7{,}299$, $M=489$), and Southern Europe ($n=11{,}557$, $M=488$) regions. These regions tend to include countries with lower HDI scores (ranging between 0.57 and 0.87).

The column entitled "Classroom Openness Coefficient" displays estimates of the classroom openness variable from the two-level HLM analyses for each country. Overall, it appears that 25 out of the 38 countries (65%) sampled have positive and statistically significant coefficients for the classroom openness variable. In ten out of the eleven countries located in the Latin America, Southern Europe, and Balkan regions, the coefficients for the classroom openness variable ($\beta = 0.12 – 0.22$) is statistically significant, despite the fact that these regions are characterized by low civic knowledge and HDI scores. These findings suggest that students' perceptions of classroom openness may be particularly important for those enrolled in schools located in regions with lower socioeconomic conditions.

Full Sample Analysis

Table 5 presents results of the four multilevel models used in the three-level HLM analyses for all the sampled countries in the dataset. The unconditional model (Model 1) indicates the intraclass correlation coefficient (ICC), which measures the proportion of total variance in the dependent variable explained by between-classroom differences. ICC was reported to be 24.05%. Chi-square tests were performed to examine the significance of between-classroom variances in the unconditional model. The between-classroom variability is statistically

TABLE 4
Cross-National Comparison of Two-Level HLM Estimates Evaluating the Relationship Between Students' Perceptions of
Classroom Openness and Civic Knowledge Scores

| | Civic Knowledge | | | Results From 2 Level HLM Analysis | | | Explained Variance | |
Countries	n	M	SD	n	Classroom Openness Coefficient	SE	Between-Classroom Variance	Within-Classroom
Scandinavia								
Denmark	4,167	576	(3.6)	3,871	0.04**	(0.02)	5.6%	94.4%
Finland	3,237	576	(2.4)	3,169	0.00	(0.03)	4.3%	95.7%
Norway	2,927	515	(3.4)	2,570	0.03	(0.03)	3.7%	96.3%
Sweden	3,357	537	(3.1)	3,183	0.07***	(0.03)	4.5%	95.5%
Region total	13,688	553	(3.3)	12,793	0.01	(0.01)	4.3%	95.3%
English-speaking								
England	2,865	519	(4.4)	2,634	0.21***	(0.03)	10.7%	89.3%
Ireland	3,297	534	(4.6)	2,867	0.13***	(0.05)	18.7%	81.3%
New Zealand	3,857	517	(5.0)	3,642	0.23***	(0.04)	27.7%	72.3%
Region total	10,019	523	(4.8)	9,143	0.19***	(0.02)	18.0%	82.0%
Eastern Central Europe								
Czech Republic	4,530	510	(2.4)	4,370	0.00	(0.05)	14.8%	85.2%
Poland	3,173	536	(4.7)	3,101	0.20***	(0.04)	10.7%	89.3%
Slovak Republic	2,922	529	(4.5)	2,876	0.03	(0.06)	11.4%	88.6%
Slovenia	3,021	516	(2.7)	2,899	0.07***	(0.02)	6.9%	93.1%
Region total	13,646	521	(4.0)	13,246	0.09***	(0.02)	9.9%	90.1%
Asia								
Hong Kong	2,633	554	(5.7)	2,508	0.30***	(0.07)	25.5%	74.5%
Indonesia	4,797	433	(3.4)	4,383	0.10***	(0.05)	26.9%	73.1%
Korea	5,224	565	(1.9)	5,127	−0.01	(0.01)	1.3%	98.7%
Taiwan	5,135	559	(2.4)	5,048	0.04	(0.03)	6.6%	93.4%
Thailand	5,161	452	(3.7)	5,018	0.39***	(0.05)	23.5%	76.5%
Region total	22,950	509	(3.4)	22,084	0.15***	(0.01)	14.2%	85.8%
Baltic								
Estonia	2,576	525	(4.5)	2,518	0.22***	(0.06)	11.2%	88.8%
Latvia	2,618	482	(4.0)	2,543	0.01	(0.06)	14.6%	85.4%
Lithuania	3,811	505	(2.8)	3,690	0.06	(0.04)	14.5%	85.5%
Region total	9,005	504	(3.8)	8,751	0.08***		10.5%	89.5%
Western Central Europe								
Austria	3,293	503	(4.0)	3,011	0.06	(0.05)	17.9%	82.1%
Belgium	2,913	514	(4.7)	2,769	0.12***	(0.04)	26.4%	73.6%
Netherlands	1,844	494	(7.6)	1,743	0.29***	(0.11)	48.4%	51.6%
Liechenstein	334	531	(3.3)	310	−0.19	(0.18)	35.2%	64.8%
Luxembourg	4,565	473	(2.2)	4,163	0.09***	(0.03)	35.6%	64.4%
Spain	3,174	505	(4.1)	3,110	0.02	(0.05)	14.1%	85.9%
Switzerland	2,816	531	(3.8)	2,629	0.05	(0.04)	18.8%	81.2%
Region total	18,939	502	(4.2)	17,735	0.08***	(0.17)	19.6%	80.4%
Balkans and Russia								
Bulgaria	3,111	466	(5.0)	2,794	0.11	(0.08)	34.1%	65.9%
Russia Federation	4,188	506	(3.8)	4,037	0.13***	(0.05)	22.1%	77.9%
Region total	7,299	489	(3.8)	6,831	0.05***	(0.04)	23.9%	76.1%
Southern Europe								
Cyprus	3,017	453	(2.4)	2,590	0.09***	(0.03)	4.5%	95.5%
Greece	3,101	476	(4.4)	2,892	0.12**	(0.05)	15.3%	84.7%
Italy	3,328	531	(3.3)	3,242	0.08***	(0.03)	11.5%	88.5%
Malta	2,111	490	(4.5)	1,933	0.18***	(0.06)	31.8%	68.2%
Region total	11,557	488	(3.9)	10,657	0.13***	(0.02)	10.8%	89.2%
Latin American								
Chile	4,997	483	(3.5)	4,762	0.22***	(0.05)	18.1%	81.9%
Colombia	5,497	462	(2.9)	4,783	0.20***	(0.04)	13.4%	86.6%
Dominican Republic	3,430	380	(2.4)	2,435	0.18***	(0.05)	9.9%	90.1%
Guatemala	2,782	435	(3.8)	2,519	0.22***	(0.07)	17.0%	83.0%
Mexico	6,349	452	(2.8)	6,042	0.06	(0.04)	15.0%	85.0%
Paraguay	2,892	424	(3.4)	2,242	0.12***	(0.07)	12.1%	87.9%
Region total	25,947	446	(3.1)	22,783	0.14***	(0.02)	10.8%	89.2%
Total	133,050	499	(3.8)	124,023	0.08***	(0.00)	8.6%	91.4%

Note. Classroom climate estimates taken from HLM regression analyses of civic knowledge, after controlling for all student-level covariates; Standard errors in parentheses; Correlation estimates based on regression analyses between classroom climate variable and civic knowledge.
*p < 0.05; **p < 0.01; ***p < 0.001.

TABLE 5
Results From Three-Level HLM Estimates Evaluating the Relationship Between Various Individual-Level Characteristics
and Students' Civic Knowledge Scores in the Full 38 Countries Sample

Measures	(1) Unconditional Model	(2) Level 1 Covariates	(3) Level 2 Covariate	(4) Covariates With Interaction Term
Individual-Level (Level 1)				
SES		0.158***	0.158***	0.196***
		(0.00)	(0.00)	(0.04)
Non-native speaker		−0.223***	−0.225***	−0.222***
		(0.01)	(0.01)	(0.01)
Female		0.142***	0.141***	0.141***
		(0.00)	(0.00)	(0.00)
Expected education[a]		0.195***	0.195***	0.193***
		(0.00)	(0.00)	(0.00)
Newspaper reading[a]		0.011***	0.011***	0.011***
		(0.00)	(0.00)	(0.00)
Television viewing[a]		0.073***	0.073***	0.073***
		(0.00)	(0.00)	(0.00)
Political discussion[a]		0.019***	0.018***	0.018***
		(0.00)	(0.00)	(0.00)
Individual perception of classroom openness[ab]		0.103***	0.135***	0.129***
		(0.00)	(0.00)	(0.00)
Classroom-Level (Level 2)				
Classroom openness[ab]			0.102***	0.079***
			(0.01)	(0.01)
Interaction				
Classroom openness* SES				0.000 (0.00)
Constant	−0.048***	−0.069***	−0.068***	−0.082***
	(0.01)	(0.02)	(0.02)	(0.02)
Between-student variance	75.85%	82.58%	82.95%	84.00%
Between-classroom variance	24.05%	16.41%	15.63%	14.70%
Between-country variance	0.10%	1.01%	1.42%	1.30%
AIC	352,943.3	325,677.3	325,449.0	325,070.7
No. of Students	132,737	128,811	128,811	128,811
No. of Classrooms[c]	6,021	6,021	6,021	6,021

Note. Results from Hierarchical Linear Modeling; Standard errors in parentheses; Each classroom has a minimum of 10 students; AIC refers to Akaike Information Criterion.
[a]Variables standardized ($M=0$, $SD=1.0$).
[b]Classroom discussion is a scale, reflecting the extent to which students consider they are free to express opinions in class and to discuss civic-related issues.
*$p<0.05$; **$p<0.01$; ***$p<0.001$.

significant (χ^2 (6,008)$=23,908.78$, $p<0.001$) and provides justification for examining students' perceptions of classroom openness at the classroom level (Griffith, 2002).

Model 2 includes individual-level (level 1) predictors and indicates that students' individual characteristics (e.g., gender, nonnative status, and expected education) are strongly associated with their civic knowledge scores. The coefficient for students' individual perceptions of classroom discussion is statistically significant ($\beta=0.103$, $p<0.001$). It is interesting to note that the coefficient for the non-native status is substantially larger than all other individual-level variables ($\beta=-0.223$, $p<0.001$). It is also apparent that all aspects of students' access to alternative sources of political information (i.e., discussions at home, television viewing, and reading the newspapers) are also significantly related to their civic knowledge scores.

Model 3 is essentially identical to the previous model except that this model includes the independent variable of interest—students' perceptions of classroom openness at the classroom level. Results provide support for the central research question that students' perceptions of classroom openness are strongly related to their civic knowledge scores ($\beta=0.102$, $p<0.001$). Although students' perceptions of classroom openness is found to be a significant predictor, students' nonnative status and expected education still remains as the strongest predictors of their civic knowledge.

The secondary research question is examined in Model 4 and tests cross-level interactions between students' perceptions of classroom openness and their socioeconomic backgrounds. The non-significance in the coefficient for the interaction term does not provide support for the secondary research question. Thus, it is evident that the

relationship strength between students' perceptions of classroom openness and civic knowledge does not vary across students from high and low income backgrounds.

DISCUSSION

The current study had two goals through this cross-national analysis of students' knowledge about politics: (1) assess the relationship between students' perceptions of classroom openness and their civic knowledge scores, and (2) test if the relationship strength between students' perceptions of classroom openness and civic knowledge scores varies for students from different socioeconomic backgrounds. The results provide support for the central hypothesis that students' perceptions of classroom openness to discuss social issues in civics classes are significantly related to their civic knowledge scores. It is important to note that this finding was evident in nearly two-thirds of the countries sampled in this study. Moreover, the relationship between students' perceptions of classroom openness and civic knowledge appears to be stronger for students enrolled in schools located in regions characterized by poor socioeconomic conditions, such as Latin America and the Balkans.

Various studies report that the relationship between classroom openness and civic knowledge is particularly important for students enrolled in schools located in Israel, Taiwan, Norway, the United States, and Italy (Alvernini & Manganelli, 2011; Campbell, 2008; Fjeldstad & Mikkelsen, 2003; Ichilov, 2007; Yang & Chung, 2009). More specifically, past studies highlight students' perceptions of openness in classroom as an important predictor of their civic knowledge scores (Campbell, 2008; Torney-Purta, 2002). The present study extends these findings as being true across a larger sample of countries located in Latin America, the Balkans, Eastern Europe, and Western Central Europe.

Findings from this study also provide support for the cognitive mediation model, which aids in explaining why students' perceived levels of classroom discussion matters (Eveland, 2004; Eveland & Thomson, 2006; Kwak et al., 2005; McLeod & Becker, 1974). Classroom discussions can provide students with opportunities for self-generated and conversation-partner forms of elaboration that help them process complex information about politics (Eveland, 2004; Gastil & Dillard, 1999). In other words, it is evident that students may learn more effectively when they participate in civics courses that combine opportunities for elaboration and anticipating future discussions about political issues.

Another reason why discussion can be engaging to students is the *controversial* nature of political topics. Hess (2002) defines controversial issues as issues that provoke significant disagreement, such as gun control laws or stem cell research. Classroom discussions of socially relevant issues have the potential to help students develop critical thinking skills because these issues require understanding multiple sides of the argument. A number of civics curriculums—*Student Voices* (Feldman, Pasek, Romer, & Jamieson, 2007), *Kids Vote* (McDevitt & Chaffee, 2002), and *City Works* (Kahne, Chi, & Middaugh, 2006)—have classroom discussions as a built-in feature, which can help students develop increased awareness about social issues.

This study also reports that the relationship strength between students' perceptions of classroom openness and their civic knowledge scores does not vary for students from lower or higher SES backgrounds. These findings are consistent with Campbell (2008)'s research, in which the author did not find support for either the compensation and acceleration hypothesis in an analysis of American students' civic knowledge scores. One reason explaining the lack of support for the compensation hypothesis is that students from low-income backgrounds are limited in economic and social resources, which play an important role in their ability to access and learn civics content. The 1998 National Assessment of Educational Progress (NAEP) assessed civic knowledge in a representative sample of 20,000 American students (National Center for Educational Statistics, 1999). One major finding was that children from low-income backgrounds scored a full standard deviation lower on the civic knowledge assessment in comparison with those from more privileged backgrounds. Students from low SES backgrounds tend to have poor reading skills, which may explain their low performance on civic knowledge assessments (Hart & Atkins, 2002; National Center for Educational Statistics, 2001).

Several studies find that academic and literacy skills play an important role in students' comprehension of civics content (Kingston, Hubbard, Lapp, Schroeder, & Wilson, 2003; Paquette & Kaufman, 2008; Torney-Purta, 2002). Students who have poor comprehension of civics content are not likely to be proactive or assertive during classroom discussions (Drew & Reeves, 1980). These findings suggest that students from low-income backgrounds may be more inclined to participate in classroom discussions of political issues when these activities are combined with explicit literacy instruction.

Limitations and Future Directions

Although this study has several important strengths that include conducting multilevel analyses of a cross-national dataset and a classroom openness measure based on multiple respondents in the same classroom, there are a few limitations to address. Although this study includes a large sample of countries, the scope of this study is limited to examining countries located in highly developed regions. It is important to note that many cultures and regions (e.g., Africa, North America and Central America) were not represented. The use of three-level

models in future research should consider including country-level variables that can potentially strengthen comparisons across countries (Schulz et al., 2010).

This study is also limited in its reliance on students' self-reports to measure the level of openness in classroom discussions. Although this study attempted to work around this problem by using an aggregate measure of classroom openness, students' self-reports can still leave open the possibility that more civically engaged students are inclined to report higher levels of classroom discussion (Campbell, 2008). Discussion quality can be assessed based on a number of measures including the proportion of students participating, length of discussion, and the substantive level of students' contributions during discussions (Hiebert & Wearne, 1993; Michaels, O'Connor, & Resnick, 2008). Future studies on classroom discussions of political issues are likely to be strengthened by relying on classroom evaluations from teachers and outside observers.

This study also does not include students' literacy skills, which may be highly correlated with their civic knowledge scores (Torney-Purta, 2002). Students' cognitive and reading skills may be strongly related to their comprehension of civics content (Kingston et al., 2003; Paquette & Kaufman, 2008; Torney-Purta, 2002). Although it is notable that students' perceptions of classroom discussion were found to be an important predictor of their civic knowledge, it is possible that poor verbal skills may nullify any potential benefits that stem from participating in classroom discussions.

Finally, this study could have been aided by including classroom factors related to teachers' experience (e.g., training and beliefs) and discussion dynamic (e.g., frequency and types of topics). Teachers' training and citizenship beliefs can make a difference in how they coordinate discussions of political issues. Experienced civic education teachers tend to devote more time to discussions in comparison with beginning teachers (Homana, Barber, & Torney-Purta, 2006). Additionally, it is important to consider the frequency and the topics used for discussions. One study found that Latino adolescents improved in their civic knowledge scores when the classroom allowed for more time in discussing political issues (Torney-Purta et al., 2007). In another study, El Karfa (2007) found that certain topics may be more appealing to adolescents. For example, specific topics based on universal principles (e.g., human rights, gender, and racial discrimination) tend to engage adolescents in more general higher-order thinking skills because these topics contain ways of thinking that can be applied to other topics.

CONCLUSION

The purpose of this study was to understand whether students' perceptions of classroom openness are predictive of their civic knowledge scores. Evidence from the study supports the central research question that students' perceptions of classroom openness are strongly related to their civic knowledge. This relationship was evident across nearly two-thirds of the countries sampled. These findings stress the importance of civics courses that support student-oriented discussions of political topics.

Civic education policies that promote discussions of controversial issues may be an unconventional, even radical approach for certain school systems to consider. Certainly, there is the fear about diminishing the traditionally authoritative role of teachers when students have more autonomy to participate in discussions. Introducing controversial issues in the classrooms can put teachers and school administrators at risk of being charged with indoctrination or promotion of a particular ideology. However, the controversial nature of political discussion should not be considered an adverse product of democracy, but rather one of its primary and vital elements (Hess, 2009). Opening civic education classrooms with more frequent discussions of political issues can provide opportunities for students to develop active understandings about their civic responsibilities.

ACKNOWLEDGMENTS

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APPENDIX
Example Questions From the Civic Knowledge Assessment Based on the Following Cognitive Domains:
(1) Reasoning and Analyzing and (2) Knowing

Questions	Answers	Content Domain	Content Sub Domain	Content Aspect
Cognitive domain: Reasoning and analyzing Which of the following records would a government most likely want to keep secret?	a. statistics showing the amount of money spent on hospitals	Civic society and systems	State institutions	Governments
	b. plans about how to defend the country from attack			
	c. the number of people allowed to immigrate into the country			
	d. the names of ambassadors from other countries			
Cognitive domain: Knowing Which of these statements best describes the role of citizens in democratic countries? The citizen…	a. can vote on the national budget	Civic society and systems	Citizens	N/A
	b. can vote for representatives who then vote for laws			
	c. must always vote for the same political party			
	d. must obey leaders without question			

Note. Adapted from "ICCS 2009 User Guide for the International Database Supplement 5" by F. Brese, M. Jung, P. Mirachiyski, W. Schulz, and O. Zuehlke. Copyright 2010 by the International Association for the Evaluation of Educational Achievement.