Measuring Civic Competence in Europe

A composite Indicator based on IEA Civic Education Study 1999 for 14 years old in School

Bryony Hoskins, Ernesto Villalba, Daniel Van Nijlen
and Carolyn Barber

The Institute for the Protection and Security of the Citizen provides research-based, systems-oriented support to EU policies so as to protect the citizen against economic and technological risk. The Institute maintains and develops its expertise and networks in information, communication, space and engineering technologies in support of its mission. The strong cross-fertilisation between its nuclear and non-nuclear activities strengthens the expertise it can bring to the benefit of customers in both domains.

***Europe Direct is a service to help you find answers
to your questions about the European Union***

Freephone number (*):

00 800 6 7 8 9 10 11

(*) Certain mobile telephone operators do not allow access to 00 800 numbers or these calls may be billed.

A great deal of additional information on the European Union is available on the Internet.
It can be accessed through the Europa server http://europa.eu/

Printed in Italy

Measuring Civic Competence in Europe
By Bryony Hoskins, Ernesto Villalba, Daniel Van Nijlen, and Carolyn Barber

Table of contents

List of tables

List of figures

Country acronyms (as used by the IEA)

CYP	Cyprus	DNK	Denmark
GRC	Greece	FIN	Finland
USA	United States of America	ENG	England
POL	Poland	LTU	Lithuania
COL	Colombia	SVN	Slovenia
SVK	Slovakia	HUN	Hungary
PRT	Portugal	DEU	Germany
NOR	Norway	CHE	Switzerland
ITA	Italy	BGR	Bulgaria
ROM	Romania	RUS	Russia
CHL	Chile	CZE	Czech republic
HKG	Hong Kong	BFR	Belgium (French speaking)
AUS	Australia	LVA	Latvia
SWE	Sweden	EST	Estonia

Abstract

Measuring Civic Competence in Europe is part of a process to establish and monitor the learning outcomes needed to facilitate the development of active citizens in Europe. This report is an exploration of how civic competence can be measured and the results of these measurements across Europe and internationally. It describes what civic competence is in terms of the attitudes, values, knowledge and skills required and how it can be calculated using existing data from international tests. The data and scales used are from the IEA 1999 international Civic Education study of 14-year-olds in school. It clearly highlights the limitations of the data coverage for civic competence and explains which aspects of civic competence are not available and the implication for measuring civic competence. Following this the Civic Competence Composite Indicator is built using a framework comprised of 4 dimensions; **Citizenship values**, **Social justice** (both values and attitudes), **Participatory attitudes** and **Cognitions about democratic institutions**. Statistically the composite indicator was proved to be robust.

The results of the CCCI ranking do not show clear geographical patterns and where patterns do occur these do not follow typical European scoreboard results. There is some tendency for Southern-European countries to be in the upper part of the ranking with Cyprus and Greece doing particularly well in the overall CCCI. For the four dimensions the results across Europe show that in countries with long standing stable democracies, where there are high levels of adult participation, young people's attitudes towards participation and **Citizenship values** are low. The opposite is true for less stable and more recent democracies that can be found in south and east Europe: in these countries young people have greater **Participatory attitudes** and values. North and West Europe fared better in the results for cognition about democratic institutions and the values of **Social justice**. In this case it was Eastern European countries that had low scores. The lack of a history of democratic citizenship education and the experience of Communism are likely to be contributory factors.

1. Introduction

Within European education and social policy, the promotion of active citizenship has been considered to be one tool to enhance democracy and social cohesion. It has been a strand of the social cohesion element of the Lisbon strategy within the Education and Training Work Programme (European Commission 2001). The method used for monitoring progress made towards the Lisbon strategy in the field of education is through the use of indicators. In 2005 the research project on which this paper is based, Active Citizenship in a Learning Context, began in order to develop exploratory research on indicator development in the field of active citizenship.

The first major output from this research project was the development of a measurement of active citizenship in Europe: the Active Citizenship Composite Indicator ACCI (Hoskins et al. 2006) based on 63 indicators from existing data, predominantly European Social Survey data from 2002. Active citizenship was defined as: '*Participation in civil society, community and/or political life, characterised by mutual respect and non-violence and in accordance with human rights and democracy*' (Hoskins, 2006). The composite indicator was comprised of 3 types of participation: participatory activities, including political life, civil society and community activities, and one domain on values built from indicators on Democracy, Human rights, Intercultural understanding. The results of the calculations of this composite indicator gave Northern Europe the highest performances, with Sweden gaining the highest results across the different domains. Western Europe and Finland gained mid table performances. Southern and Eastern European countries gained the lowest scores. This composite indicator was limited by the existing data in terms of breadth of activities. It lacked informal types of participation, which may have affected the scores for Southern Europe, and new forms of participation, including the use of ICT. However, it marked a useful starting point for measuring active citizenship and was used in the 2007 Education and Training Progress Report on the Lisbon Strategy (European Commission 2007).

A question raised from the production of this composite indicator was how did citizenship relate to learning and in particular **what were the learning outcomes required for an individual to become an active citizen?** This paper addresses this question, exploring the learning outcomes – referred to in this paper as civic competence – the knowledge, skills, attitudes and values needed to enable individuals to become an active citizen.

Competences are a combination of different phenomena, including dimensions that include the cognitive dimensions (knowledge and skills) and affective dimensions (attitudes and values). To have a high degree of civic competence one needs to have a high level on all these dimensions and, as such, the system of a composite indicator measuring different items and combining them together provides and an overview of this. It is of course necessary to also examine the levels of each different dimension and to understand in which dimensions countries are performing well and on which dimensions they need to work. It is also recognised that using composite indicators is a tool for monitoring progress and communicating a topic within policy, practice and civil society. It does not replace the in-depth and detailed research to understand and explain this phenomenon.

Civic competence has recently become the focus of European Union education policy where European Union Countries have agreed that this competence is one of the 8 key competences that are stated to be a necessity for economic success in

Europe and greater social inclusion (Education Council 2006). Civic competence was defined as:

Civic competence is based on knowledge of the concepts of democracy, justice, equality, citizenship, and civil rights, including how they are expressed in the Charter of Fundamental Rights of the European Union and international declarations and how they are applied by various institutions at the local, regional, national, European and international levels. It includes knowledge of contemporary events, as well as the main events and trends in national, European and world history. In addition, an awareness of the aims, values and policies of social and political movements should be developed. Knowledge of European integration and of the EU's structures, main objectives and values is also essential, as well as an awareness of diversity and cultural identities in Europe.

Skills for civic competence relate to the ability to engage effectively with others in the public domain, and to display solidarity and interest in solving problems affecting the local and wider community. This involves critical and creative reflection and constructive participation in community or neighbourhood activities as well as decision-making at all levels, from local to national and European level, in particular through voting.

Full respect for human rights including equality as a basis for democracy, appreciation and understanding of differences between value systems of different religious or ethnic groups lay the foundations for a positive attitude. This means displaying both a sense of belonging to one's locality, country, the EU and Europe in general and to the world, and a willingness to participate in democratic decision-making at all levels. It also includes demonstrating a sense of responsibility, as well as showing understanding of and respect for the shared values that are necessary to ensure community cohesion, such as respect for democratic principles. Constructive participation also involves civic activities, support for social diversity and cohesion and sustainable development, and a readiness to respect the values and privacy of others.

The 2007 Council Conclusions on 'A Coherent framework of indicators and benchmarks' (Education Council 2007) identified that civic competence, the individual learning outcomes required for active citizenship, should become one of the 16 indicators used to measure progress on the education and training Lisbon Strategy. This paper addresses the question of how to measure civic competence using the IEA 1999 CivEd data, in light of the fact that the European Commission is funding part of the cost of European Countries to participate in the future IEA survey on this topic (International civic and citizenship education study 2009).

Basing the production of indicators on existing data has some limitations in terms of what can be measured. There is a gap between what we would like to be able to measure and what is available from existing data sources, and the outcome is that it can cause the exact operationalisation of the composite to differ from the intended measurement. This, to some extent, is the case for a civic competence composite indicator in which the selection of indicators is heavily based on the existing

international data in this field, the IEA 1999 survey on civic education (CivEd 1999) that tests 14 years old in school. Thus, the civic competence indicator cannot measure civic competence in the generic sense or pertain to the adult population. It is only representative of students aged 14 in school in the 28 participating countries. The civic competence indicator measures the dimensions of civic competence that were considered of interest to this survey and not all dimensions of civic competence, as will be explained in detail later in this report. In these circumstances, the research in this paper should be considered to be exploratory and only the first step in discussing how to measure, and thereby monitor, civic competence. It should be understood as an initiation of the discussion and debate on the measurement of civic competence.

1.1 Civic competence in the context of active citizenship

In order to understand the reason why we are researching civic competence, it is necessary to comprehend the working model of active citizenship in a learning context that describes the wider project on which this research is based. Overall levels of education have been associated with higher levels of participation (Putnam 2000), but Campbell (2007 p. 26) points out that despite this close association the connection between learning and participation remains a 'black box'. In the overall research project we are trying to identify what are the learning inputs and learning outcomes that are needed to facilitate active citizenship. This relationship is represented in the model below (Figure 1 based on an original model from NFER 2006 for this project). In this model civic competence is understood as the ability required for enabling individuals to become active citizens. Active citizenship has been defined as: '*Participation in civil society, community and/or political life, characterised by mutual respect and non-violence and in accordance with human rights and democracy'* (Hoskins, 2006). The model presents the ideal relationship between learning, civic competence and active citizenship where the learning develops certain civic competences that drive active citizenship. Civic competence is the third column along in this model and this competence is developed from the second column, i.e. the learning input that derives from varied types of learning (formal, non-formal or informal learning environments). The learning inputs refer to the definition of Education and Training for active citizenship from this project, which are the: *Learning opportunities (formal, non-formal and informal) that occurs at any stage of the life cycles that facilitate or encourage active citizenship (Hoskins 2006b).* In an ideal world, as the model suggests, it could be expected that civic competences (column 3) would lead to an individual becoming an active citizen (column 4). However, this requires further research to understand this relationship. If there is no correlation between civic competence and active citizenship, then the first step would be to re-evaluate if we have actually measured civic competence and active citizenship. The second step would be to look again at the model. If then we believe that our measurements and model are correct, we will need to explore the barriers that prevent young people who have the capacity for active citizens from participating. The focus for this paper, however, is to take the initial step of defining and measuring civic competence, and exploring how this can be achieved using existing data, and also to analyse these initial results.
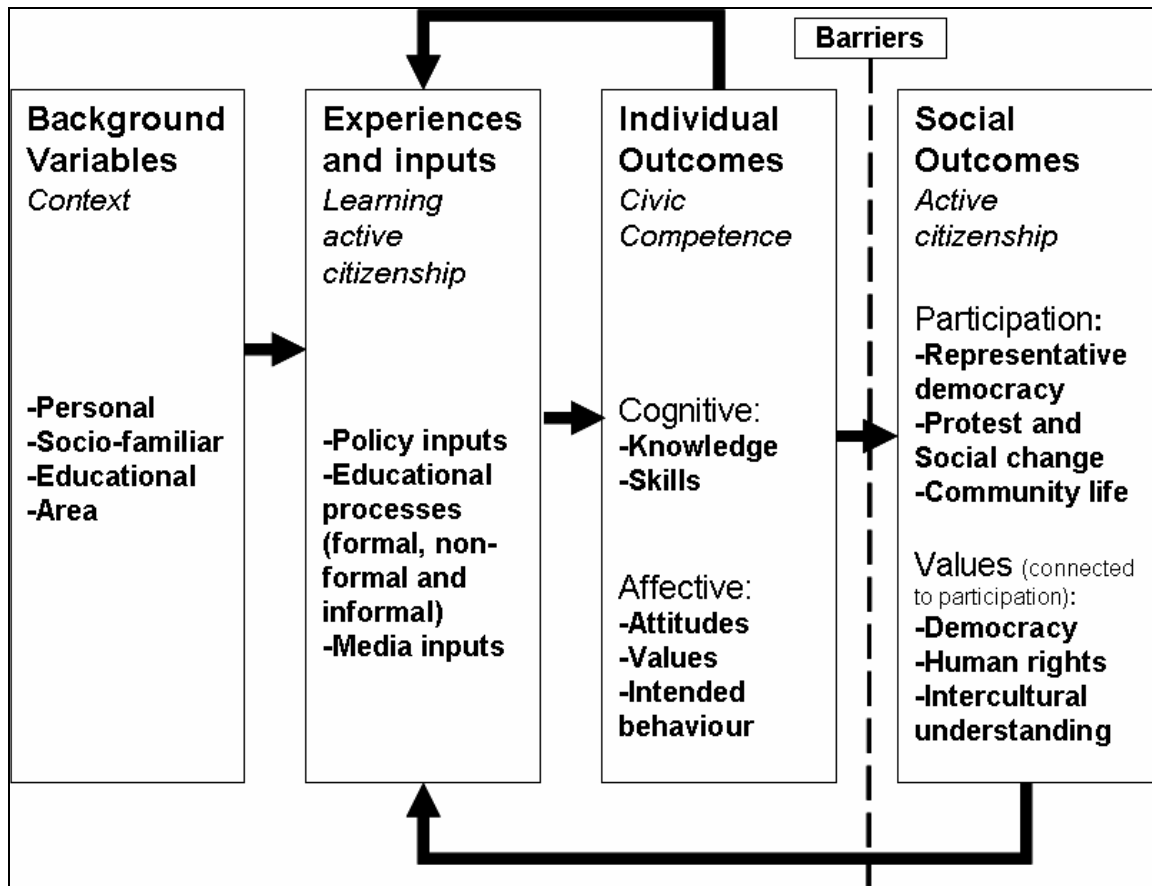
Figure 1: Working model of active citizenship

1.2 Guide to the report

The report is divided into seven sections. Chapter 2 defines civic competence, beginning with defining a competence and then defining civic competence. This is done building on the various currently available lists of knowledge, skills, attitudes and values used to measure civic competence. Chapter 3 describes the data we will use to measure civic competence, which in this paper is the IEA CivEd 1999 data set, and how the data covers the different dimensions of civic competence. This chapter finalises the proposal of a tentative framework to measure civic competence. Chapter 4 describes the development of the framework and how the scales included in the civic competence framework were created. Chapter 5 explains the methodology used to create the composite indicator, indicating the standardisation as well as the weighting procedure. The results of the composite indicator for civic competence and the four domains are presented in Chapter 6, together with an analysis of the statistical significance and effect size. Chapter 7 draws the conclusions of this research.

2. Defining civic competence

In order to build a framework on civic competence the first step was to define what exactly we mean by civic competence. In this process we began by establishing what a competence is and then exploring the dimensions of civic competence.

2.1 What is a competence?

The concept of competence has come to the attention in the context of European education policy due to a fundamental change in the way which education and knowledge is understood in the context of globalisation and a rapidly changing work environment. Recent schooling policies in general are less orientated towards input and the process of knowledge transfer from one generation to the next. Instead they are tending to focus more on output and individual competences that enable the person to be an active, autonomous and motivated learner within a lifelong learning context (Tiana 2004). Therefore, the learning of competences has refocused attention on the whole individual, including their attitudes, values and skills as well as knowledge. Measuring competences as opposed to subject domain or curriculum based knowledge has challenged the international education policy in the last ten years with international test focusing towards testing real world tasks, e.g. IALS 1995, ALL on literacy and life skills and PISA on learning outcomes (Tiana 2004). Although the IEA CivEd study on civic education was not developed with the intention of measuring competences, Tiana (2004) stated that it made significant developments in doing so by measuring civic skills, attitudes and knowledge which means that the IEA CivEd data provides a data source for building such measurements. However, as Tiana acknowledges, measuring civic competence is actually much more difficult than literacy, mathematics or science competences.

The IEA Civic Education Study started in 1994, and over a period of approximately 3 years devoted itself to developing a matrix for the guidance of instrument development. This matrix included three rows corresponding to content issues (First, Democracy and Citizenship, Second, National Identity and International Relations, and Third, Social Cohesion and Diversity). Of importance in relation to the current effort, there were five items types (which appeared as columns). Type 1 items assessed knowledge of content. Type 2 items assessed skills in interpreting material with civic or political content (including short text passages and cartoons). Type 3 items assessed the understanding of concepts such as democracy and citizenship. Type 4 items assessed student's attitudes; and Type 5 items assessed students' current and expected participation. Type 1 and 2 items were sometimes called "the test" because they had right and wrong answers. Type 3, 4, and 5 items were sometimes called "the survey" because they had no such correct keyed answers. This conceptual framework, and the instrument development that corresponded to it, is covered in detail in Chapter 2 of the major publication on the IEA Civic Education Study, Citizenship and Education in Twenty-eight Countries: Civic Knowledge and Engagement at Age Fourteen (Torney-Purta, Lehmann, Oswald, & Schulz, 2001). This report (and many other publications, including the IEA Technical Report and a report from the follow-up instrument development called CEDARS) are available at http://www.wam.umd.edu/~iea. National Research coordinators for the project had considerable input into the choice of items to be included in the final instrument, which took one class hour for the test and background information and a second class hour for the survey.

Further discussion of measuring civic competence will be given in the following section of this report, and in this section we will focus on establishing the specific dimensions of a competence.

There are multiple and diverse definitions and use of the term competence both in theory and in everyday use (Weinert 1999). In this report we refer to competence as a holistic understanding of performance, for example, achievements at work, at home or in civil society are not based simply on knowledge or skills but work in combination with values, attitudes and motivation. All the dimensions of a competence can be learned and this learning can take place within the full spectrum of learning opportunities (informal, non-formal and formal learning). However, establishing the exact components of a competence is not easy and although considerable work has taken place on the different concepts of values, skills and attitudes these definitions are not agreed and are often used in overlapping ways (Weinert 1999). In this section of the report we use existing definitions to give more precise details of a competence and the components of knowledge, skill, attitudes, values and motivation that relate to civic competence. However, these definitions are used in the context of developing this indicator and are not necessarily the definitive answers to defining these concepts: further research will be needed to clarify the distinctions between these concepts.

Projects sponsored by the OECD have been instrumental in the understanding of competences. Within the context of the OECD DeSeCo project, a competence was defined by Rychen and Salganik (2003 p. 43) 'as the ability to successfully meet complex demands in a particular context through the mobilisation of psychosocial prerequisites (including cognitive and non-cognitive aspects)'. The first aspect that we wish to use from this definition is the concept that a competence is a combination of the two dimensions of internal processes, which are cognitive and non-cognitive, or what is also referred to as affective. Rychen and Salganik (2003 p. 43) continued by explaining competences as the 'internal mental structures in the sense of abilities, dispositions or resources embedded in the individual' in interaction with a 'specific real world task or demand'. From this explanation we would like to take the differentiation between internal structures and real world demands. Civic competence we define as closer to what Salganik and Stephens refer to as the 'internal structures' in terms of the individuals' abilities, whilst our understanding of active citizenship is closer to what they have referred to as the 'real world' demand, or in this case actual participation. Later Rychen and Salganik (2003 p. 44) describe these internal structures of a competence as the dimensions of 'Knowledge, Cognitive skills, Practical skills, Attitudes, Emotions, Values and ethics and Motivation'.

In order to establish what aspects of a competence can be measured for civic competence, we have explored the dimensions of a competence and then indicated their relevance to civic competence and also the likelihood of data availability (Table 1). The dimensions which are relevant to civic competence, but that are unlikely to have international data, are the dimensions of emotions and practical skills. This provides a short coming to the possibility of measuring all aspects of civic competence, for example, practical skills that are required for persons to perform citizenship tasks well are unlikely to be included, as well as some emotions that can provide a motivation to participate. Later in the report we will examine to what extent this short coming is overcome in the data which is available. The remaining dimensions from this comparison show that the dimensions of knowledge, cognitive skills, attitudes and motivations are both relevant and possible to be studied from existing data on civic competence. These aspects of a competence are frequently

divided into two dimensions: cognitive and affective or non-cognitive (as mentioned above). The cognitive dimension consists of knowledge and skills. Skills are defined taking into account the distinction between competence and skills put forward by Rychen (2004 p. 21-22),

> Let us emphasise that the terms competence and skill were not used as synonyms. Skill was used to designate an ability to perform complex motor and/or cognitive acts with ease and precision and an adaptability to changing conditions, while the term competence signated a complex action system encompassing cognitive skills, attitudes and other non-cognitive components. In this sense, the term competence represented a holistic concept.

The affective dimension contains values, attitudes and motivation. Values are defined as, 'An enduring belief that a specific mode of conduct or end state of existence is personally and socially preferable to alternative modes of conduct and end states' (Rokeach 1969 p. 160) or, put in a different way, 'global beliefs (about desirable behaviour) that underlie attitudinal processes. In particular, they serve as the basis for making choices' (Conner and Becker 1994 p.68). Ashkanasy, Wilerom and Peterson (2004 pp. 38-39) add that the distinction between attitudes and values is,

> 'conceived as global beliefs, values are neither attitudes nor behaviour. Instead they building blocks of the behaviour of and the choices made by individuals… Attitudes are orientations towards specific objects and situations. Behaviour is the manifestation of a person's fundamental values and corresponding attitudes. …attitudes result from the application of values to concrete objects or situations. As for applicability, values are conceived of as global, transcending all situations, where as attitudes apply to specific objects, persons, institutions and situations.

Table 1: Aspects of a competence that are relevant to building a framework for measuring civic competence

Aspects of a competence	Relevance and data availability
Knowledge,	Relevant for civic competence
Cognitive skills	Relevant for civic competence
Practical skills	Relevant but not measurable in international tests
Attitudes	Relevant for civic competence
Emotions	Relevant but not measurable from existing international tests
Values and ethics	Relevant for civic competence
Motivation	Relevant for Civic competence. However, in this civic education literature is called dispositions or behavioural intentions.

One way to understand and measure motivation is through intended behaviour. Political scientists, such as Westholm, Montero and Van Deth (2007 p5-6), have

claimed that actual 'individual behaviour is determined by behavioural intentions, which, in turn, are shaped by values and political orientations'. Thus we shall explore 'behavioural intentions' as an indication of what people are motivated to do. This motivation has been considered one of the driving forces towards actual participation.

The dimensions of a competence are the basic principles for the first level of our theoretical framework on civic competence (Figure 2). The Figure 2 demonstrates a model for measurement (in the style of a composite indicator), not a model of psychological processes. We recognise that certain values are likely to be correlated to certain types of attitudes and to certain types of intended behaviour but a model for measurement necessitates a simplification of these systems.
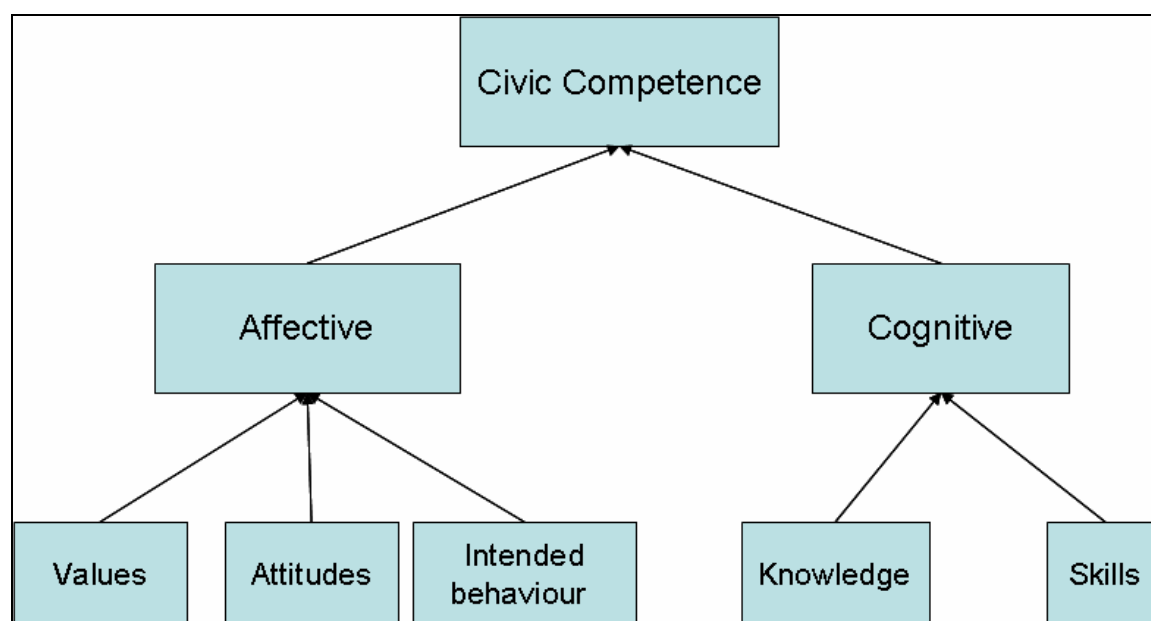
Figure 2: Civic competence framework

Another reason for adopting such a structure is that it is similar to the conceptual framework in which the IEA CivEd data were gathered in 1999, and incorporates some of the innovations proposed for the framework for data collection in the new IEA survey on international citizenship and civic education study (ICCS) to be carried out in 2009. The ICCS framework also measures the cognitive domains including 'knowing and reasoning and analyzing' and the affective-behavioural dimensions of 'value beliefs, attitudes, behavioural intention and behaviours' (International Association for the Evaluation of educational Achievement 2007 p. 9). Thus due to the similarity of the frameworks it would be possible, if the measurement of civic competence is successful in this composite indicator, to repeat the calculations in order to give a comparison over time.

2.2 What is civic competence?

In order to understand what knowledge, skills, values, attitudes and intended behaviour to include within the framework of civic competence it was necessary to establish what exactly civic competence is. The first reference at a European level to the learning and competences required for active citizenship is in the development of education and training 2010 Work Programme related to the learning of active

citizenship (European Commission 1998). This document states that the learning outcomes for facilitating active citizenship:

> *must comprise not only the development of intercultural understanding (the affective level), but also the acquisition of operational competence (the cognitive level) — and both are best gained through practice and experience (the pragmatic level). Learning for active citizenship includes access to the skills and competencies that young people will need for effective economic participation under conditions of technological modernisation, economic globalisation, and, very concretely, transnational European labour markets. At the same time, the social and communicative competencies that are both part of new demands and which flow from changing work and study contexts are themselves of critical importance for living in culturally, ethnically and linguistically plural worlds. These competencies are not simply desirable for some, they are becoming essential for all.*

Thus the competence required for facilitating active citizenship is described in a very broad manner covering both the affective and cognitive dimensions and highlighting the factors that will facilitate a broad dimension of life including multiculturalism and labour market participation. It highlights skills that are needed for the 21st century, such as technological skills and good communication skills.

Civic competence was defined more precisely in the European Council and European Parliament's (2006) Recommendation on Key Competences for Lifelong Learning. It highlights the importance of knowledge of the development of, and institutions that reflect, democracy, justice, equality, citizenship, and civil rights. It draws attention to the skills of communication, problem solving, critical and creative reflection, decision making, responsibility, respect for other values including awareness of diversity and the attitudes and values of solidarity, human rights, equality, and democracy (full text in the introduction).

The Council of Europe (CoE), who has focused in their work on the learning strategies for democratic citizenship -which clearly relates to the development of civic competence and active citizenship- have created a number of classifications of competences which are necessary for the individual outcomes from education for democratic citizenship. The first of CoE lists was produced by Veldhuis (1997), combining political, social cultural and economic dimensions, and then Audigiers (2000) who highlights cognitive competences in the legal system and a number of practical skills relating to participation in political contexts and multicultural communities. The first of these lists, by Veldhuis (1997), is similar to the (1998) European Commission text in the way that it includes the economic dimension and labour market. Veldhuis' (1997) list differs in its reference to cultural heritage and the introduction of the notion of the need for basic skills. The second list, prepared by Audigier (2000), brings in the new dimensions of procedural and legal competence, conflict resolution and the notion of 'capacity for action'. From the research on European education systems, Eurydice has noted that in general across Europe formal citizenship education is orientated to teaching "political literacy, critical thinking, the development of certain attitudes and values and active participation" (Eurydice, 2005).

Various national lists of civic competences have been drawn up in the UK and in the US, which include knowledge of their own national systems. In the UK the

Crick report (1998), which was influential in the setting up of citizenship curriculum in schools in England, highlighted the learning outcomes that were necessary: key concepts, values and dispositions, skills and aptitudes, knowledge and understanding. It provides an extensive list of these attributes and highlights the ability for an individual to change their mind, and courage and commitment towards certain values. In the US the term dispositions is used. For example, the National Center for Learning and Citizenship at the Education Commission of the States highlights the dispositions regarding independence, responsibility and respectfulness towards others, as well as skills that are described as either thinking skills or participatory skills (Torney-Purta and Vermeer Lopez 2006 p.12).

OECD projects in this field have been developing individual indicators of civil and social engagement and analysed correlations with overall levels of education. The focus here has been on education as a whole as the driver for civil and social engagement. This would be the equivalent for us of examining civic competence and active citizenship as a single set of indicators together and then comparing this to levels of formal education. Using this approach, consultants for OECD (INES Network B) have created lists of learning outcomes that include both competences and practices together under the terminology of civic literacy defined as 'knowledge, values, attitudes and practices that individuals acquire over the course of their life to become citizens participating in democratic societies' (Baye & Mainguet 2006). The aspects of a competence mentioned in the lists are knowledge, skills and values such as responsibility, trust in institutions and critical thinking (Baye & Mainguet 2006), and bureaucratic competence, civic skills such as running meetings, giving speeches and writing letters, and cognitive capacity (Campbell 2006).

The OECD, based on the work of Putnam on social capital (2000), has highlighted the role of trust as one of the key factors to drive engagement. Campbell (2006) divided this concept into two types of trust: interpersonal trust and institutional trust. The notion of trust in institutions, as acknowledged within this research, is a difficult indicator due to the problems of arriving at a normative cross-country approach. The complication with using trust as an indicator in Europe is that, as Mascherini et al (2007) found by analysing European Social Survey data, the levels of trust are high for people who participate in northern Europe. However, the opposite is true for most of Southern and Eastern Europe where low levels of trust are present amongst European individuals who engage (Mascherini et al 2007). This could well relate to the length and stability of democracy in south and east Europe. For example, Torney-Purta, Richardson and Barber (2004), using the IEA 1999 CivEd international data, show that the levels of trust reflect the current political climate of that country and that in countries with less stable democracies, such as Bulgaria, Chile and Colombia, levels of trust were lower and the more civic knowledge you have in these countries, the less likely that you were to trust. Both Campbell (2006) and Torney-Purta, Richardson and Barber (2004) discuss that although democracy requires that its leaders are not given too much trust in order to maintain the checks and balances of their power, some level of trust in the system is necessary for cohesion and stable democracy, and this is referred to as a 'threshold of trustworthiness'. However, this optimal level of trust has not been established (Campbell 2006) and it is therefore not obvious how an indicator based on a scale of trust can be implemented in practical terms. For example, is self-reported trust in institutions all of the time, better or worse than claiming never to trust institutions?

Building on all of the lists developed so far, the CRELL Research Network on Active Citizenship for Democracy has proposed the following detailed list of knowledge, skills, attitudes and values as necessary for active citizenship:

- **Knowledge**: human rights and responsibilities, political literacy, historical knowledge, current affairs, diversity, cultural heritage, legal matters and how to influence policy and society;
- **Skills**: conflict resolution, intercultural competence, informed decision-making, creativity, ability to influence society and policy, research capability, advocacy, autonomy/agency, critical reflection, communication, debating skills, active listening, problem solving, coping with ambiguity, working with others, assessing risk;
- **Attitudes**: political interest, political efficacy, autonomy and independence, resilience, cultural appreciation, respect for other cultures, openness to change/difference of opinion, responsibility and openness to involvement as active citizens, influencing society and policy;
- **Values**: human rights, democracy, gender equality, sustainability, peace/non-violence, fairness and equity, valuing involvement as active citizens.
- **Identity**: sense of personal identity, sense of community identity, sense of national identity, sense of global identity.

This list deliberately did not cover trust as the network had highlighted the need for young people to be critical in order to maintain the accountability of governing institutions. The economic sphere was also not included as these competences are reflected in separate key skills of the EC framework of Key Competences.

From all these various lists of civic competence it can be said that this competence requires a very broad range of knowledge, skills, attitudes and values. Some of the lists contain actual participation, whilst other lists recognise behaviour as distinct phenomena. Trust is the most controversial concept to be covered in the lists, with those influenced by political science and social capital literature more likely to opt in for this aspect, and those influenced more by education literature preferring to emphasise a lack of trust in institutions to keep institutions accountable. Further distinctions between the lists were largely based on whether to take into account the economic sphere and basic skills like reading and writing. The remaining differences predominantly result from adding greater precision and detail to the different aspects of the competences. Overall the lists of civic competence are marked by their similarity and continuity rather than differences.

Veldhuis and Abs (2006), in the context of this project, have refined the network list described above and given a longer definition of the elements. As a consequence, their list has become the reference framework for our model of civic competence (Annex 1). The list below is the final list that we have developed to meet our definition of civic competence. It is based on the refined list of Veldhuis and Abs (2006) but with our own refinements which are specified in Annex 1. This provided us with a good basis to start exploring the existing datasets.

Knowledge:

- Key elements of the political and legal system (human rights, social rights and duties, Parliamentary government, the importance of voting) (local, national, European level)
- Basic institutions of democracy, political parties, election programmes and the proceedings of elections
- The role of the media in personal and social life
- Social relations in society
- The history and cultural heritage of own country; of predominance of certain norms and values
- Different cultures in the school and in the country
- Main events, trends and change agents of national, European and world history
- The function and work of voluntary groups
- Knowledge on current political issues

Skills:

- To be able to evaluate a position or decision, take a position and defend a position
- To distinguish a statement of fact from an opinion
- To resolve conflicts in a peaceful way
- To interpret the media messages (interests and value systems that are involved etc.) (critical analysis of the media)
- To be capable to critically examine information
- To possess communication skills (to be able to present in verbal and/or written manner your ideas)
- To be able to monitor and influence policies and decisions including through voting
- To use the media in an active way (not as consumer but as producer of media content)
- To build coalitions; to co-operate; to interact
- To be able to live and work in a multicultural environment

Attitudes:

- To feel responsible for your decisions and actions in particular in relationship to other citizens
- To feel confident to engage politically
- To trust in and have loyalty towards democratic principles and institutions
- To be open to difference, change of own opinion and compromise

Values:

- Acceptance of the rule of law
- A belief in social justice and the equality and equal treatment of citizens
- Respect for differences including gender and religious differences
- Negative towards prejudice, racism and discrimination
- Respect for human rights (freedom, diversity and equality)
- Respect for the dignity and freedom of every individual
- Tolerance towards difference
- A belief in the importance of democracy

- A belief in the need to preserve the environment

Intended behaviour:
- To be active in the political community
- To be active in the community
- To be active in civil society

The above list of knowledge, skill, attitudes and values is the list that can be used to aid curriculum development on civic competence. It should, however, also be recognised that school is only one of the learning opportunities for civic competence, and that the full spectrum of learning opportunities, e.g. community, family, media use and youth NGOs, can also be used to develop this competence.

3. Data

In this paper, we will explore one data source, the IEA 1999 CivEd survey. The reason for this choice is that it is the only existing international data source collected from representative national samples that tests knowledge, skills and values, attitudes and intended behaviour relating to civic competence. In many respects this decade-long project conducted under the auspices of the International Association for the Evaluation of Educational Achievement (IEA), with its headquarters in Amsterdam, has been instrumental in developing a cross cultural understanding of civic competence and has played an important role in the development of understanding and measuring civic competence (Torney, Oppenheim and& Farnen, 1975 and; Torney-Purta, Lehmann, Oswald and Schulz, 2001). The timing of this paper is in line with the development of the new IEA ICCS survey. Thus one of the purposes of this report is to revisit the 1999 data in order to explore how to measure civic competence at that time with the idea of re-administering parts of this measure in 2009 in order to allow a comparison over time.

The 1999 CivEd survey was administered in 28 countries, 22 of which are European countries[1] and 20 of which are now European Union (EU) countries. The remaining 6 countries in the study were USA, Australia, Hong Kong, the Russian Federation, Chile and Colombia. The aim of this study was to 'understand how young people are prepared to undertake their role as citizens' (Torney-Purta, 2001). It tested students at schools in grade 8 (with an average age above 13.5 years). The content domains of the study's framework were:

1. Democracy/citizenship,
2. National identity/international relations
3. Social cohesion and identity.

"Democracy/ citizenship" referred to the meaning of democracy and the role and practices of its institutions. "National identity/international relations" referred to national identity and loyalty and the implications of this for international relations. "Social cohesion and identity" referred to young people's attitudes towards discrimination and feelings towards their country. Within the three domains horizontal abilities were tested on their knowledge of the content, skills in interpretation, concepts, attitudes and actions. Knowledge and skills items were coded as correct or incorrect responses in the "civic knowledge test" whilst concepts, attitudes and actions were administered using a four point scale (e.g. not important, somewhat unimportant, somewhat important and very important). Other test items included questions that the IEA referred to as either confidence in the classroom participation or classroom climate.

Any measure of civic competence developed has an advantage if it can be measured over time. In this respect the future International Citizenship and Civic Education Study (ICCS) 2009 should also be taken into account. The new study builds on the knowledge and experience from the previous CivEd study but places it in the new context of the political realities faced in today's world with increased globalisation and in light of heightened awareness of global terrorism. A considerable portion of the questions remain the same and can be used for comparative purposes. Another difference of the new survey is a greater focus on young people as active citizens who can already contribute to the life of their school and local community.

---

[1] Belgium (French), Bulgaria, Cyprus, Czech Republic, Denmark, England, Estonia, Finland, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Norway, Poland, Portugal, Romania, Slovak Republic, Slovenia, Sweden, Switzerland

The new framework is based on four content domains: 'civic society and systems', 'civic principles', 'civic participation' and 'civic identities' (International Association for the Evaluation of educational Achievement 2007 p. 9) that are then measured through the cognitive domains of ('knowing and reasoning and analyzing') and affective-behavioural ('value beliefs, attitudes, behavioural intention and behaviours'). Civic society and systems refers to the political structures and relationship between the individual and the state. The CivEd items on knowledge and skills which have been highlighted as likely to be reused are most likely to be contained within this Civic society and systems section. Civic principles refer to the rights and responsibilities and fundamental values on which democratic societies are based. Civic participation refers to engagement in 'decision-making, influencing and community participation' (International Association for the Evaluation of educational Achievement 2007 p. 17). Civic identity is explained as the 'individual civic roles' and their 'connectedness' with family, peers and community (International Association for the Evaluation of educational Achievement 2007 p. 18).

3.1 CivEd developed scales

Due to the fact that scales are more reliable than individual items we have decided to create our model building on previous analysis of IEA CivEd data. In social sciences it is common practice to use scales instead of individual items when constructs, such as attitudes, are measured. In order to be useful, measurements need to be reliable and thus, it is crucial to be able to evaluate the reliability of measurements. Individual items always suffer from a certain measurement error, but when several items tap the same construct, putting them together in a well-constructed scale will result in a more reliable measurement of the construct. This idea can be compared to using a crude balance to measure an object's weight. If it is only measured once (individual item), the result will have large errors, but weighing it several times (several items) and using the average of the different results (scale) will give a more reliable indication of the object's weight. Moreover, for a single item from a paper-and-pencil survey it is impossible to evaluate the reliability of the measurement. If several items are used, the internal consistency of the result can be evaluated using measures of reliability such as Cronbach's Alpha. The IEA found an acceptable reliability of the scales in each country. Finally, the individual items in the questionnaire are to be considered as a sample of the whole population of possible items to measure a construct. **In this way, individual items are merely interchangeable representatives of the underlying construct to be measured and should not be treated as measures in their own right[2].** Thus the initial framework of civic competence (pp. 20 and 21) should be considered as the basis for discussion in relationship to the curriculum.

In the IEA technical report (Schultz and Sibberns, 2004), IEA developed 11 scales within the domain of "concepts, attitudes and actions" and two additional scales ("Knowledge of content" and "Skills in interpretation of material with civic or political content"), that were aggregated into one as the "total civic knowledge". In addition to these 13 (+ 1) scales the technical report identified another seven scales that were not developed. Five of these seven scales were later developed by Husfeldt, Barber, & Torney-Purta (2006) in a paper for the Civic Education Data and Researcher Services (CEDARS) at the University of Maryland under the direction of Judith Torney-Purta. In the same publication they identified and created three new

---

[2] One member of the European Commission expert group had a number of comments about individual items and these are in Annex IX

scales with CIVED data related to expected political participation and internal political efficacy (see table below). In addition, we developed an extra scale referring to attitudes towards Democratic rights (see annex III). The list of identified scales is presented in table 2; items for each dimension are presented in annex II. We used these different scales in order to fulfil the data needs of our framework.

Table 2: Scales developed with IEA CivEd dataset

<div style="border: 1px solid">

Knowledge
    KNOWL – Knowledge of content
Skills
    SKILS – Skills in interpretation of material with civic or political content
Concepts: normative views about democracy …
    DEM$^\Delta$ – Democratic rights
… norms of good citizenship:
    CTCON – Conventional citizenship
    CTSOC – Social-movement-related citizenship
… responsibilities the government should have
    GOVSOC –Economy-related
    GOVEC – Society-related
Attitudes:
Trust towards institutions
    TRUST – Government-related institutions
    MEDIA*[+] - Trust in media
Towards Nation
    PROTC*[+] - Protective of one's nation
    PATRI – Positive attitude towards one nation
Toward women, minorities and anti-democratic groups
    WOMRT – Attitudes toward women's political and economic right
    MINOR*[+] – Attitude toward opportunities for minorities
    ADGR*[+] – Attitude toward political rights for anti-democratic groups
Toward immigration
    IMMIG – Attitudes toward immigrants' rights
    EFFIC[+] – Internal political efficacy
Actions:
School participation
    CONFS - Confidence in value of participation at school
    SCON*[Δ] – Self-confidence in one's own participation
Expected Participatory activity
    POLAT – Political activities
    PROTE*[+]– Protest activities
    VOTE[+] – Expectations associated with voting
    COMM[+] – Expectations of community participation
Teaching styles:
    CCLIM – Open climate for classroom discussion
    LECTR* - Lecturing styles

</div>

*Scales identified but not developed by IEA
[+]Scales identified and developed by CEDARS
[Δ]Scale identified and developed by Authors

We would like to point out that the _initial_ framework of civic competence should be considered as the basis for discussion in relationship to the curriculum. This framework was then compared with the existing data. Scales were used because they were seen to be more reliable than individual items. The scales measure the communality/ underlying principles of the items combined. The reliability of the items in each scale was tested following the IEA guidelines which mean that the scales were reliable in each country (see Schultz and Sibberns, 2004). Therefore, the individual items should not be taken too literately since they represent the common underlying construct rather than the individual question in hand. For example, B10 is equivalent in our model to all the other items contained within the scale on the importance of conventional citizenship (CTCON): B6, B2, B3, B8 and B12.

4. Development of a model for a composite indicator on Civic Competence

The next step was to compare the dimensions of civic competence (see page 17-18) to the data available in the CivEd survey. This will give us an indication of the extent to which CivEd measures civic competence. We base the comparison of the data for our refined model of civic competence on the model developed by Veldhuis and Abs (2006). The different dimensions of civic competence involve aspects that are difficult to cover fully within conventional international surveys (using paper and pencil tests). Moreover, as is normal with large-scale international surveys, the exact details of all the items for knowledge and skills scales are not publicly available, so that they can be reused, and therefore it is not easy to determine if those items are fully covering the dimensions described.

In Table 3 the dimensions of civic competence are compared to the IEA scales mentioned above. If there was no satisfactory congruence between the dimensions and the scales, we explored if there was some correspondence with specific items measured in the survey. The first column indicates the different dimensions of civic competence; the second column refers to our comparative analysis that explores to what extent the different dimensions are covered by the CivEd dataset, and the third column points to the specific parts and/or scales of CivEd-survey that cover the dimension.

The knowledge and skills domains are mainly covered by different aspects of the scales directed to assess "knowledge of the content" (KNOWL) and "skills in interpretation" (SKILS) (measured by IEA through the 'civic knowledge test'). The skills dimension focuses to a large extent on interpreting the media. The affective dimensions are covered by the scales on concepts, attitudes and actions of the student questionnaire.

As can be seen from table 3, most dimensions of civic competence are only partially covered. Aspects related to civic knowledge of one's own country are not covered in the IEA study, for example national history and cultural heritage. However, knowledge of basic institutions of democracy and key elements of the political and legal system are relatively well covered.

The dimension of skills has the least coverage. Skills that require interaction, for example, civic skills, such as "to build coalitions, to cooperate", or "to resolve conflict peacefully", cannot be covered within international surveys because it would require observations to test these skills. The loss of these elements from the civic competence composite indicator is quite significant because of their clear importance to being able to become an active citizen. The skills that refer to "to be able to live and work in a multicultural environment" require other types of methodology and questions to those used in CivEd and highlight further the limitations of what can be measured as civic competence.

Table 3: Dimensions of civic competence and CivEd data availability

Dimensions of Civic Competence	Coverage by CivEd data	Source in IEA CivEd 1999, Category[3]
Knowledge:		
Key elements of the political and legal system (human rights, social rights and duties, Parliamentary government, the importance of voting) (local, national, European, International level)	Satisfactorily covered	I C: Citizenship rights and duties* I B: Institutions and practices in democracy* I A: Democracy and its defining characteristics* IIB: International relations
Basic institutions of democracy, political parties, election programmes and the proceedings of elections	Satisfactorily covered	I B: Institutions and practices in democracy*, and, I A: Democracy and its defining characteristics*
The role of the media in personal and social life	Partially covered	I C: Citizenship rights and duties*, Items 4 and 18
Social relationships between groups in society (e.g. social class)	Partially covered	I C: Citizenship rights and duties* IIIA: Social Cohesion and diversity
The history and cultural heritage of own country; of predominance of certain norms and values	Not Covered	
Different cultures that exist in the local, regional and national context	Not covered	
Main events, trends and change agents of national, European and world history	Not covered	
The function and work of voluntary groups	Partially covered	I C: Citizenship rights and duties*, items 7 and 34
Knowledge of current political issues;	Not covered	
Skills:		
To be able to evaluate a position or decision, take a position and defend a position	Partially covered	I B: Institutions and practices in democracy*, Items 23, 24, 25, 33 (only covering 'evaluate positions')
To distinguish a statement of fact from an opinion	Partially covered	Items 31, 32, 37, 38
To resolve conflicts in a peaceful way;	Not covered	
To interpret media messages (interests and value systems that are involved etc.) (critical analysis of the media)	Partially covered	I C: Citizenship rights and duties, Item 14, 23, 24, 25, 33, 4, 18, 34, 36,
To be capable to critically examine information	Partially covered	I B: Institutions and practices in democracy, items 30, 33, 31
To possess communication skills (to be able to present in verbal and/or written manner your ideas)	Not covered	
To be able to monitor and influence policies and decisions including through voting	Not covered	
To use the media in an active way (not as consumer but as producer of media content)	Not covered	
To build coalitions and to co-operate	Not Covered	
To be able to live and work in a multicultural environment	Poorly covered	IIIA: Social cohesion and Diversity

---

[3] Torney-Purta et al., 2001, Appendix Table A.1, Domain Content Categories and Short Titles for Items in Final Test.

Table 3 (Continued): Dimensions of civic competence and CivEd data availability

Attitudes:		
To feel responsible for your decisions and actions in particular in relationship to other citizens	Partially covered	CONFS
To feel confident to engage politically,	Partially covered	EFFIC, SCON (local context), Partly CONFS
To trust in and have loyalty towards democratic principles and institutions,	Partially covered	TRUST some aspects of political trust are contained. Trust and loyalty to democratic principles are covered by reference in items in section A on Democracy.
To be open to difference, change of own opinion and compromise	Partially covered	WOMRT, MINOR (Partially covering openness to difference)
Values:		
Acceptance of the rule of law	Partially covered	Item in section B on 'Good citizen': B, Item A21 on Democracy
A belief in social justice and the equality and equal treatment of citizens	Partially covered	Items section A on 'Democracy': A8, A9, A19, A22
Respect for differences including gender and religious differences	Partially covered	Items section A on 'Democracy': A9, A19, CTSOC, WOMRT,
Reject prejudice, racism and discrimination	Partially covered	Items section A on 'Democracy': A8, A22, MINOR, IMMIG
Respect for human rights (equality, dignity and freedom)	Partially covered	CTSOC (item B11), DEM, WOMRT, MINOR, IMMIG
Tolerance towards difference	Partially covered	MINOR and WOMRT
A belief in the importance of democracy	Satisfactorily covered	DEM, ADGR, CTCON, CTSOC
A belief in the need to preserve the environment;	Partially covered	Item in section B 'On good citizen': B13; Item in section C on 'Government': C10
Intended behaviour:		
The intention to participate in the political community	Partially covered (rest in ACCI)	POLAT, CTSOC, CTCON, VOTE
The intention to be active in the community	Partially covered	SCON, COMM
The intention to participate in civil society	Partially covered	COMM, PROTE

In the case of attitudes, values and intended behaviour we found 16 scales to be relevant to the dimensions of civic competence. These scales are: CTCON, CTSOC, DEM, TRUST, WOMRT, MINOR, IMMIG, ADGR, CONFS, SCON, POLAT, VOTE, COMM, PROTE, IMMIG and EFFIC. These scales identified partially cover many of the dimensions of the affective component in civic competence. Some dimensions are covered by several scales, as for example "respect for the human rights" is covered by DEM, WOMRT, MINOR and IMMIG. Other dimensions are poorly covered, for example, only one item (item B1 on section on Good citizenship) covers the dimension "acceptance of the rule of law". Also in the case of "strive for justice and equality and equal treatment of citizens" some items were found to be covering aspects of the dimension but no scale covered the whole of it.

Therefore, the operational measurement of civic competence that we attempt with the composite indicator does not contain all the dimensions identified within civic competence. However, it partially covers many of them in all the different sub-

domains of the cognitive and affective components. In terms of "knowledge", our composite indicator covers mainly knowledge of basic concepts of democracy and key elements of the political and legal system. "Skills" is the sub-domain that is covered the least, since many of its dimensions require other types of methodology to be assessed and the skills covered in the tests were more cognitive than behavioural. The missing skills that are of particular importance for having civic competence, such as building coalitions, cooperating, resolving conflict peacefully and communicating will reduce the operationalised measurement of civic competence. The affective component with the sub-domains of values, attitudes and dispositions is covered in most of its dimensions but only partially.

The scale on trust is not a particularly good measure of trust in political institutions. The questions from the survey ask how much of the time can you trust each of the following institutions: the national government, the local council or local government, courts, police, political parties and national parliament (with the possible responses being; never, only some of the time, most of the time, always). According to trust literature that we addressed earlier in this report, trust can be considered a driver of active citizenship. However, sometimes quite the reverse is the case: a lack of trust functions as the driver for participation. As a result of these complexities, it is difficult to decide how this scale could be used within a normative framework of civic competence. Moreover, as was mentioned earlier in the report, it is unclear if it is preferable to trust the political institutions all of the time or never.

4.1 Populating the theoretical model: towards a measurement model

Once the data coverage of civic competence in CivEd had been determined, the theoretical model could be populated. Our theoretical model, presented in figure 2, had two domains: affective and cognitive. Within the affective component we differentiate between the sub-domains "values", "attitudes" and "intended behaviour". The framework presented in section 2 (figure 2) was further developed by populating it with the scales that had been identified; the results is shown in figure 3. As already indicated, the model uses scales because they are statistically more reliable than individual items. It is important to note that, at this stage, populating the model remains a hypothetical exercise. Based on the content of the items and the comparison presented in table 3, we assign the scales to specific nodes of our theoretical structure. For example, we hypothesize that VOTE, SCON, POLAT and COMM are measuring "intended behaviour". In a later stage it will be tested whether those four scales can be empirically assigned to the node "intended behaviour". In other words, are these scales measuring a common construct? The model is an attempt to create an operational measurement of civic competence and constitutes a hypothesis on the measurement of civic competence. It does not intend to describe how civic competence function in practice.

The KNOWL- and SKILS-scale are assigned to the corresponding sub-domains "knowledge" and "skills". The sub-domain on "intended behaviour" was populated by scales referring to different aspects of participation: intended conventional participation (POLAT), intended participation at school (SCON), expected community participation (COMM) and expected voting (VOTE). The sub-domain "attitudes" includes: Civic attitudes in school context (CONFS), Political efficacy (EFFIC) and trust in institutions (TRUST). At this initial state, as an exploratory exercise, TRUST was included in the model despite the theoretical and measurement difficulties associated with the scale (see discussion in section 2.2).

Finally, the sub-domain "Values" was sub-divided into "democracy" and "human rights". "Human rights" encompasses two scales: women's political and economic rights (WOMRT) and opportunities for minorities (MINOR). "Democracy" has three main scales: conventional citizenship (CTCON) and social-movement-related citizenship (CTSOC) that are grouped into "citizenship" and democratic rights (DEM). Three scales that appeared in the comparison between CivEd and the dimensions of civic competence were not used to populate the model for several reasons. Protest activities (PROTE) could not be considered within the overall index of civic competence, since it might identify support for extremist actions, such as spraying graffiti or blocking the roads. In a similar way, "political rights for anti-democratic groups" (ADGR) denotes certain aspects of "democratic attitude"; it accepts that there are other points of view outside democracy that have the right to be expressed. These questions are picking up a distinction between liberal democracy (that highlights freedoms) and communitarian democracy (that highlights tolerance and consideration for others), rather than accepting both forms of democracy as equally valid. Therefore, we decided not to include them in the framework. Finally, positive attitude towards immigrants (IMMG) was not included in the framework because the questions cannot be related to a normative criterion for civic competence; they relate more to political left or right position on immigration and, as such, can be highly sensitive.

This hypothetical measurement model had to be contrasted with the empirical data. This was done by conducting a factor analysis to explore the structure of the data, and then comparing the results with our hypothesis. The following section presents the results of the factor analysis to compare with our hypothetical model.
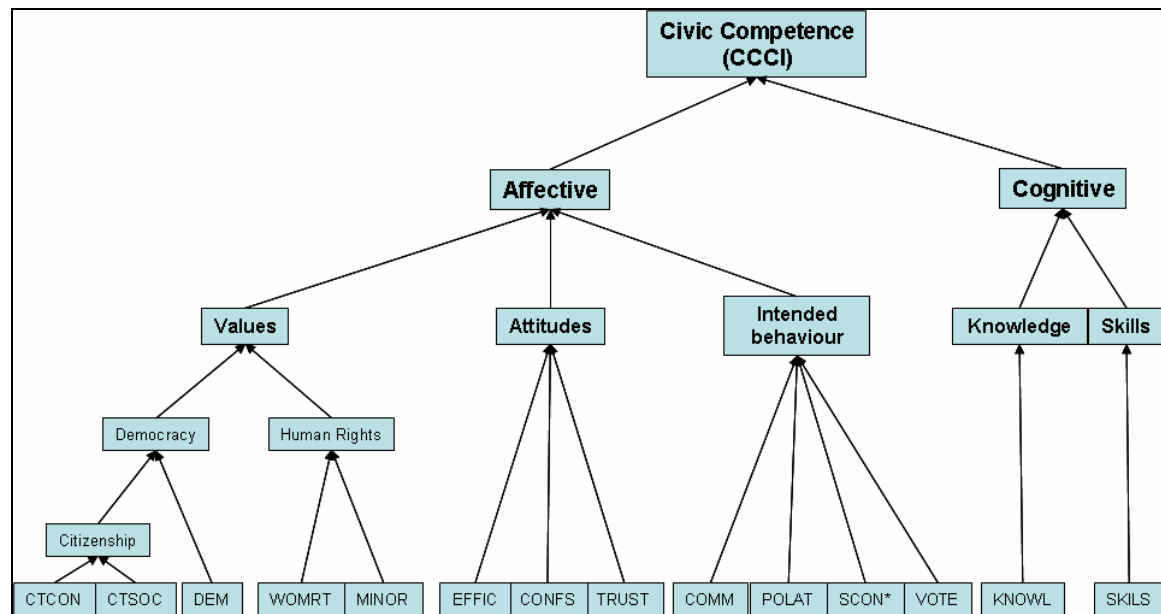
Figure 3: Preliminary civic competence composite indicator framework

4.2 Results factor analysis

Factor analysis is a data reduction technique that can be used to detect structure in the relationship between variables (see Annex V for more information on

factor analysis). We conducted two factor analyses, one with 'TRUST' included and another without this scale. They provided comparable results. However, TRUST seems to introduce certain "noise" into our model, and makes it more difficult to interpret. Only the results without TRUST are presented here. The factor analysis with TRUST is presented in Annex V. Table 4 presents the loadings of the rotated solution. Each column shows the factor loadings for each of the scales on the components with eigenvalues greater than one. The eigenvalue reflects the amount of variance in the data that is captured by the component or the factor (see Annex V for explanation of terms). The list of scales is organised according to the structure of our hypothetical measurement model. The table presents in bold the highest factor loadings for each scale and in italic other loadings that might be considered for interpretation (above 0.35). As can be seen from the factor loadings, the underlying structure of the data does not correspond fully with our hypothetical model. The sub-domain of values is divided into two components, as was the case in our hypothetical model. Intended behaviour seems to emerge from the data also; however, the sub-domain "attitudes" is somehow blurred.

Table 4: Rotated Component Matrix for civic competence scales

Sub-domain	Scale	Labels	Component			
			1	2	3	4
Values	CONVENTIONAL CITIZENSHIP	CTCON	-0.02	0.02	0.26	**0.82**
	SOCIAL-MOVEMENT-RELATED CITIZENSHIP	CTSOC	0.07	0.25	0.03	**0.82**
	DEMOCRATIC RIGHTS	DEM	**0.69**	0.19	0.04	0.16
	ATTITUDES TOWARDS WOMENS POLITICAL AND ECONOMIC RIGHTS	WOMRT	0.32	**0.70**	-0.14	-0.04
	ATTITUDES TOWARDS MINORITIES	MINOR	0.14	**0.72**	0.01	0.12
Attitudes	CONFIDENCE IN PARTICIPATING AT SCHOOL	CONFS	0.11	**0.66**	0.13	0.18
	INTERNAL POLITICAL EFFICACY	EFFIC	0.15	-0.08	**0.75**	0.11
Intended behaviour	EXPECTATIONS OF COMMUNITY PARTICIPATION	COMM	-0.18	*0.45*	**0.46**	0.20
	POLITICAL ACTIVITIES	POLAT	-0.02	-0.03	**0.76**	0.08
	SELF-CONFIDENT PARTICIPATION	SCON	-0.01	*0.46*	**0.54**	0.03
	EXPECTATIONS ASSOCIATED WITH VOTING	VOTE	*0.40*	0.25	**0.41**	0.24
Knowledge	KNOWLEDGE OF CONTENT	KNOWL	**0.88**	0.07	0.05	-0.02
Skills	SKILLS IN INTERPRETATION OF MATERIAL WITH CIVIC OR POLITICAL CONETNT	SKILS	**0.85**	0.10	-0.01	-0.10

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.
Rotation converged in 6 iterations.

Component 4 captures the covariance between CTCON and CTSOC. The scale on democratic values (DEM), which theoretically was together with CTCON and CTSOC, presents the highest loadings on the component 1. Component 1 is mainly driven by knowledge (KNOWL) and skills (SKILS) scales. WOMRT and MINOR present high loadings in component 2, together with CONFS that was previously considered to be measuring attitudes. The component 3 involves all the

scales related to intended behaviour and the scale on internal political efficacy (EFFIC) that was part of attitudes in our hypothetical model. Some of the scales loading over 0.4 in this component have also high loading in other component. Expected community participation (COMM) and confidence in participating at school (CONFS), for example, load almost equally in component 2 and 3. This means that these scales are equally measuring both components. VOTE also loads equally in both component 3 and 1.

The factor loadings, thus, show that component 1 is characterized by knowledge of content and skills in interpretation as well as a high level of understanding of what is good for democracy. We named this component 1: "**Cognition about democratic institutions**" (*cogd*). The component 2 has as its main scales WOMRT and MINOR, while CONFS loads slightly lower. These scales refer to values and attitudes towards the importance of giving equal opportunities and feeling responsible for one's actions towards other citizens. WOMRT and MINOR are slightly more general than CONFS that specifically refers to school activities. This component 2 will be called: "**Social justice**" (*socj*). Component 3 groups mainly scales related to expected participation: COMM, POLAT, SCON and VOTE. EFFIC is also loading relatively highly in this component. The factor, therefore, refers to certain participatory attitudes in different contexts: community (COMM), political (POLAT, VOTE) or school (SCON), as well as to interests in participate in political or school discussions (EFFIC and SCON). We will call this component "**Participatory attitudes**" (*parta*). It is interesting to note that COMM and SCON relate also to "**Social justice**". To some extent this seems to show that these types of participatory attitudes (in school and in community) are related to certain values of social justice. However, we decided to maintain them within the scales for **Participatory attitudes**, since the loadings are slightly higher in this component, and theoretically the items can be more easily related to certain predisposition to participate.

Also noteworthy is the case of VOTE. This scale, hypothetically included within the **Participatory attitudes**, loads equally highly on the component on "cognition about democratic institutions". It seems that the level of understanding of democratic institutions is associated with the intention of voting. Also interesting is to note that VOTE does not present high loadings in any of the components. It seems that the intention of voting is somehow spread along the whole spectrum of civic competence.

Component 4 groups the two scales related to being a good citizen, inquiring about certain important aspects of democracy and citizenship. This scale will be referred as "**Citizenship values**" (*cval*).

4.3 Revised model

The revised model, emerging from the FA and the interpretation of the results is represented in figure 4. The measurement model for civic competence has four components: **Citizenship values** (*cval*), **Social justice** (*socj*), **Participatory attitudes** (*parta*) and **Cognition about democratic institutions** (*cogd*). *cval*, *socj* and *parta* are arguably mainly related to the affective side of civic competence, while the construct *cogd* is mainly related to the theoretical cognitive domain.
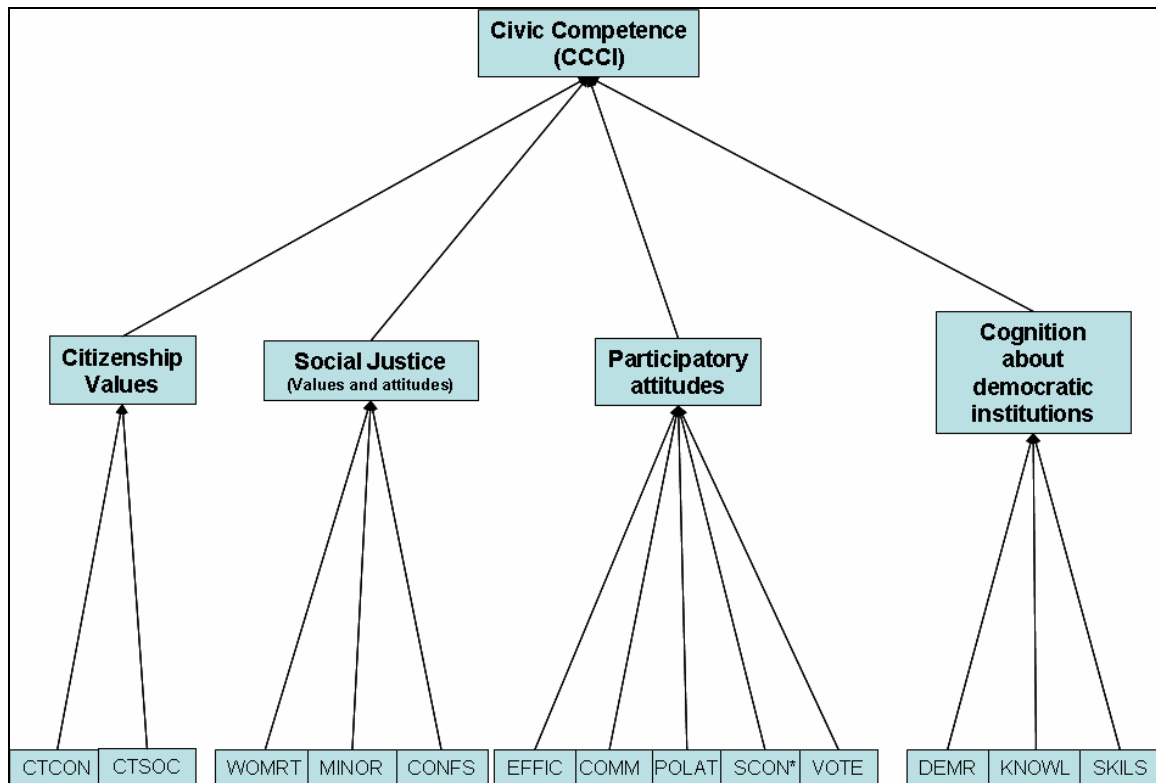
Figure 4: Revised civic competence composite indicator framework

The reliability for each of the components is presented in Table 5. The reliability of the four constructs that emerged from the factor analysis is acceptable given the fact that only a limited number of scales are included in each construct. Table 5 shows two values of Cronbach's alpha, one calculated using data from all the countries in CivEd, and the other using only the European Union countries. The table shows that the four identified domains have acceptable reliability both at an international and European level. For more information on the reliability analysis see Annex VI.

cval had a more acceptable reliability if TRUST was not considered (see Annex VI). For this reason, because of the theoretical and measurement arguments presented above, and because the results of the FA had comparable results but were more difficult to interpret when TRUST was included, we decided that the composite indicator should not be calculated using the scale TRUST.

Table 5: Cronbach's alpha of identified constructs in CivEd data

Scale	N. of scales	Cronbach's Alpha	
		(International sample, all countries)	(European Union countries)
Citizenship values (cval)	2	0.642	0.645
Social Justice (socj)	3	0.622	0.618
Participatory attitudes (parta)	5	0.652	0.638
Cognition about democratic institutions (cogd)	3	0.779	0.786

The reliability of *cogd* increased slightly to 0.829 if the scale on democratic rights (DEM) was excluded. However, the reliability with DEM included was very satisfactory and the inclusion of DEM provides an innovative approach to the measurement of the cognitive aspects of civic competence. Making a trade-off between these two elements, it was decided to keep DEM in the subdomain *cogd*.

In the revised model no extra layer in the structure dividing the measurement model into affective and cognitive component was created. A factor analysis on the four subdomains indicated that it was not possible to make a clear-cut distinction between the affective and cognitive subdomains. The FA showed e.g. that the subdomain Social Justice was linked to the subdomains on values and attitudes, but also had a clear link to the cognitions subdomain.

5. Methodology: Creating a composite indicator for civic competence

5.1 Composite indicators methodology

In the present section we will outline the methodology used and the process of creating the composite indicator for civic competence. Nardo et al. (2005) define a composite indicator as "a mathematical combination of individual indicators that represent different dimensions of a concept whose description is the objective of the analysis" (p. 7). In the current paper the concept of civic competence is summarised into one number that encompasses different dimensions. To create this composite indicator the methodological guidelines of Nardo et al. (2005) were followed.

The first step in creating a composite is to select the different indicators that the composite indicator will be summarising and define a structure. The selection of the indicators and the structure has been described in section 3.

In the most simple case, for p countries a composite indicator Y_c for a given country c is a linear weighted sum of k normalised indicators $I_{c,i}$ with $i=1,..,k,\ c=1,..,p$ with weights w_i

$$Y_c = \sum_{i=1}^{k} w_i I_{ic} \text{ ,}$$

where $\sum_{i=1}^{k} w_i = 1$ and $0 \le w_i \le 1$ for all i=1,..k.

If a composite index has a structure with sub-domains, then the composite index is a weighted sum of the indices computed for the different domains Di:

$$Y_c = \sum_{i=1}^{4} w_i D_{ic} \text{ ,}$$

where $\sum_{i=1}^{4} w_i = 1$ and $0 \le w_i \le 1$ for all i=1,..,4 and c=1,..,p.

Then each domain index, Di, is computed as a linear weighted sum of the h normalised sub-indicators I_{ijc} with weights w_{ij}

$$D_{ic} = \sum_{i=1}^{i} w_{ij} I_{ijc} \text{ .}$$

In our case, in the last step, I_{ijc} refers to the scales created using IRT.

5.2 Construction of the scales

In order to create the composite indicator for civic competence we used thirteen scales developed with CivEd data that encompass 46 Likert-type items from the student questionnaire on "student concepts, attitudes and actions" and 38 multiple-response items from the "civic knowledge test". We used seven scales developed by IEA (CTCON, CTSOC, WOMRT, CONFS, POLAT, KNOWL, SKILS). In addition we used five scales developed by CEDARS: two scales identified but not developed by IEA (MINOR, SCON), and three scales identified by CEDARS (EFFIC, COMM, VOTE). We also developed two extra scales, one identified by IEA (SCON) and one identified by the authors (DEM). All the scales have been created using Confirmatory Factor Analysis conducted within small groups of related items followed by IRT modelling.

Item Response Theory (IRT) Scales

Within the CivEd-study scales were constructed using IRT scaling techniques. A detailed description of this scale construction can be found in the technical report for the CivEd-study (Schulz & Sibberns, 2004). The application of these scaling techniques has some advantages regarding the evaluation of item fit and differential

characteristics of items in certain countries. Another important advantage of these models is that they can handle so-called incomplete designs in which not all the respondents are administered the same items. The same type of scales are constructed in other international surveys like the PISA-study (OECD, 2003) and often used as educational indicators.

More specifically for the cognitive items (KNOWL, SKILS) the Rasch-model (Rasch, 1960) was applied. This model can handle dichotomous data and describes the probability of giving a correct answer to a question depending on the ability of the person and the difficulty of the item. By applying the model a scale is created on which for each person an ability estimate is calculated.

For the other scales that used Likert-type items (CTCON, CTSOC, WOMRT, CONFS, TRUST and POLAT) an extension of the Rasch-model that could handle polytomous data, the partial-credit model (Masters & Wright, 1997), was applied. Again a scale is constructed on which for each person is estimate is made of the position that best indicates the person's characteristics (e.g. attitude).

Both models were estimated using the ConQuest-software (Wu, Adams & Wilson, 1997) and the resulting scales were standardised. The cognitive scales were standardised using a mean of 100 and a standard deviation of 20, while for the other scales a mean of 10 and a standard deviation of 2 was used. In the CEDARS-project the same principles were applied and scales were also constructed using ConQuest.

The two scales that were developed specifically for the current project (DEM and SCON) were estimated using the Winsteps-program (Linacre, 2006). Although different software was used the same principles were applied, meaning that a partial credit model was estimated resulting in scales with a mean of 10 and a standard deviation of 2. The resulting item parameters are presented in Annex III.

5.3 Standardisation of the scales

Due to the different scaling procedures the scales had different units of measurement. For example, KNOWL (knowledge) had a scale of mean 100 and standard deviation of 20, while WOMRT had a mean of 10 and a standard deviation of 2. (This was to distinguish clearly the items with right and wrong answers from those where no such designation was made). As a consequence a score of 10 on KNOWL is not comparable to a 10 on WOMRT. However, 10 has the same meaning for all the attitudinal and participation scales. To combine the scales in a composite it is necessary that the scores are comparable and an additional standardisation procedure was necessary. Different standardisation techniques are available (see e.g. Nardo et al., 2005). The basic standardisation technique that will be applied is the Min-Max approach. For q indicators each indicator will be standardised based on the following rule

$$I_{qc} = \frac{x_{qc} - \min_c(x_{qc})}{\max_c(x_{qc}) - \min_c(x_{qc})} .$$

Using this method, all the indicators have been rescaled and the standardised values will lie between 0 (laggard $x_{qc} = \min_c(x_q)$) and 1 (leader, $x_{qc} = \max_c(x_q)$). In a later phase, in order to assess the robustness of the composite indicator, also the Z-score standardization will be applied as an alternative method.

5.4 Aggregation procedure: Weights and aggregate method

Once the data has been standardised it is possible to start the process of aggregation. As indicated above, the resulted score of an aggregation procedure is the linear weighted sum of the normalized domains, sub-domains or scales. This means

that the different scales have to be combined to create the different nodes of the structure and this combination is adjusted by the weights given to each of the scales. In the present case we used mainly an equal weighting scheme with a simple additive method. This means that, for example, the four included sub-domains have the same weight for calculating the 'civic competence composite indicator'.

Figure 5 shows the summary structure of the civic competence composite indicator, together with a detailed listing of the items that are included in the scales. The ovals below the scales show the technique used to create each scale as well as the weighting structure to create the composites.
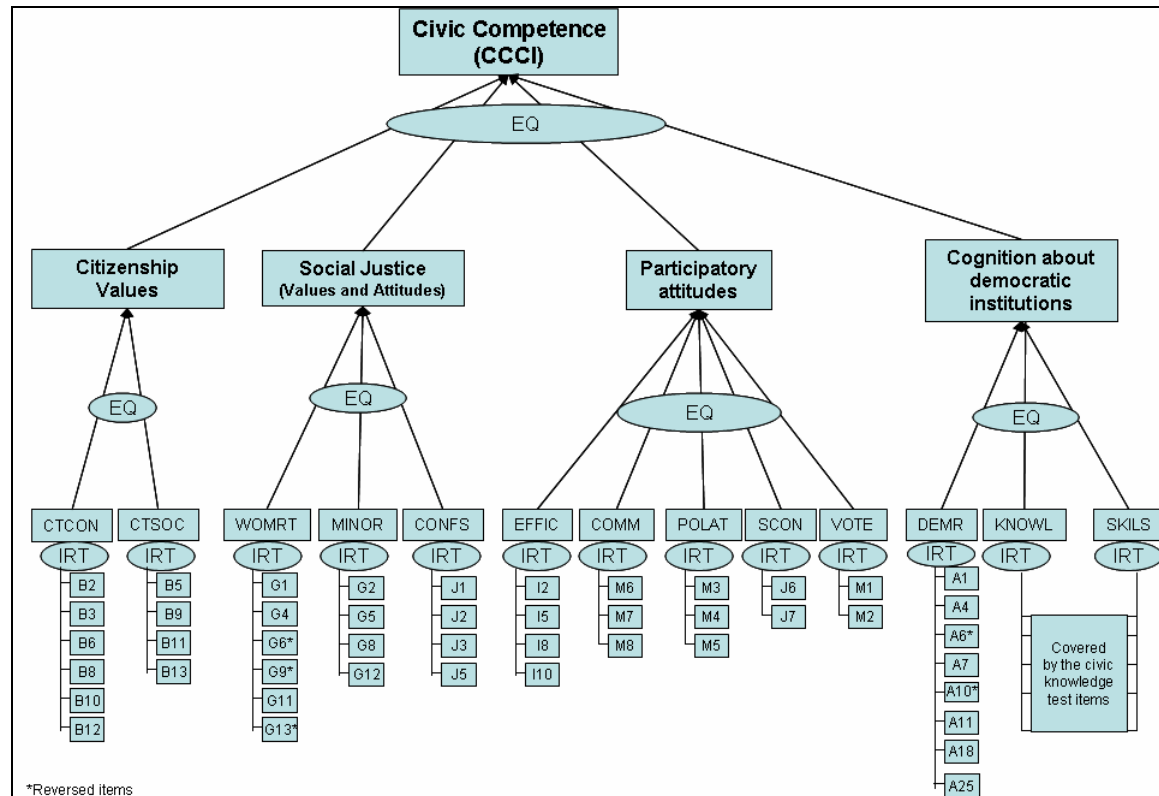
Figure 5: Structure and weighting scheme for the Civic Competence Composite Index

To obtain the rankings for the countries presented in the next chapter the individual scores are aggregated using the sample weights as indicated by the IEA technical report. In this way it is possible to obtain unbiased estimates of the country scores for the composite indicator.

5.5 Interrelations of the sub-domains at the individual level

All the above calculations are performed at the individual level. In this way, we obtained a specific score on each scale, sub-domain and the composite indicator for each individual in the dataset. In Table 6 the results for the four subdomains are correlated at the individual level. The reported correlations are calculated across countries, but it should be noted that the exact pattern of correlations differed for several countries. However, overall a similar pattern was found when the correlations were calculated within each country.

Table 6: Bivariate Pearson's correlations at the individual level between civic competence subdomains

	Citizenship values	Social Justice (V/A)	Participatory attitudes	Cognitions democratic inst.
Citizenship values	-			
Social Justice (V/A)	0.275** N= 26639	-		
Participatory attitudes	0.388** N= 23851	0.337** N= 26784	-	
Cognitions democratic inst.	0.077** N= 27237	0.343** N= 26563	0.185** N= 23801	-

** Correlation is significant at the .01-level

As can be seen from these data the closest link was observed for the results on **Citizenship values** and the **Participatory attitudes** with a correlation of 0.39. The scores for Social justice show a clear link with both the **Participatory attitudes** and the cognitions. However, the link between **Participatory attitudes** and cognitions in its turn is, although significant, only limited. The correlation between **Citizenship values** and **Social justice** is somewhere inbetween. It is clear from these individual-level results that there is almost no correspondence between the scores on the **Citizenship values** and the cognitions of the students about democratic institutions.

5.6 Robustness analysis

As said before, every aggregate measure or ranking system, involves subjective judgments in the selection of indicators, the choice of aggregation model, and the weights applied to the indicators. Because the quality of a ranking system depends on the soundness of its assumptions, good practice requires evaluating confidence in the system and assessing the uncertainties associated with its development process. To ensure the validity of the messages conveyed by this composite indicator, it is important that the sensitivity of the country rankings to the structure and aggregation approach be adequately studied. Using sensitivity analysis, we can study how variations in rankings derive from different sources of variation in the assumptions. These analyses can help to gauge the robustness of the composite indicator results, to increase its transparency, to identify the countries whose performance improves or deteriorates under certain assumptions, and to help frame the debate around its use.

Annex VII presents the results of the robustness analysis. The sensitivity analysis was undertaken with respect to the following sources of uncertainty: the structure of and the standardization technique. The three alternative scenarios were:

1. Instead of a min-max standardization procedure, the results were standardized by converting them into z-scores.
2. A second alternative scenario imposes no structure within the composite and attributes the same weight to all the scales. Min-max standardization will be used.
3. The third alternative scenario is the second scenario but now with the z-standardization.
4. In the fourth scenario a different aggregation procedure was used: the arithmetical average instead of the geometrical average.

6. Results

The presentation of the results will focus on the civic competence composite indicator and the four domains that have been identified within this framework: **Citizenship values**, **Social justice** (V/A), **Participatory attitudes** and **Cognitions about democratic institutions**.

6.1 Country rankings

Below, in section 6.3, the following tables (from 7 to 11) present the rankings for the different domains and, the ranking for the Civic Competence Composite indicator (see the three first columns from the left). All the results are presented using the scale that resulted from the min-max standardization multiplied by 1000. Together with the average result for each country the standard deviation has been indicated. This standard deviation gives an indication of how much the scores within a country vary: in a country with a smaller standard deviation the spread in the scores is smaller.
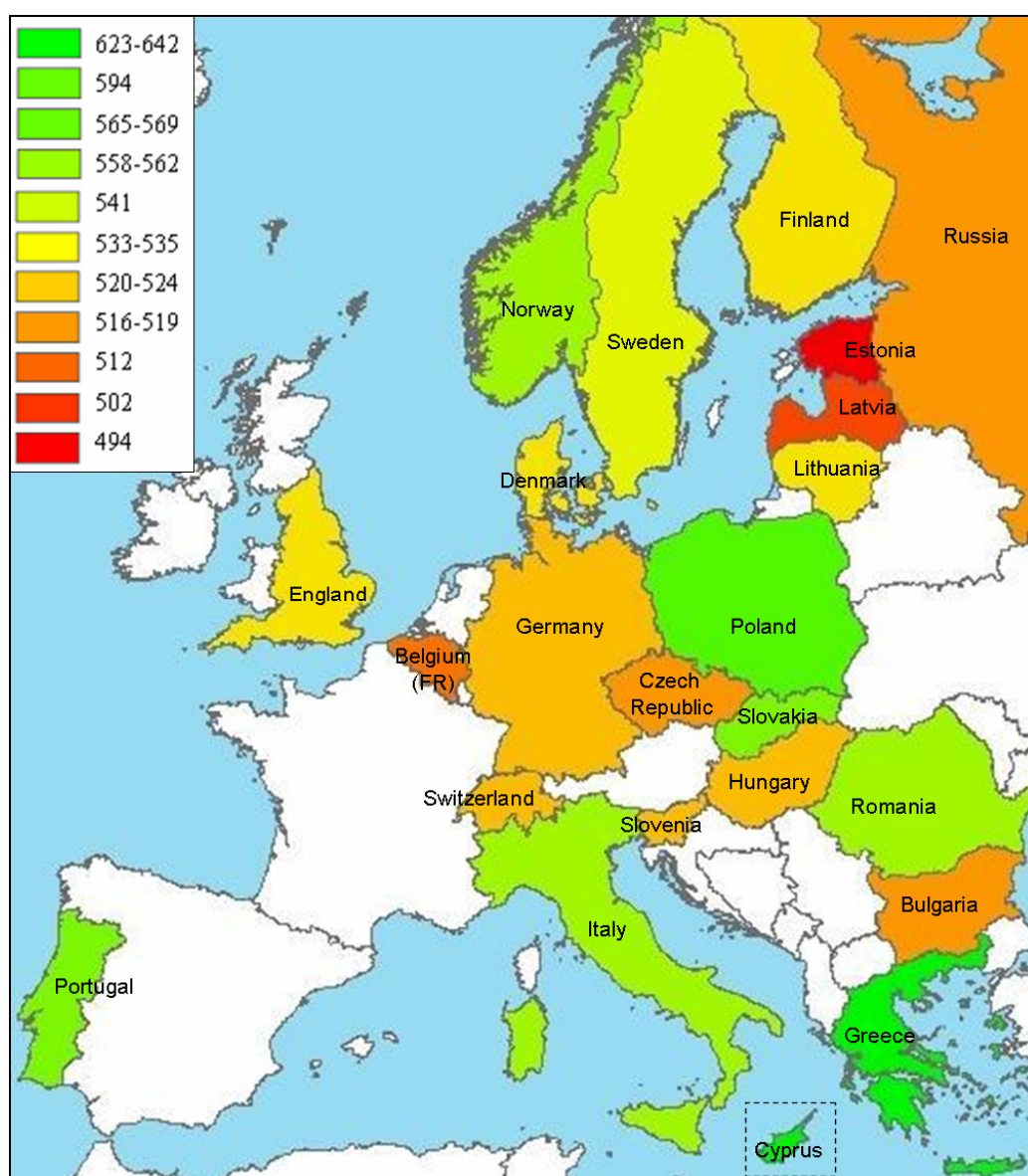
Figure 6: Civic Competence Composite Indicator in Europe (Data 1999/Age group 14)

For the Civic Competence Composite Indicator there is a mixed pattern of results with no strong regional trends. There is some tendency for Southern-European countries to be in the upper part of the ranking with Cyprus and Greece doing particularly well in the overall CCCI and in the domains of **Citizenship values**, **Participatory attitudes** and cognition about democratic institutions, but a Northern-European country like Norway can also be found in top part of the overall CCCI ranking along with some former communist countries such as Poland, Slovakia and Romania. Other Northern-European countries, such as Denmark and Finland, are found in the lower middle part of the CCCI rankings together with some other former communist countries such as Lithuania, Slovenia and Hungary. Two Baltic States close the CCCI rankings, together with Belgium (FR) (see figure 6, table 11 and figure 13).

The 4 dimensions

Cyprus, Greece, Finland, Italy, Slovakia and Poland are high performing countries for the dimension of **Cognition about democratic institutions**; in contrast, the Baltic states of Lithuania and Latvia do not perform well in this domain (see figure 10, map on p. 45). Southern and former Communist European countries; Cyprus, Portugal, Romania, Poland, and Slovakia, are high performing countries for the dimension of **Participatory attitudes** whereas most of the Northern European Countries that participated in the survey (Denmark, Sweden and Finland), and most of the Western European countries that participated (Germany, England and Switzerland) close the rankings in this dimension, together with some of the former communist countries (Estonia, Lithuania, Czech Republic and Bulgaria) (see figure 8, p. 44). Northern, Southern and Western European countries of Cyprus, Portugal, Norway and England are high performers on the dimension of **Social Justice** in contrast to the Russian Federation, Hungary, Bulgaria and Latvia, all former communist countries, who are low performers in this domain. Poland is the outlier by being both a former communist country and a high performer (see figure 9, p.45). The former communist countries of Romania and Lithuania are high performing countries on **Citizenship values** whereas Northern and Western Europe perform less well, with Denmark, England, Belgium (French speaking) and Finland closing the ranking for this dimension, with Estonia being the outlier who joins this group at the end of the table (see figure 7, p. 44).

Compared to the data available for the rest of the world, Europe fares quite well, with the Southern European Countries of Cyprus and Greece on the overall CCCI remaining the highest performers. The US and Colombia also perform well with similar scores to Poland and they form the next group of countries. Australia, Chile and Hong Kong are in the top half of the table with diverse European countries such as Norway, Portugal and Slovakia. The Russian Federation comes in the bottom half of the table but performs better than Latvia and Estonia and French Speaking Belgium. The US and Hong Kong perform as well as the best performing European countries for the domain of Cognition about democratic institutions, joining Cyprus, Greece, Finland, Poland and Slovakia and Italy at the top of the table. Colombia and Chile join the two Baltic states of Lithuania and Latvia at the foot of the table. For the domain of Citizenship values Colombia joins Greece and Cyprus as the best performers, whilst Chile performs well, coming next in the ranking with Romania and Lithuania. Australia closes the ranking together with the mostly Northern and Western European Countries of Denmark, England, French speaking Belgium and Finland. Colombia and the US perform well on Social justice, coming after Cyprus in the top of the ranking with similar scores to Portugal, Norway, England, Poland and Greece.

Australia and Chile come in the top half of the table and the Russian Federation and Hong Kong come in the bottom half. Concerning the dimension of Participatory attitudes, Colombia joins Cyprus as the best performers. The US and Chile perform well, joining Southern and Eastern European countries such as Greece, Romania and Slovakia in the next group of countries in the table. Hong Kong, Australia, and the Russian Federation hold the middle of the table whilst European Union countries (except southern Europe) close the ranking.

The raw rankings, however, do not take into account whether or not an observed difference is statistically significant, nor does it provide much substantial information on the actual impact of the difference. These two issues will be addressed in the next section.

6.2 Interpreting the rankings: statistical significance and effect size

To interpret the difference between two countries, two complementary approaches can be used. The most commonly used and known approach is this of the statistical significance testing. Statistical significance is influenced by two parameters: on the one hand the absolute size of the difference between two groups and on the other hand the sample size. With a very big sample even a small difference can turn out to be statistically significant and at the same time a big difference can be non-significant because of small sample size. As a consequence the interpretation of statistical significance might lack a clear link to the practical impact of the observed difference. As said, a small difference with a very large sample size will show to be statistically significant, but there is no information available on the practical impact of this difference.

Clearly there is a considerable value to testing the statistical significance. This way one avoids drawing conclusions based on differences that may be only caused by sampling variance, and that may be attributed to accident. However, information on the statistical significance should be complemented with information on the actual impact of the difference and this is referred to as the *effect size*. In this sense, effect size can be referred to as the practical rather than the statistical significance of a difference. Effect size is a simple way to quantify the difference between two countries without confounding the interpretation with the sample size, as is the case in the statistical significance.

First, for every pairwise comparison between countries the statistical significance will be investigated. Given the fairly large sample sizes within each country, many of the differences will turn out to be statistically significant, but these results will be complemented with the calculation of effect sizes for the comparison of each pair of countries. Explanation on statistical significance and effect size, as well as the results of effect size analysis, can be found in Annex IV.
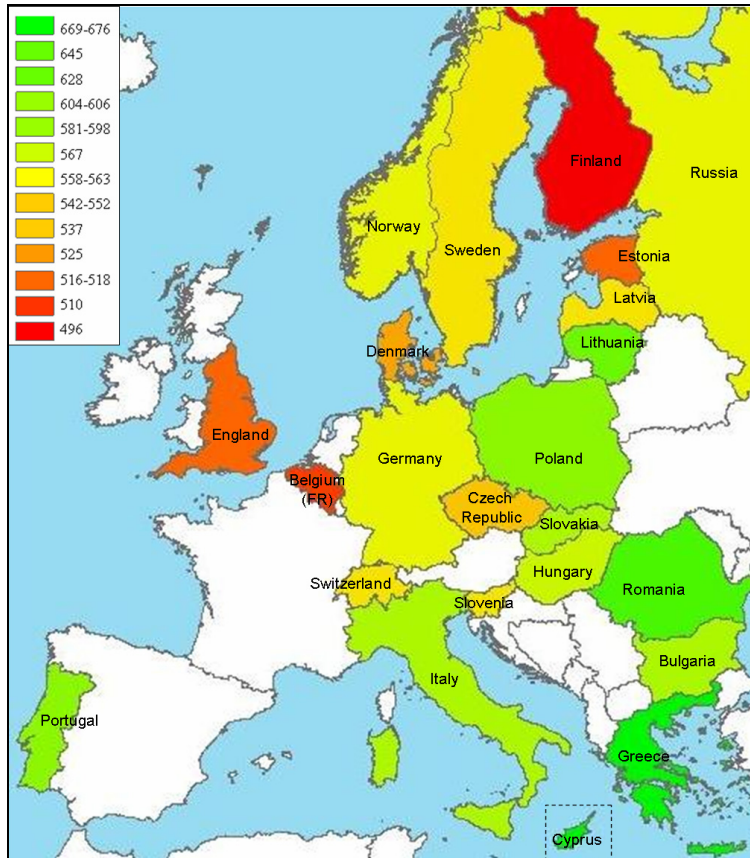
Figure 7: Citizenship values in Europe (Data 1999/Age group 14)
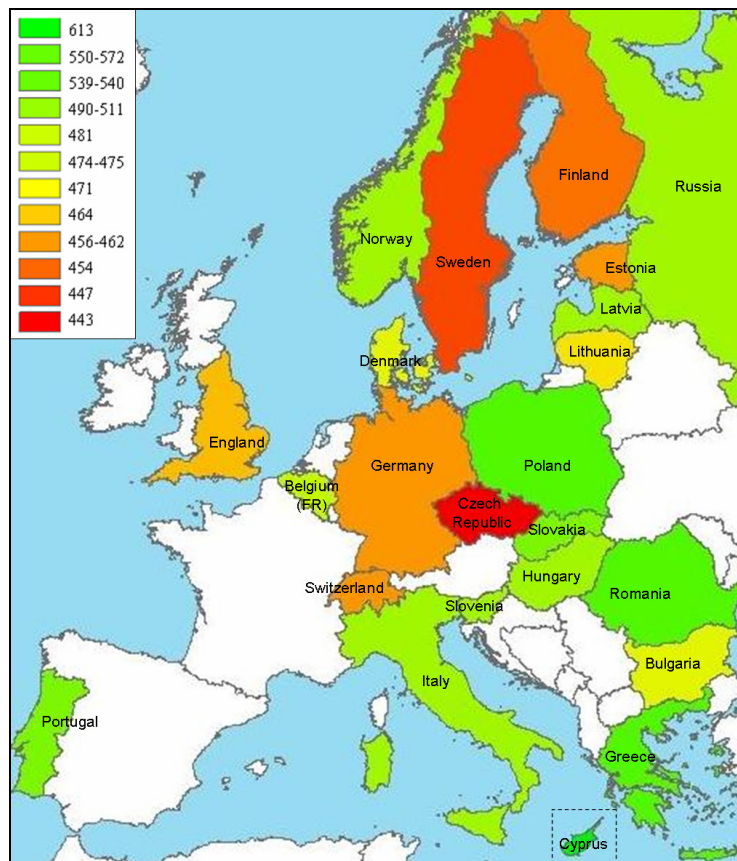
Figure 8: Participatory attitudes in Europe (Data 1999/Age group 14)
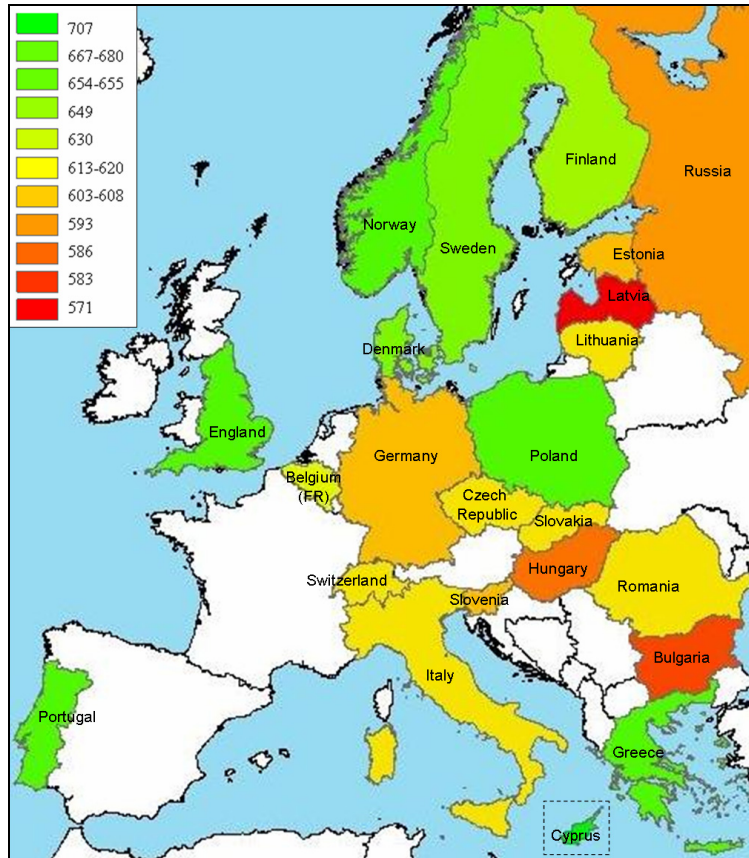
Figure 9: Social Justice in Europe (Data 1999/Age group 14)
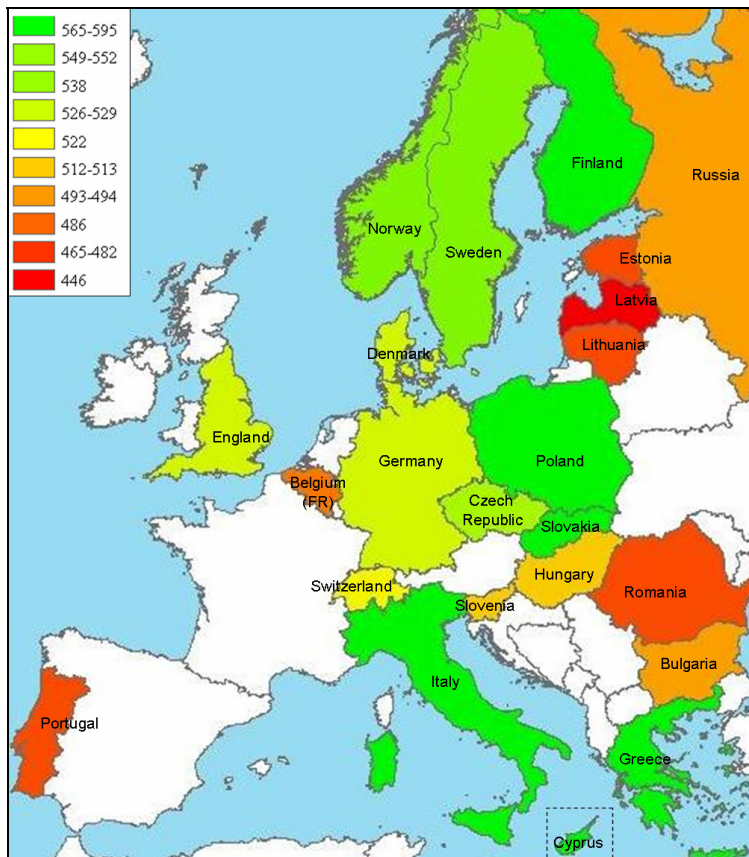
Figure 10: Cognition about democratic institutions in Europe (Data 1999/Age group 14)

47

6.3 Using the effect size and statistical significance to interpret the results

This section analyses the results of the difference between the country scores in terms of their statistical significance and their effect size. Tables 7 to 11 indicate for each pairwise comparison of countries whether or not the difference is significant. To facilitate interpretation these results they are also plotted (see figures 13 to 17). This is done by showing for each country a confidence interval around its result. This confidence interval contains, with a certain probability, the 'true value' for each country. By checking the overlap of the confidence intervals one can evaluate statistical significance[4]. If the intervals overlap the difference is not significant, but if there is no overlap between the intervals the countries do differ significantly (see Annex IV for further explanation on statistical significance).

The 4 dimensions

With regard to **Citizenship values** (see table 7, figure 13) the ranking is headed by Greece, Cyprus and Colombia. These three countries do not show any significant differences, but all score significantly higher than the other countries. A next group consists of Romania, Lithuania and Chile. These countries are followed by a larger group that cannot be separated based on the significance tests (Poland to Bulgaria). Next is a large group of countries from Hungary to Czech Republic, for which there are almost no significant differences and the practical impact of the differences is very small. The ranking is closed by six countries (Denmark to Finland) that do not show any substantial differences within the group but all score substantially lower than the other countries.

For the domain of **Social justice** (see table 8, figure 14) Cyprus clearly outperforms all the other countries. Next is a fairly large group of countries that do not show any significant differences, from Portugal to Greece including a mixture of regions of Europe with the countries such as Norway, England and Poland. These countries are followed by a group from Sweden to Chile. The next group is a large cluster of countries that do not show any substantial differences that ranges from Belgium (FR) to Germany. Four countries (the Russian Federation to Latvia) close the ranking.

Cyprus and Colombia form the leading group for the results on **Participatory attitudes** (see table 9, figure 15). These countries are followed by a group ranging from Greece to Slovakia. This group shows some small significant differences but the actual impact of the differences, as reflected in the effect sizes, is very limited. Subsequently there is a considerable group of countries that show hardly any differences in their result on the **Participatory attitudes** (Italy to Belgium (FR)). In this case we observe a rather large tail group of 10 countries with limited differences within the group.

With regard to the **Cognitions about democratic institutions** (see table 10, figure 16) the ranking is headed by a large group of countries that do not show any significant differences. Again Cyprus is on top, but now joined by countries ranging from Greece to Italy. These countries are followed by eight countries (Australia to Switzaland). Next are two smaller groups of countries, Slovenia to Belgium (FR) and Portugal, Estonia and Romania. A group of 4 countries close the ranking: two Baltic states (Lithuania and Latvia) and the two Southern-American included in the survey (Colombia and Chile).

---

[4] In the significance testing the clustering of the data has been taken into account in the calculation of the standard errors and the confidence intervals (Snijders & Bosker, 1999).

Civic competence

On the overall result for civic competence (see table 11, figure 17) Cyprus and Greece form a distinct group at the top of the ranking. These countries do not show a significant difference between them and a small effect size of 0.18. As a consequence one cannot state that Cyprus on average has a higher score on civic competence than Greece. As can be seen in Figure 11 the distributions of the scores for both countries have a large overlap. The yellow area indicates the percentage of Greek respondents that score below the average score for Cyprus (57%).
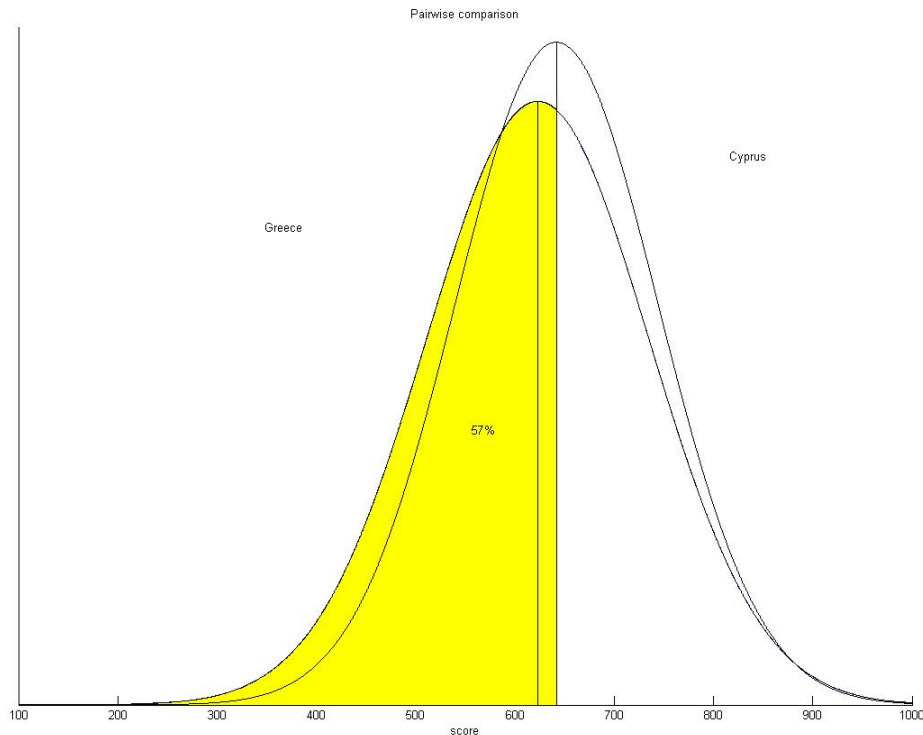
Figure 11: Comparison civic competence scores for Cyprus and Greece

These two countries are followed by a group of three countries (United States, Poland and Colombia) that cannot be separated based on statistical significance. Next is a considerable group of countries (from Slovakia to Sweden) that show hardly any significant differences in the pairwise comparisons and only small effect sizes. Following this is another substantial group of countries (from Denmark to Czech Republic) that, based on significance, cannot be distinguished from each other. The ranking is closed by a group of three countries that are somewhat distinct from the other countries: Belgium (FR), Latvia and Estonia. The largest effect size of 1.57 arises when Cyprus and Estonia are compared. This indicates that the average respondent in Cyprus receives a higher score on civic competence than 94% of the respondents in Estonia. This is illustrated in Figure 12. Although the difference in scores in both countries is clear from this picture, it also shows that there is still an overlap in scores which should not be ignored. This implies that some Estonian respondents still get a higher score than some Cypriot respondents.
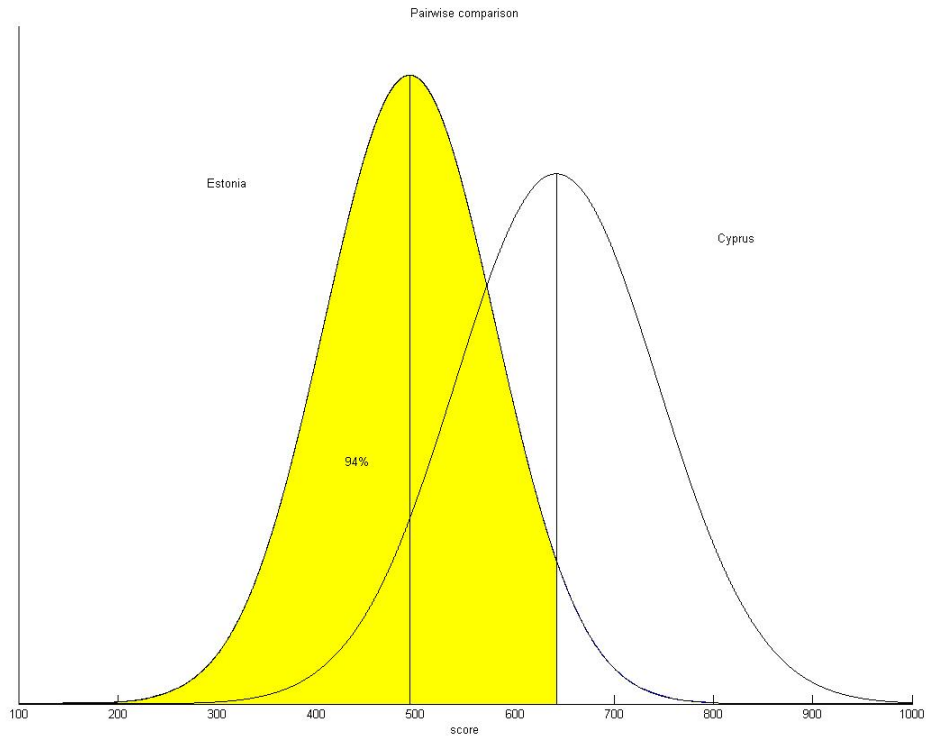
Figure 12: Comparison civic competence scores for Cyprus and Estonia

The results make clear that there exist considerable differences in civic competence within the European countries, but at the same time from the significance analysis it is seen that often the differences between specific European countries are not significant. Moreover, significant differences should still be carefully interpreted given that there might be a substantial overlap in the resulting distributions for the countries. If this is so, as reflected in the effect size, this means that a large group of the respondents in the lower ranked country still have a higher position on the competence than the average respondent in the higher ranked country. This is a crucial nuance in the interpretation of observed differences.
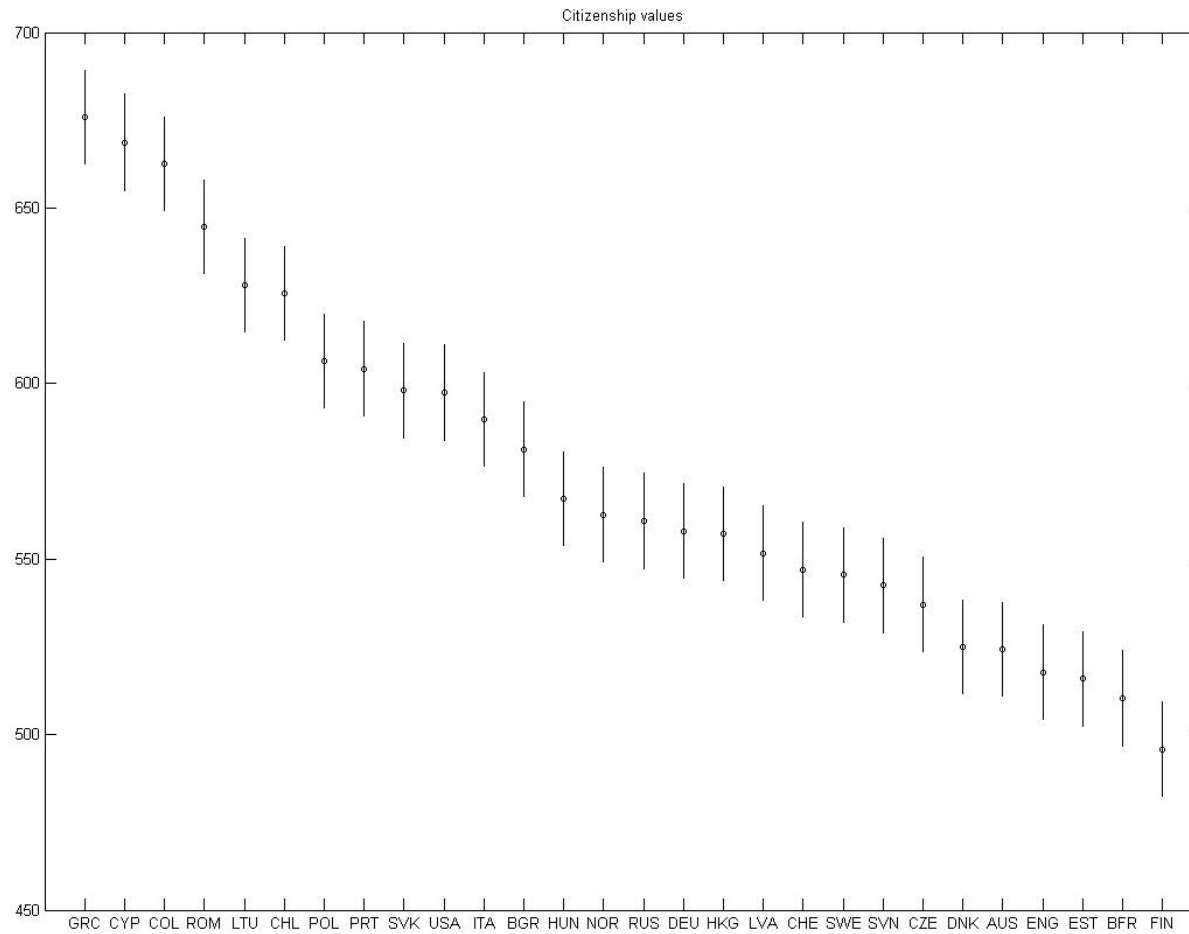
Figure 13: Pairwise comparison country scores (with standard errors), Citizenship values

Table 7: Statistical significance, pairwise comparison country scores, Citizenship values

	Average	SD	GRC	CYP	COL	ROM	LTU	CHL	POL	PRT	SVK	USA	ITA	BGR	HUN	NOR	RUS	DEU	HKG	LVA	CHE	SWE	SVN	CZE	DNK	AUS	ENG	EST	BFR	FIN
GRC	676	134	-	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
CYP	669	129	●	-	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
COL	663	133	●	●	-	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
ROM	645	137	▼	●	●	-	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
LTU	628	139	▼	▼	▼	●	-	●	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
CHL	626	126	▼	▼	▼	●	●	-	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
POL	606	119	▼	▼	▼	▼	●	●	-	●	●	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
PRT	604	110	▼	▼	▼	▼	●	●	●	-	●	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
SVK	598	118	▼	▼	▼	▼	▼	▼	●	●	-	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
USA	597	156	▼	▼	▼	▼	▼	▼	●	●	●	-	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
ITA	590	119	▼	▼	▼	▼	▼	▼	●	●	●	●	-	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
BGR	581	149	▼	▼	▼	▼	▼	▼	●	●	●	●	●	-	●	●	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
HUN	567	117	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	-	●	●	●	●	●	●	●	●	▲	▲	▲	▲	▲	▲	▲
NOR	563	117	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	-	●	●	●	●	●	●	●	●	▲	▲	▲	▲	▲	▲
RUS	561	100	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	-	●	●	●	●	●	●	●	▲	▲	▲	▲	▲	▲
DEU	558	110	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	-	●	●	●	●	●	●	▲	▲	▲	▲	▲	▲
HKG	557	122	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	-	●	●	●	●	●	●	▲	▲	▲	▲	▲
LVA	552	106	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	-	●	●	●	●	●	●	▲	▲	▲	▲
CHE	547	111	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	●	-	●	●	●	●	●	▲	▲	▲	▲
SWE	546	126	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	●	●	-	●	●	●	●	▲	▲	▲	▲
SVN	542	133	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	●	●	●	-	●	●	●	●	●	▲	▲
CZE	537	115	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	●	●	●	-	●	●	●	●	●	▲
DNK	525	106	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	●	-	●	●	●	●	▲
AUS	524	121	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	●	-	●	●	●	▲
ENG	518	107	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	-	●	●	●
EST	516	104	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	-	●	●
BFR	510	114	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	-	●
FIN	496	105	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	-

▲ Scores significantly higher than comparison country
● No statistically significant difference
▼ Scores significantly lower than comparison country
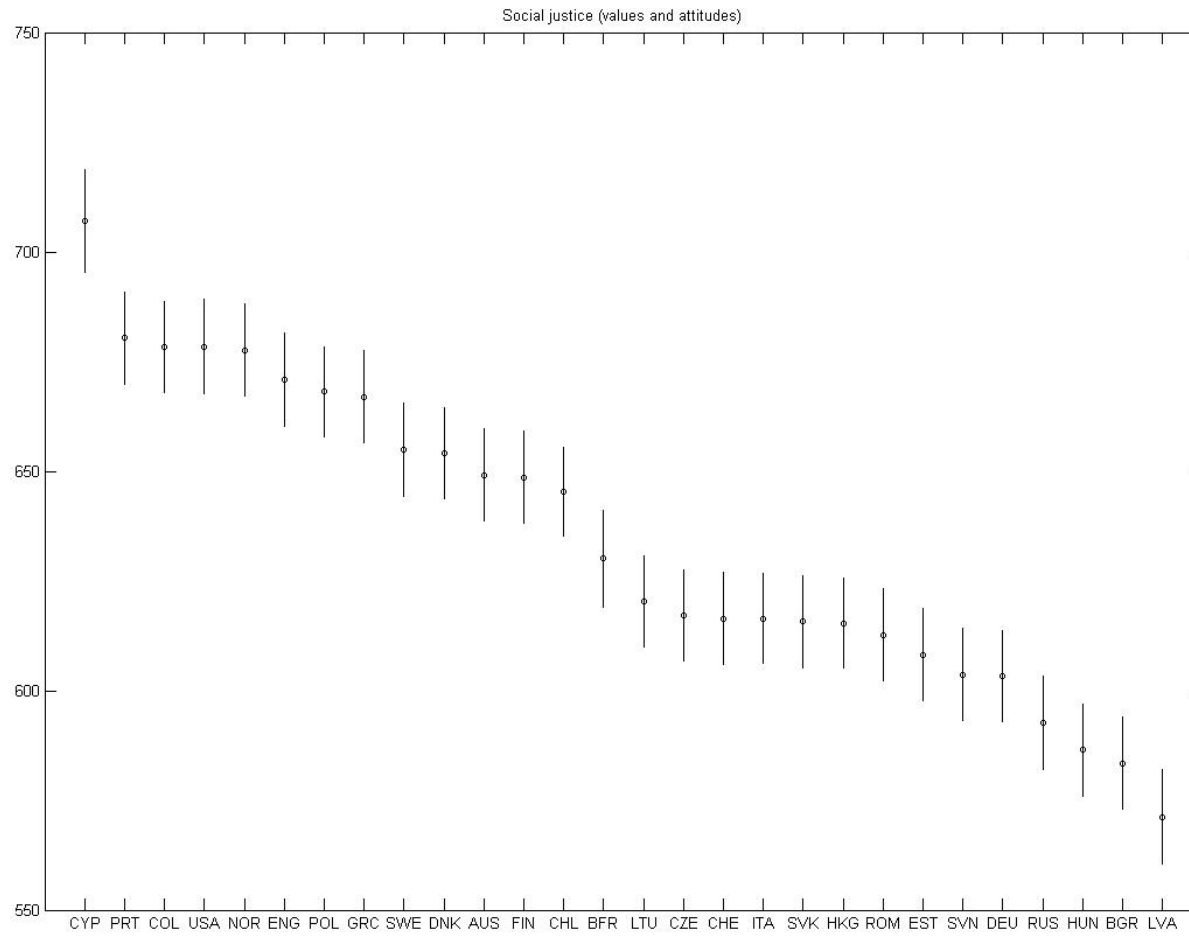
Figure 14: Pairwise comparison country scores (with standard errors), Social justice

Table 8: Statistical significance, pairwise comparison country scores, Social justice

	Average	SD	CYP	PRT	COL	USA	NOR	ENG	POL	GRC	SWE	DNK	AUS	FIN	CHL	BFR	LTU	CZE	CHE	ITA	SVK	HKG	ROM	EST	SVN	DEU	RUS	HUN	BGR	LVA
CYP	707	144	-	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
PRT	680	140	▼	-	●	●	●	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
COL	678	142	▼	●	-	●	●	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
USA	678	169	▼	●	●	-	●	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
NOR	678	153	▼	●	●	●	-	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
ENG	671	157	▼	●	●	●	●	-	●	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
POL	668	154	▼	●	●	●	●	●	-	●	●	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
GRC	667	149	▼	●	●	●	●	●	●	-	●	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
SWE	655	148	▼	▼	▼	▼	▼	●	●	●	-	●	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
DNK	654	150	▼	▼	▼	▼	▼	●	●	●	●	-	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
AUS	649	156	▼	▼	▼	▼	▼	▼	●	●	●	●	-	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
FIN	649	141	▼	▼	▼	▼	▼	▼	●	●	●	●	●	-	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
CHL	645	131	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	-	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
BFR	630	162	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	-	●	●	●	●	●	●	●	●	▲	▲	▲	▲	▲	▲
LTU	620	128	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	-	●	●	●	●	●	●	●	●	●	▲	▲	▲	▲
CZE	617	126	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	-	●	●	●	●	●	●	●	●	▲	▲	▲	▲
CHE	616	142	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	-	●	●	●	●	●	●	●	▲	▲	▲	▲
ITA	616	132	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	-	●	●	●	●	●	●	▲	▲	▲	▲
SVK	616	122	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	-	●	●	●	●	●	▲	▲	▲	▲
HKG	615	144	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	●	-	●	●	●	●	▲	▲	▲	▲
ROM	613	135	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	●	●	-	●	●	●	●	▲	▲	▲
EST	608	117	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	●	●	●	-	●	●	●	▲	▲	▲
SVN	604	132	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	●	●	●	-	●	●	●	●	▲
DEU	603	140	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	●	●	●	●	-	●	●	●	▲
RUS	593	116	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	-	●	●	▲
HUN	586	119	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	-	●	●
BGR	583	154	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	-	●
LVA	571	116	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	-

▲ Scores significantly higher than comparison country
● No statistically significant difference
▼ Scores significantly lower than comparison country

Participatory attitudes
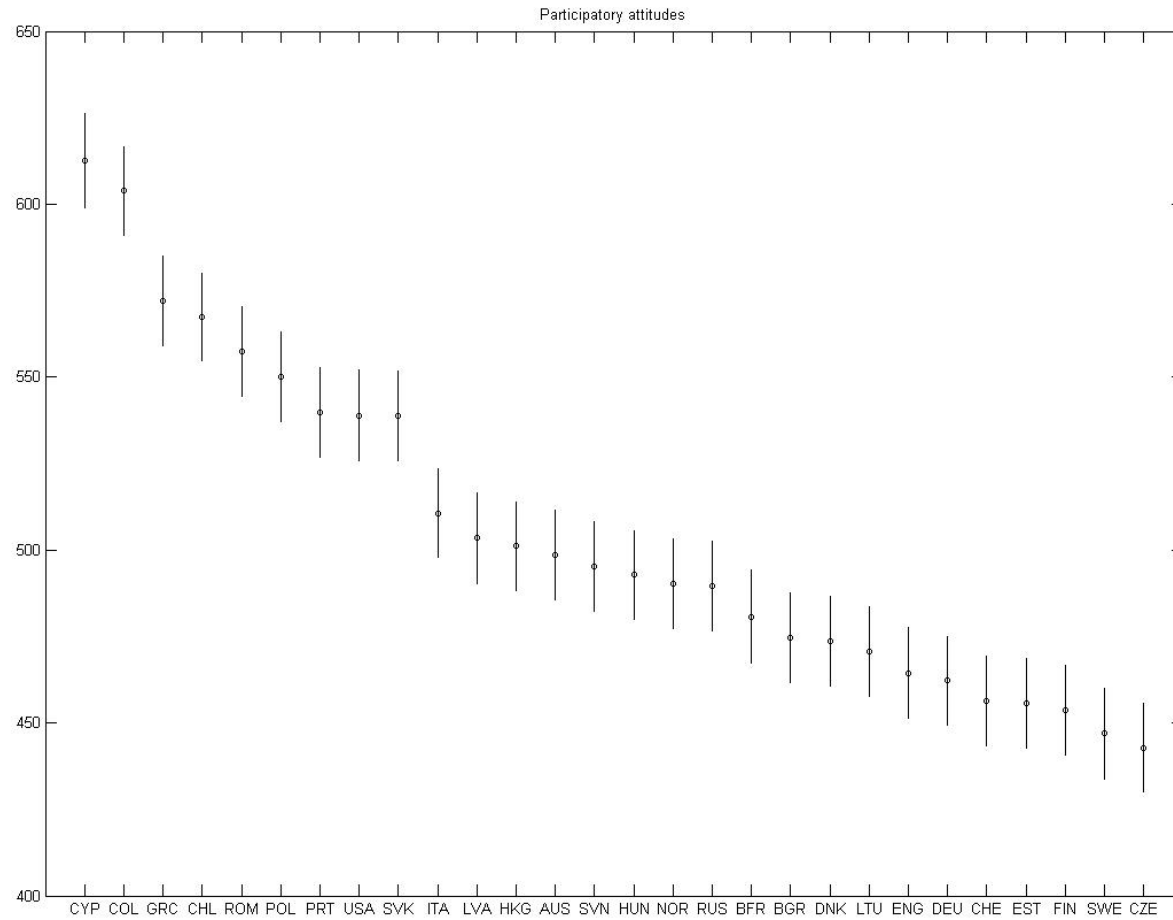
Figure 15: Pairwise comparison country scores (with standard errors), Participatory attitudes

Table 9: Statistical significance, pairwise comparison country scores, Participatory attitudes

	Average	SD	CYP	COL	GRC	CHL	ROM	POL	PRT	USA	SVK	ITA	LVA	HKG	AUS	SVN	HUN	NOR	RUS	BFR	BGR	DNK	LTU	ENG	DEU	CHE	EST	FIN	SWE	CZE
CYP	613	130	-	•	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
COL	604	135	•	-	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
GRC	572	129	▼	▼	-	•	•	•	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
CHL	567	149	▼	▼	•	-	•	•	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
ROM	558	133	▼	▼	•	•	-	•	•	•	•	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
POL	550	143	▼	▼	•	•	•	-	•	•	•	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
PRT	540	126	▼	▼	▼	▼	•	•	-	•	•	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
USA	539	159	▼	▼	▼	▼	•	•	•	-	•	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
SVK	539	126	▼	▼	▼	▼	•	•	•	•	-	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
ITA	511	133	▼	▼	▼	▼	▼	▼	▼	▼	▼	-	•	•	•	•	•	•	•	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
LVA	503	141	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	-	•	•	•	•	•	•	•	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
HKG	501	146	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•	-	•	•	•	•	•	•	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
AUS	499	152	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•	•	-	•	•	•	•	•	•	•	▲	▲	▲	▲	▲	▲	▲	▲
SVN	495	128	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•	•	•	-	•	•	•	•	•	•	•	▲	▲	▲	▲	▲	▲	▲
HUN	493	126	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•	•	•	•	-	•	•	•	•	•	•	▲	▲	▲	▲	▲	▲	▲
NOR	490	149	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•	•	•	•	•	-	•	•	•	•	•	▲	▲	▲	▲	▲	▲	▲
RUS	490	133	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•	•	•	•	•	•	-	•	•	•	•	▲	▲	▲	▲	▲	▲	▲
BFR	481	142	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•	•	•	•	•	•	-	•	•	•	•	•	•	•	▲	▲	▲
BGR	475	145	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•	•	•	•	•	-	•	•	•	•	•	•	•	▲	▲
DNK	474	144	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•	•	•	•	•	•	-	•	•	•	•	•	•	▲	▲
LTU	471	137	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•	•	•	•	•	•	-	•	•	•	•	•	•	▲
ENG	464	154	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•	•	•	-	•	•	•	•	•	•
DEU	462	140	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•	•	•	•	-	•	•	•	•	•
CHE	456	140	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•	•	•	•	•	-	•	•	•	•
EST	456	135	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•	•	•	•	•	•	-	•	•	•
FIN	454	136	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•	•	•	•	•	•	-	•	•
SWE	447	152	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•	•	•	•	•	-	•
CZE	443	130	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•	•	•	•	•	-

▲ Scores significantly higher than comparison country
● No statistically significant difference
▼ Scores significantly lower than comparison country

Cognitions about democratic institutions
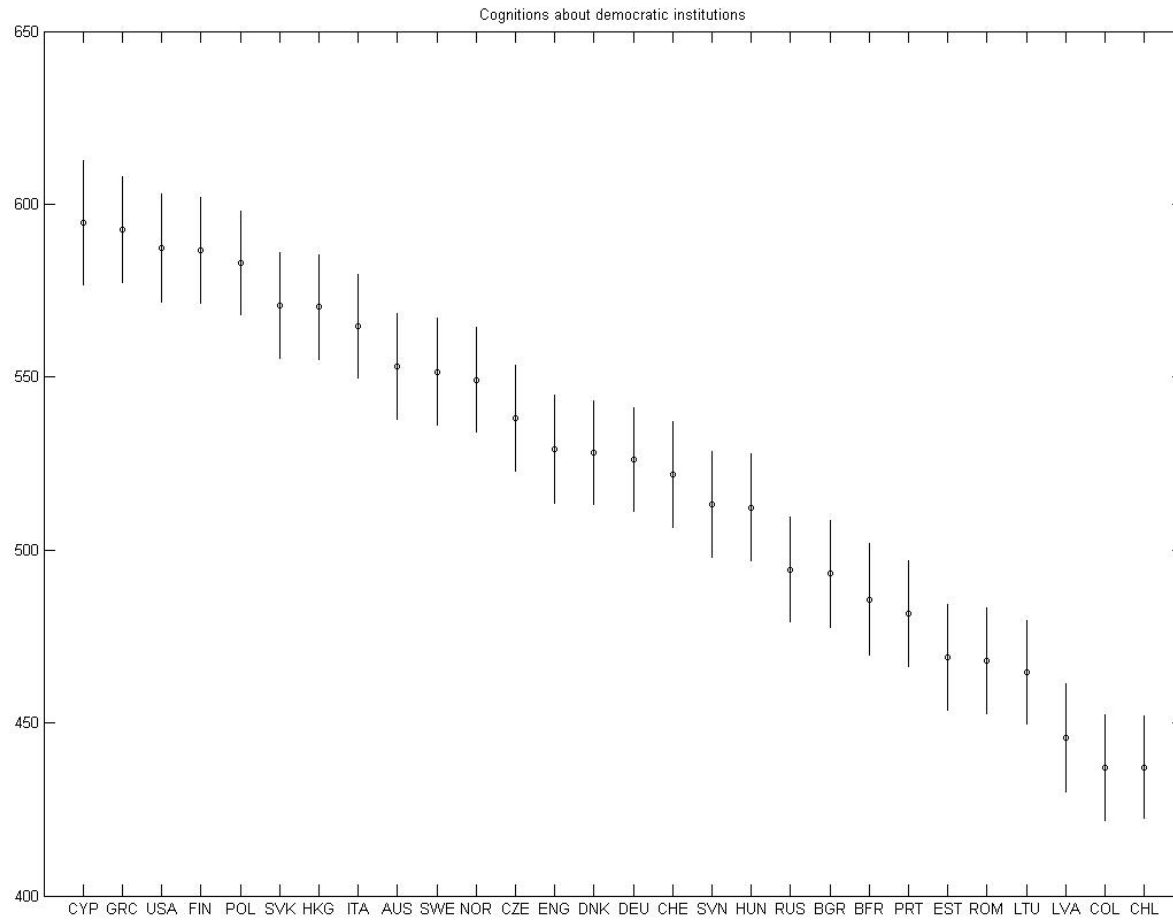
Figure 16: Pairwise comparison country scores (with standard errors), Cognitions about democratic institutions

Table 10: Statistical significance, pairwise comparison country scores, Cognitions about democratic institutions

	Average	SD	CYP	GRC	USA	FIN	POL	SVK	HKG	ITA	AUS	SWE	NOR	CZE	ENG	DNK	DEU	CHE	SVN	HUN	RUS	BGR	BFR	PRT	EST	ROM	LTU	LVA	COL	CHL
CYP	595	102	-	•	•	•	•	•	•	•	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
GRC	593	112	•	-	•	•	•	•	•	•	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
USA	587	123	•	•	-	•	•	•	•	•	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
FIN	587	100	•	•	•	-	•	•	•	•	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
POL	583	107	•	•	•	•	-	•	•	•	•	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
SVK	571	93	•	•	•	•	•	-	•	•	•	•	•	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
HKG	570	105	•	•	•	•	•	•	-	•	•	•	•	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
ITA	565	103	•	•	•	•	•	•	•	-	•	•	•	•	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
AUS	553	107	▼	▼	▼	▼	•	•	•	•	-	•	•	•	•	•	•	•	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
SWE	552	110	▼	▼	▼	▼	▼	•	•	•	•	-	•	•	•	•	•	•	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
NOR	549	110	▼	▼	▼	▼	▼	•	•	•	•	•	-	•	•	•	•	•	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
CZE	538	95	▼	▼	▼	▼	▼	▼	▼	•	•	•	•	-	•	•	•	•	•	•	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
ENG	529	106	▼	▼	▼	▼	▼	▼	▼	▼	•	•	•	•	-	•	•	•	•	•	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
DNK	528	106	▼	▼	▼	▼	▼	▼	▼	▼	•	•	•	•	•	-	•	•	•	•	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
DEU	526	98	▼	▼	▼	▼	▼	▼	▼	▼	•	•	•	•	•	•	-	•	•	•	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
CHE	522	94	▼	▼	▼	▼	▼	▼	▼	▼	•	•	•	•	•	•	•	-	•	•	•	▲	▲	▲	▲	▲	▲	▲	▲	▲
SVN	513	94	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•	•	•	•	-	•	•	•	•	▲	▲	▲	▲	▲	▲	▲
HUN	512	87	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•	•	•	•	•	-	•	•	•	▲	▲	▲	▲	▲	▲	▲
RUS	494	87	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•	•	-	•	•	•	•	•	▲	▲	▲	▲
BGR	493	109	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•	•	-	•	•	•	•	▲	▲	▲	▲
BFR	486	107	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•	•	•	-	•	•	•	▲	▲	▲	▲
PRT	482	98	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•	•	-	•	•	•	▲	▲	▲
EST	469	86	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•	•	•	-	•	•	▲	▲	▲
ROM	468	98	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•	•	•	•	-	•	•	▲	▲
LTU	465	92	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•	•	-	•	•	•
LVA	446	87	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•	-	•	•
COL	437	99	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•	-	•
CHL	437	100	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•	•	-

▲ Scores significantly higher than comparison country
● No statistically significant difference
▼ Scores significantly lower than comparison country
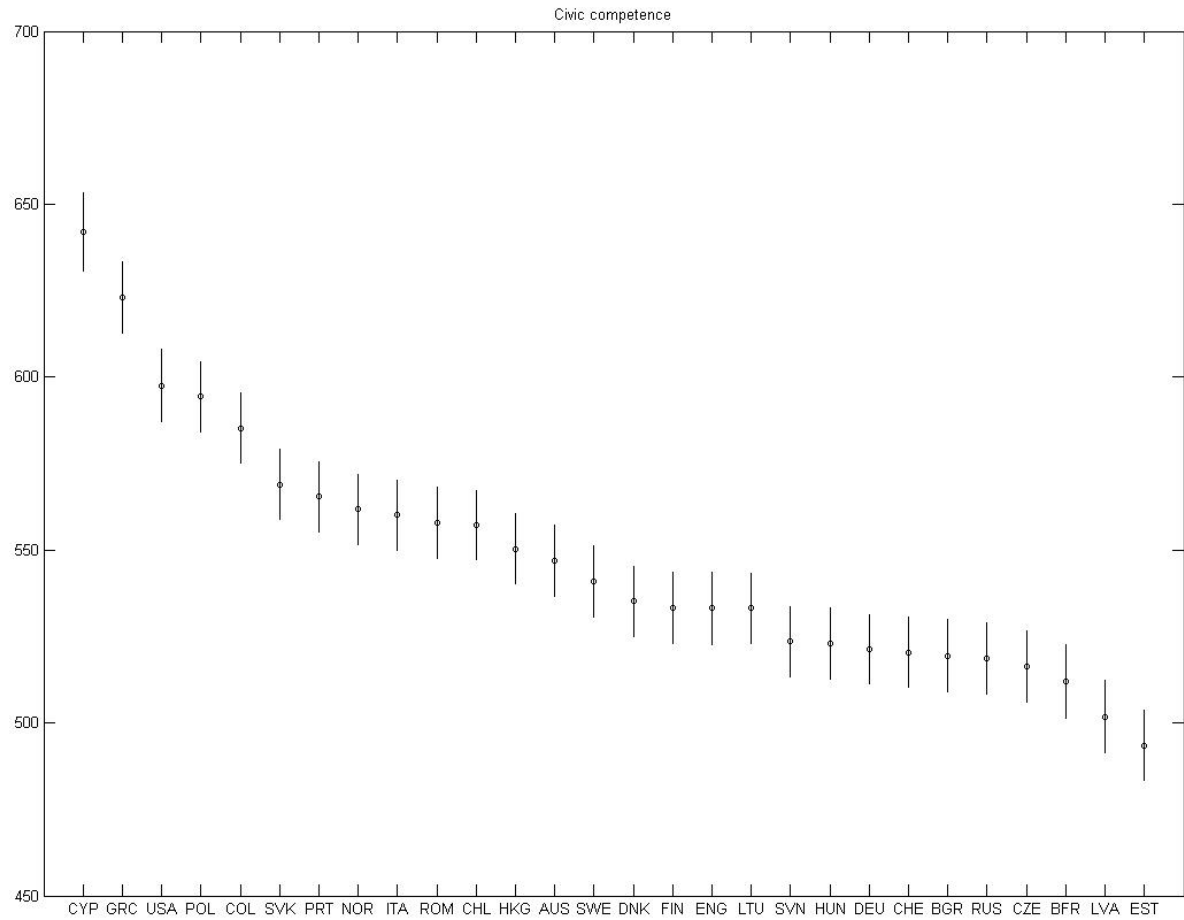
Figure 17: Pairwise comparison country scores (with standard errors), civic competence

Table 11: Statistical significance, pairwise comparison country scores, civic competence

	Average	SD	CYP	GRC	USA	POL	COL	SVK	PRT	NOR	ITA	ROM	CHL	HKG	AUS	SWE	DNK	FIN	ENG	LTU	SVN	HUN	DEU	CHE	BGR	RUS	CZE	BFR	LVA	EST
CYP	642	102	-	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
GRC	623	112	●	-	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
USA	598	123	▼	▼	-	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
POL	594	107	▼	▼	●	-	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
COL	585	99	▼	▼	●	●	-	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
SVK	569	93	▼	▼	▼	▼	●	-	●	●	●	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
PRT	565	98	▼	▼	▼	▼	●	●	-	●	●	●	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
NOR	562	110	▼	▼	▼	▼	▼	●	●	-	●	●	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
ITA	560	103	▼	▼	▼	▼	▼	●	●	●	-	●	●	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
ROM	558	98	▼	▼	▼	▼	▼	●	●	●	●	-	●	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
CHL	557	100	▼	▼	▼	▼	▼	●	●	●	●	●	-	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
HKG	550	105	▼	▼	▼	▼	▼	●	●	●	●	●	●	-	●	●	●	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
AUS	547	107	▼	▼	▼	▼	▼	▼	●	●	●	●	●	●	-	●	●	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
SWE	541	110	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	-	●	●	●	●	●	●	●	●	▲	▲	▲	▲	▲	▲
DNK	535	106	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	-	●	●	●	●	●	●	●	●	●	●	▲	▲	▲
FIN	533	100	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	-	●	●	●	●	●	●	●	●	●	▲	▲	▲
ENG	533	106	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	-	●	●	●	●	●	●	●	●	▲	▲	▲
LTU	533	92	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	●	-	●	●	●	●	●	●	●	▲	▲	▲
SVN	524	94	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	-	●	●	●	●	●	●	●	▲	▲
HUN	523	87	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	●	-	●	●	●	●	●	●	▲	▲
DEU	521	98	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	●	●	-	●	●	●	●	●	●	▲
CHE	520	94	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	●	●	●	-	●	●	●	●	●	▲
BGR	519	109	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	●	●	●	-	●	●	●	●	▲
RUS	519	87	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	●	●	●	●	-	●	●	●	▲
CZE	516	95	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	●	●	●	●	●	-	●	●	▲
BFR	512	107	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	●	●	-	●	●
LVA	502	87	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	●	-	●
EST	494	86	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	-

▲ Scores significantly higher than comparison country
● No statistically significant difference
▼ Scores significantly lower than comparison country

7. Conclusions

Measuring Civic Competence in Europe is part of a process to establish and monitor the learning outcomes needed to facilitate the development of active citizens in Europe. The first step of this project was to measure active citizenship in Europe through the development of a composite indicator using information from the European Social Survey of adults supplemented by some additional information (see Hoskins et al. 2006). This report constitutes the second step of measuring the levels of civic competence through the development of a composite indicator, the CCCI. This composite indicator pertains to the individual outcomes of learning for active citizenship among 14-year-olds, which is referred to as civic competence and contains indicators on civic knowledge, skills, attitudes and values. This was hypothesised to be the driving force for value-based engagement of active citizenship. This report is the first time that civic competence has been measured as a holistic concept combining cognitive and affective dimensions together and, as such, the results are innovative, but they must also be considered exploratory in their nature and tentative in their interpretation.

In this report we have built a composite indicator on civic competence based on the theoretical framework of a competence i.e. the holistic understanding that certain cognitive functions, such as knowledge and skills, and affective functions, such as attitudes and values, are important components of individual learning outcomes, including the learning outcome of civic competence. We have further developed the framework by exploring the nature of civic competence, in particular by reflecting on different lists of attributes required. From these lists we based our understanding of civic competence on that described by Veldhuis and Abs (2006) but we made some refinements. This ideal list we consider to be a basis for discussion on possible curriculum development, keeping in mind that school is not only learning opportunity to develop these competences. Next we explored the existing international data on civic competence which at the moment is only the IEA CivEd 1999 data. These data will be soon updated with the new IEA ICCS study 2009. Thus the framework has been developed in a manner in which it can be repeated over time to analyse trends.

Some data was available for all of the different components of a competence but there were some significant gaps. The biggest gaps were in the skills component in which many important dimensions were missing, such as "to build coalitions', 'to cooperate', 'to resolve conflict peacefully' and 'to know how to vote'. It is not surprising that this data is not available from international tests because these skills would require observations or forms of tests very different from the conventional paper and pencil that currently exist in international tests. As a result we recognise that the final results of the composite indicator do not measure certain skills which are needed for civic competence. Additional to this it should be noted that the results of the composite reflect only the situation for 14 year old pupils and not for the general population. With these caveats, we have found 84 indicators that were relevant to civic competence and covered the different components of knowledge, skills, attitudes, values and intended behaviour. Existing IEA scales were used to facilitate the building of the composite with the addition of scales developed by the CEDARS-project and by the current research team. The theoretical structure was empirically tested and this resulted in a revised model that distinguished four domains in civic competence: **Citizenship values**, **Social justice** (both values and attitudes), **Participatory attitudes** and cognition about democratic institutions.

The composite indicator was built using the techniques described by Nardo et al. (2005) and equal weights were given for each dimension and sub-dimension. A multilevel regression analysis was completed on the scores to determine if the country differences were significant and robustness analysis was performed to test the solidity of the composite indicator. The composite indicator proved to be very robust.

In contrast to what is often observed in rankings such as the Active Citizenship Composite Indicator, the CCCI ranking presented in this report do not in general show clear geographical patterns, and where patterns do occur these do not follow typical European scoreboard results (e.g. Innovation, GDP and gender equality). There is some tendency for Southern-European countries to be in the upper part of the ranking, with Cyprus and Greece doing particularly well in the overall CCCI and in the domains of **Citizenship values**, **Participatory attitudes** and cognition about democratic institutions. However, a Northern-European country like Norway can also be found in top part of the overall CCCI ranking, along with some former communist countries such as Poland, Slovakia and Romania. Other Northern-European countries such as Denmark and Finland are found in the lower-middle part of the CCCI rankings together with some other former communist countries such as Lithuania, Slovenia and Hungary. Two Baltic States close the CCCI rankings together with Belgium (FR).

Greece and Cyprus, who out perform the rest of Europe and the rest of the world in the overall composite and in almost all the dimensions, have a number of commonalities, such as a common cultural heritage from the classical period when democracy was first introduced in Greece, recent instability and transition (back) to democracy. For Greece this was in 1974, and Cyprus became an independent country (from the UK) in 1960 but experienced a military coop between 1967-1974. Both countries continue to have military tensions with Turkey over the territory held by that country in northern Cyprus since their invasion in 1974. Both countries in 1999 had civics in the curriculum in primary and secondary education in schools and have in the past had tendencies towards patriotic education and to an extent, particularly in Cyprus, still focus on Greek national history and Greek Cypriot national identity (Makrinioti and Solomon 1999) and (Papanastasiou and Koutselini-Ioannidou 1999). However, it very difficult to say exactly why these two countries develop higher levels of civic competence in young people and further research is clearly needed to understand this.

Concerning the four dimensions of the composite (**Cognition about democratic institutions**, **Participatory attitudes**, **Social justice** and **Citizenship values**) there were some regional results that deserve further exploration. Overall, Southern and Eastern European countries tend to perform better in the domains of **Participatory attitudes** and **Citizenship values**. Southern and former Communist European countries (Cyprus, Portugal, Romania, Poland, and Slovakia) are high performing countries for the dimension of **Participatory attitudes.** Most of the Northern European Countries to participate in the survey (Denmark, Sweden and Finland), and most of the Western European countries that participated (Germany, England and Switzerland) close the rankings. For the dimension of **Citizenship values** the former communist countries of Romania and Lithuania are high performing countries with southern European countries again giving the best results, Greece and Cyprus being the best performers. In contrast, Northern and Western Europe tends to perform less well, with Denmark, England, Belgium (French speaking) and Finland closing the ranking for this dimension together with Estonia, an outlier, who joins this group at the end of the table. One possible explanation for the

tendency for lower performances of Northern and Western Europe is that these countries have longer and more stable democracies (mostly originating from 19th century or earlier). There is a higher level of participation in their adult populations than in their Southern and Eastern European neighbours (Hoskins et al 2006) and (van Deth, Montro and Westholm 2007). Thus, young people from South Europe and East Europe, in countries who have experienced recent transition to democracies and less stability altogether, could value democracy and have a greater intention to participate in order to develop and maintain it in their country, whilst their northern and western counter parts do not place so much value on the democratic system that they have inherited. In the conclusion we have already described the example of Cyprus and Greece from Southern Europe as countries with recent transitions to democracy. Another example from Eastern Europe is Slovenia, one of the fastest paced transition countries to democracy and towards EU membership, which had its first democratic elections in 1990 and gained independence in 1991 after a short war. From 1991-2001 it faced further wars on its doorstep in the rest of the former Yugoslavia with migrants entering Slovenia from this conflict. In 1999 there were a number of political scandals involving the then prime minister and a number of public scandals, including in the police service. The hypothesis is that these unstable political external factors are giving young people a reason to value participation.

Does the data on the rest of the world support the conclusions that the length and stability of democracy is influencing the results? For the **Citizenship values**, Colombia and Chile perform well, and Australia is a low performer. In the domain of Attitudes towards participation Colombia, Chile and the US perform well and it is European countries who are the lowest performers. Colombia and Chile have less stable democracies and in this respect this supports the argument that in countries where there is a less stable democracy young people have a greater support towards **Citizenship values** and a better attitude towards participation. Australia is an older and more stable democracy and fits with the pattern of North West Europe. However, the US becomes an outlier because, despite being an older and more stable democracy, the young people have a more positive attitude towards participation. Because of a recent increase in interest among educators in the United States in sources of civic engagement in programmes in school, there is now considerable research on this issue, using both the IEA CivEd data (Torney-Purta, 2002) and a wide range of other data (see http://www.civicyouth.org).

In the dimension of **Social justice** the results are different, with Northern, Southern and Western European countries such as Cyprus, Portugal, Norway and England performing well, in contrast to the Russian Federation, Hungary, Bulgaria and Latvia, all former communist countries, who are the low performers in this domain. Poland is the outlier by being both a former communist country and a high performer. These regional results are less strong for **Cognition about democratic institutions,** but still follow this slight trend with Northern, Southern and Western European countries being found in the top half of the table, with the exception of Slovakia and Poland who are high performing countries for this dimension. In contrast, Eastern European countries tend to be located in the bottom half of the table with Romania, and the Baltic states of Estonia, Lithuania and Latvia giving low performances. The outlier in this case is Portugal who also does not perform well for **Cognition about democratic institutions**.

An explanation for these results is that for the Eastern European countries previous experiences of communism were affecting both the knowledge and values of equality in young people. As Buk-Berge (2006 p.534) highlights the change from

communism to democracies provided a dramatic change in civic education, unprecedented in history, 'previously based on the aim of indoctrinating them into builders of communism, it had to be transformed into the education of citizens living in a democracy'. Reforms of the education system across Eastern Europe were taking place and citizenship education was being introduced, for example in Slovenia 'The White Paper on Education in Slovenia (1996)'.

Interestingly, gaining low results for cognition is not the case for all former communist countries, for example, Poland. Buk-Berge (2006) points out that this might be the case due to the fact that in Poland the notion of civil society and communitarian notions of democracy had been developed outside the education system within the resistance movements and the Catholic Church prior to the fall of communism. She also gives example of how the new civic curriculum introduced in Poland was very innovative and orientated towards every day life in a democracy, in particular focusing on civil society and the community.

Again we turn to the data in the rest of the world to see if it supports these arguments. In the domain of **Cognition about democratic institutions** the US and Hong Kong are high performers and Colombia and Chile are low performers. Colombia and the US perform well on **Social justice** in contrast to Russia and Hong Kong who come in the bottom half of the ranking. In Chile and Colombia there has been a limited experience of democracy, which could explain their low performance on cognition. However, Colombia score higher on **Social justice** which does not fit our hypothesis. The US has extensive experience of democracy and thus their high position on Cognition and **Social justice** support our theory. However, Hong Kong has some experience of democracy from the UK but could be considered an outlier in this case. The position of the Russian Federation and Hong Kong, in the bottom half of the table on **Social justice**, would support the argument that less experience of democracy gives lower results for **Social justice**. However, this investigation so far is simply exploratory in terms of providing theories for these results, and further research is needed to provide a more solid basis for these theories.

The similar country trends for **Social justice** and cognition and the trends for **Participatory attitudes** and **Citizenship values** can also be found from exploring the data on the individual level. In the individual level data the highest correlations were found between **Participatory attitudes** and **Citizenship values**, supporting the theory that there is connection between these two phenomena. Importantly for education purposes there was a higher correlation also between **Social justice** and Cognition. **Citizenship values**, however, seemed relatively independent of cognition. In addition to the country level trends, there was also a link on the individual level between **Social justice** and **Participatory attitudes**. As **Social justice** correlates with all the dimensions it therefore seems to some extent an underlying principle for civic competence.

7.1 Active citizenship in a learning context revisited

The present paper is framed within the overall project of active citizenship in a learning context. This means that civic competence is of interest to us because it is meant to be an important driver of active citizenship. The present section explores the relationship between active citizenship and civic competence in order to provide some better understanding of the results. It is necessary to note that there are important limitations and difficulties that have to be addressed. Firstly, our measurement of civic competence is referring to 14 years old in schools, as measured with the IEA-CivEd test and survey in 1999. The Active citizenship composite indicator (ACCI) (see Hoskins et al 2006) is measuring active citizenship on adults between 15 and 103

Barriers

Background Variables *Context*	Experiences and inputs *Learning active citizenship*	Individual Outcomes *Civic Competence*	Social Outcomes *Active citizenship*
-Personal -Socio-familiar -Educational -Area	-Policy inputs -Educational processes (formal, non-formal and informal) -Media inputs	Cognitive: -Knowledge -Skills Affective: -Attitudes -Values -Intended behaviour	Participation: -Representative democracy -Civil action -Community action Values (connected to participation): -Democracy -Human rights -Intercultural understanding

using the European Social Survey (reference year 2002). This means that we are relating youth's civic competence levels with adults' active citizenship levels and we are relating them at different points in time. It should be noted that this is not a longitudinal study. The difference in the years (CivEd 1999 and ESS 2002) means that certain students included in CivEd could have had participated in ESS, but this cannot be tracked and it is not in any way measurable. Thirdly, the number of countries where we have data for both ACCI and CCCI is limited. There are 14 countries with data for both composites. Fortunately, there are countries amongst these that are to some extent in the whole range of points on CCCI, so that we are able to explore the relationship between low, medium and high levels of civic competence in young people. Fourthly, the UK in CivEd refers only to England, while it is the whole UK in ACCI; and Belgium refers to French speaking in the CivEd and to the whole country in ACCI. Lastly, it is important to note that we are relating these concepts at country level. For all these reasons we cannot look for causality in these figures; they are only presenting a picture of how each country young people's civic competence in 1999 relate to citizenship activity in 2002.

Despite these limitations, the figures show certain directions that need to be explained. They present, interesting relationships that should be explored in future research. What underlying factors are driving such associations? How could these relationships be explained? Is it related to measurement problems? All the scatter plots between ACCI and the different dimensions of CCCI are presented in Annex VII.

Figure 18 presents the level of active citizenship (ACCI) in relations to the level of civic competence (CCCI). Southern European countries (Greece, Portugal and Italy) present the highest score on civic competence and the lowest on active citizenship. Poland behaves similarly to these Southern European Countries. Nordic countries, Norway and Sweden, are high on active citizenship and medium to high on civic competence. Countries that are mid range on active citizenship, such as Germany and UK, are low on civic competence. It could be said that the figure presents a U shape relationship, where countries that are low (Greece, Poland) and high (Norway, Sweden) in ACCI present high levels of CCCI, while middle range countries in ACCI (Finland, UK) present low levels of CCCI. To some extent it seems that middle performing countries in ACCI have low levels of civic competence in young people. Young people have the highest levels of civic competence if adults in their countries do not participate. The relationship pattern is found to be similar when ACCI is compared with only the **Citizenship values** dimension of CCCI (see Annex VIII, figure A22).
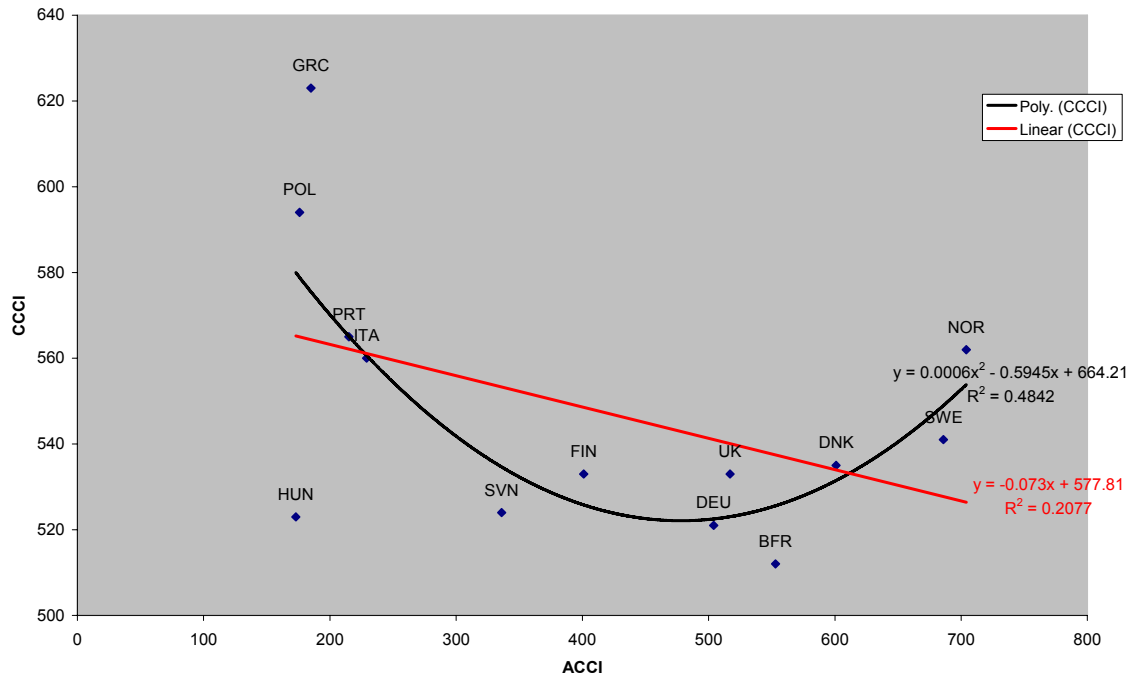
Figure 18: Active citizenship composite indicator (ACCI) (adults) and civic competence composite indicator (CCCI) (14 year olds)
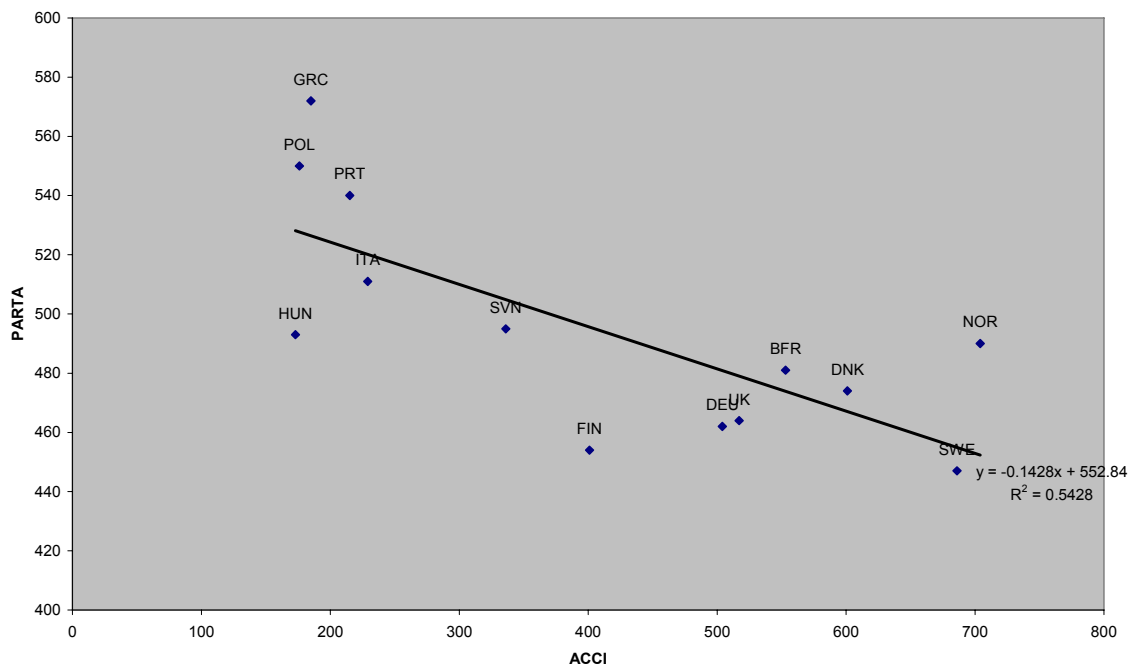
Figure 19:Active citizenship composite indicator (ACCI) (adults) and Participatory attitudes subdomain (*parta*) (14 year olds)

The relationship between ACCI and **Social justice** (*socj*) and **Cognition about democratic institutions** (*cogd*) is almost non-existent (see annex VIII, figures A23 and A24). However, with **Participatory attitudes** the relationship seems more clear (see figure 19). Higher levels of ACCI seem to be associated with lower levels

of **Participatory attitudes**. In other words, countries where adults tend to participate, such as the Scandinavian countries Sweden, Norway and Denmark, young people have less positive **Participatory attitudes**. In contrast to this, if the country has lower levels of participation, such as Southern (Greece, Portugal and Italy) and Eastern European countries (Hungary Poland and Slovenia), young people seem to have a higher participatory attitude. This result is in line with the conclusions of the CCCI that young people in countries with newer and less stable democracies with lower levels of adult participation have higher levels of **Participatory attitudes**.

Notwithstanding the acknowledged difficulties of measurement and the difficulties that occur in correlations between composites, the trends found here are not indicative of a positive relationship between competence and practice. What can be said at this stage is that the relationship between these two phenomena is not straight forward and further research is needed to understand the complexities of active citizenship in a learning context.

8. References

Ashkanasy, N., Wilerom, C., and Mark Peterson, M. (2004). *Organisational culture and climate*. London: Sage.

Audigier, F. (2000) Basic Concepts and Core Competencies for Education for Democratic Citizenship. Strasbourg: Council of Europe publishing.

Abs, H. and Veldhuis, R. (2006) Indicators on active citizenship - the social, cultural and economic domain.

Buk-Berge, E. (2006) Missed opportunities: the IEA's study of civic education and civic education in Post-communist countries. *Comparative Education Vol.42, No. 4 pp533-548*

Campbell, D. (2006) What Is Education's Impact on Civic and Social Engagement? In Richard Desjardins and Tom Schuller (eds) Measuring the Effects of Education on Health and Civic Engagement Proceedings of the Copenhagen Symposium. Pairs: CERI, OECD.

Coe, R. (2002). *It's the effect size, stupid: What effect size is and why it is important.* Paper presented at the annual conference of the British Educational Research Association, University of Exeter, England, 12-14 September 2002.

Cohen, J. (1969). *Statistical power analysis for the behavioral sciences.* NY: Academic Press.

Education Council (2001) Report from the Education Council to the European Council. "The concrete future objectives of education and training systems" Brussels, 14 February 2001. Brussels: European Council.

European Commission (2007) Staff Working Document: Progress Towards the Lisbon Objectives in Education and Training, indicators and benchmarks. Luxembourg: Official publications of the European Communities.

European Commission (1998) Education and Active Citizenship in the European Union Office for Official Publications of the European Communities, Luxembourg (under the authorship of the European Commission; available in all official languages)

Education Council (2007) *Council conclusions on a coherent framework of indicators and benchmarks for monitoring progress towards the Lisbon objectives in education and training* Brussels: Council of the European Union

Education Council (2006) *Recommendation of the European Parliament and the Council of 18 December   2006 on key competencies for lifelong learning.* Brussels: Official Journal of the European Union,   30.12.2006

Eurydice (2005) Citizenship Education at School in Europe. Belgium: Eurydice.

DeSeCo (2005) *Definition and Selection of Key Competencies: Executive Summary (30-Jun-2005)* Web document: http://www.portal-stat.admin.ch/deseco/news.htm (assessed 11 June, 2007)

Goldstein, H., & Healy, M.J.R. (1995). The graphical presentation of a collection of means. *Journal of the Royal Statistical Society*, Ser. A, 158, 175-177.

Hoskins, B. (2006): Draft framework on Indicators for Active Citizenship. Ispra: CRELL.

Hoskins, B., Jesinghaus, J., Mascherini, M., Munda, G., Nardo, M., Saisana, M., Van Nijlen, D., Vidoni, D and Villalba, E. (2006) Measuring Active Citizenship in Europe. Ispra: European Commission Institute for the Protection and Security of the Citizen EUR 22530 EN.

Husfeldt, V., Barber, C., & Torney-Purta, J. (2005). *Students' social attitudes and expected political participation: New scales in the enhanced database of the IEA*

Civic Education Study. College Park, MD: Civic Education Data and Researcher Services. [Available: http://www.wam.umd.edu/~iea]

International Association for the Evaluation of Educational Achievement (2007) International Civic and Citizenship Education Study: Assessment Framework. (The Netherlands: International Association for the Evaluation of Educational Achievement.)

Mainguet, C. and Baye, A. (2006) Defining a framework of indicators to measure the social outcomes of learning. In Richard Desjardins and Tom Schuller (eds) Measuring the Effects of Education on Health and Civic Engagement Proceedings of the Copenhagen Symposium. Pairs: CERI, OECD.

Mascherini, M., Saltelli, A. and Vidoni, D. (forthcoming) Participation in Europe: One-Size-Fits-None. Ispra: European Commission Institute for the Protection and Security of the Citizen EUR EN.

Makrinioti, D.& Solomon, J. (1999) The discourse of citizenship Education in Greece: National Identity and Social Diversity. Pp 258-312 in Torney-Purta, J. Schwille, J. and Amadeo, J. (1999) Civic Education Across Countries: Twenty-four national case studies from the IEA Civic Education project. Delft, Netherlands: Eburon publishers.

Masters, G.N., & Wright, B.D. (1997). The Partial Credit model. In W.J. van der Linden & R.K. Hambleton (Eds.), *Handbook of modern item response theory* (p.101-122). New York/Berlin/Heidelberg: Springer.

Ogris, G. and Westphal, S. (2006) Indicators on active citizenship - the political domain. Ispra: European Commission.

OECD (2003). *PISA 2003 technical report.* Paris: OECD.

Papanastasiou, C.& Koutselini-Ioannidou (1999) National Identity in the Civic Education of Cyprus pp161-178 in Torney-Purta, J. Schwille, J. and Amadeo, J. (1999) Civic Education Across Countries: Twenty-four national case studies from the IEA Civic Education project. Delft, Netherlands: Eburon publishers.

Putnam, R. (2000). Bowling Alone: The Collapse and Revival of American Community. (New York: Simon and Schuster.)

Rasch, G. (1960). *Probabilistic models for some intelligence and attainment test.* Copenhagen: Nielsen & Lydiche.

Rychen, D. S. (2003) *Key competencies: Meeting important challenges in life* in Rychen D.S. and Salganik, L. (Eds.) *Key Competencies for a Successful Life and a Well-functioning Society.* Göttingen: Hogrefe & Huber

Rychen, D.S. (2004) Key competencies for all: an overarching conceptual frame of reference. In Rychen, D. S. and Tiana, A. (Eds) *Developing Key Competencies in Education: Some lessons from International and National Experience.* Geneva: UNESCO / International Bureau of Education

Rychen, D. S. and Tiana, A. (2004) *Developing Key Competencies in Education: Some lessons from International and National Experience.* Geneva: UNESCO / International Bureau of Education

Snijders, T.A.B., & Bosker, R.J. (1999). *Multilevel analysis: An introduction to basic and advanced multilevel modeling.* London: Sage.

Schultz, W. and Sibberns, H. (2004) IEA Civic Education Study Technical Report. Amsterdam: IEA.

Tiana, A. (2004) Developing key competencies in education systems: some lessons from international studies and national experiences. In Rychen, D.S. & Tiana, A. (Eds.) Developing key competencies in education: some lessons form

international and national experiences. Geneva: UNESCO / International Bureau of Education

Torney-Purta, J., Barber, C., & Richardson, W. K. (2004). Trust in government related institutions and political engagement among adolescents in six countries. *Acta Politica*, 380-406..

Torney-Purta, J., Richardson, W., & Barber, C. (2004). *Adolescents' trust and civic participation in the United States: Analysis of data from the IEA Civic Education Study (*Fact sheet, 8 pages). College Park, MD: Center for Information and Research on Civic Learning and Engagement, University of Maryland, College Park.

Torney-Purta, J. Schwille, J. and Amadeo, J. (1999) Civic Education Across Countries: Twenty-four national case studies from the IEA Civic Education project. Amsterdam: IEA.

Torney-Purta, J., Lehmann, R., Oswald, H. and Schulz, W. (2001) Citizenship and education in Twenty-eight Countries: civic knowledge and engagement at age 14. Amsterdam: IEA. Also http://www.wam.umd.edu/~iea.

Van Deth, J. Montero, J. and Westholm, A. (2007) *Citizenship and Involvement in European Democracies: A Comparative Analysis.* (London: Routledge.)

Veldhuis, R. (1997) Education for Democratic Citizenship: dimensions of citizenship, core competences, variables and international activities. Strasbourg, Council of Europe

Wu, M.L., Adams, R.J., & Wilson, M.R. (1997). ACER ConQuest: Multi-aspect software (computer program). Camberwell, Vic.: Australian Council for Educational Research.

Cattell, R.B. (1966). Multivariate Behavioral Research and the Integrative Challenge. *Multivariate   Behavioral Research,* 1, 4-23.

Kaiser, H.F. (1960). The application of electronic computers to factor analysis. *Educational and Psychological Measurement*, 20, 141-151.

Kim, J.O., & Mueller, C.W. (1978). *Introduction to factor analysis: What it is and how to do it*. Thousand Oaks, CA: Sage Publications, Quantitative Applications in the Social Sciences Series, No. 13.

Thurstone, L.L. (1935). *The Vectors Of Mind Multiple Factor Analysis For The Isolation Of Primary   Traits.* Chicago: University of Chicago Press.

Annex I: Lists of civic competences

(Veldhuis, 1997):

- **Political**: knowledge of the political system, democratic attitude, participatory skills
- **Social**: knowledge of social relations in society and social skills
- **Cultural**: knowledge of the cultural heritage, of history, basic skills (language competence, reading and writing)
- **Economic**: vocational training, economic skills (for job-related and other economic activities)

(Audigier, 2000)

- **Cognitive competences**: competences of a legal and political nature, knowledge of the present world, competences of a procedural nature, knowledge of the principles and values of human rights and democratic citizenship
- Ethical competences and value choices
- Capacities for action
- Capacity to live with others
- Capacity to resolve conflicts in accordance with the principles of democratic law
- Capacity to take part in public debate

(Veldhuis and Abs, 2006)

Veldhuis and Abs (2006), in the context of this project, have refined the network list described bellow and given a longer definition of the elements and thus their list has become the reference framework for our model of civic competence (Annex I). However, Veldhuis and Abs (2006) have not differentiated between "values", "attitudes" and "intended behaviour". In their model, they distinguish only between "knowledge", "skills" and "attitudes". "Knowledge" and "skills" are equivalent to the cognitive domain in our model. The attitude section of Veldhuis and Abs (2006), using the definitions from the start of this report, is much wider than our concept of attitudes and theirs includes the whole affective dimensions of civic competence. Therefore it was necessary that to split this dimension into these different aspects based on the definitions from the framework of a competence. Other dimensions that Veldhuis and Abs (2006) consider within their skill domain ("to take part in political discussions"), we consider closer to learning inputs or deliberative democracy learning outcomes rather than to civic competence skills. In the case of actual performance such as "to participate in voluntary organizations", these dimensions are considered part of active citizenship itself and not civic competence and are therefore removed. In addition, "to have language competence, reading and writing" and those which refer to ICT skills are neither the main target of this survey nor of interest to our framework of measuring civic competence as they will be covered in other key competence indicators of the European Union. Despite our misgivings over the indicator of trust we kept this indicator in for the initial stage of the composite indicator development.

Knowledge of:
- key elements of the political and legal system (human) rights and duties
- parliamentary government, the importance of voting) (local, national, European level)
- the basics of democracy, political parties, election programs, the proceeding elections
- the role of the media in personal and social life
- social relations in society: social rights
- the history and cultural heritage of own country; of predominance of certain norms and values
- different cultures in the school and in the country main events, trends and change agents of national, European and world history
- the work of voluntary groups

Attitudes:
- support for the political community
- acceptance of the rule of law
- strive for justice and the equality and equal treatment of citizens
- to respect gender - and religious differences
- negative about prejudice, racism and discrimination
- democratic attitude, feel responsible, political confident, trust in and loyal to democratic principles and institutions
- sense of belonging to the community
- tolerance and respect; open to change; able to adapt and to compromise
- preservation of the environment
- respect for human rights (freedom, diversity, equality)
- respect for the dignity and freedom of every individual
- that it is important to be/become involved in society and in politics

Skills:
- to take part in political discussions; consciousness of current political issues; to be able to evaluate a position or decision, take a position, defend a position
- to resolve conflicts in a peaceful way
- ability to interpret the media messages (interests and value systems that are involved etc.)
- to have media skills to look, choose, and 'use the buttons'
- to have language competence, reading and writing
- to be capable in critical handling of information and information technology
- to possess communication skills
- to know how to vote; to monitor and influence policies and decisions
- to use the media in an active way (not as consumer, but as producer of media content)
- to participate in voluntary organisations
- to build coalitions; to co-operate; to interact
- to be capable to handle multiculturalism

Annex II: Description of the scales

<u>Cognitive</u>
        TOT – Knowledge of content
<u>Knowledge</u>
        KNOWL – Knowledge of content
<u>Skills</u>
        SKILS – Skills in interpretation of material with civic or political content
<u>Concepts</u>: Personal opinions about…
        Good and bad for democracy…
        DEM$^\Delta$ – Attitude towards democracy
        …characteristics of a good citizens:
        CTCON – Conventional citizenship
        CTSOC – Social-movement-related citizenship
        …responsibilities should the government have
        GOVSOC –Economy-related
        GOVEC – Society-related
<u>Attitudes</u>:
        Trust towards institutions
        TRUST – Government-related institutions
        MEDIA*[+] - Trust in media
        Towards Nation
        PROTC*[+] - Protective of one's nation
        PATRI – Positive attitude towards one nation
        Toward women, minorities and anti-democratic groups
        WOMRT – Attitudes toward women's political and economic right
        MINOR*[+] – Attitude toward opportunities for minorities
        ADGR*[+] – Attitude toward political rights for anti-democratic groups
        Toward immigration
        IMMIG – Attitudes toward immigration
        EFFIC[+] – Internal political efficacy
<u>Actions</u>:
        School participation
        CONFS – Confidence in participation at school
        SCON*$^\Delta$– Self-confident participation
        Expected Participatory activity
        POLAT – Political activities
        PROTE*[+]– Protest activities
        VOTE[+] – Expectations associated with voting
        COMM[+] – Expectations of community participation
        Teaching styles:
        CCLIM – Open climate for classroom discussion
        LECTR* - Lecturing styles

*Scales identified but not developed by IEA
[+]Scales identified and developed by CEDAR
$^\Delta$Scale identified and developed by authors

Knowledge:

KNOWL – Knowledge of content

Skills:

SKILS – skills in interpretation of material with civic or political content

DEM: Democratic rights	
What is good and bad for democracy?	
A1	When everyone has the right to express their opinions freely that is
A4	When newspapers are free of all government [state, political] control, that is
A6*	When one company owns all the newspapers, that is
A7	When people demand their political and social rights, that is
A10*	When people who are critical of the government are forbidden from speaking at public meetings, that is
A11	When citizens have the right to elect political leaders freely, that is
A13	When many different organisations [associations] are available [exist] for people who wish to belong to them, that is
A25	When people peacefully protest against a law they believe to be unjust, that is

Notes: Categories – very bad for democracy, somewhat bad for democracy, somewhat good for democracy and very good for democracy. *Reversed item.

CTCON: Importance of Conventional citizenship	
An adult who is good citizen…	
B2	Votes in every election
B3	Joins a political party
B6	knows about the country's history
B8	follows political issues in the newspaper, on the radio, or on TV
B10	shows respect for government representatives [leaders, officials]
B12	engages in political discussions

Note: Categories—not important, somewhat unimportant, somewhat important, very important.

CTSOC: Importance of Social-movement-related Citizenship	
An adult who is a good citizen . . .	
B5	would participate in a peaceful protest against a law believed to be unjust
B9	participates in activities to benefit people in the community [society]
B11	takes part in activities promoting human rights
B13	takes part in activities to protect the environment

Note: Categories—not important, somewhat unimportant, somewhat important, very important.

GOVEC: Economy-related Government Responsibilities	
What responsibilities should the government have?	
C1	To guarantee a job for everyone who wants one.
C2	To keep prices under control.
C5	To provide industries with the support they need to grow.
C6	To provide an adequate [decent] standard of living for the unemployed.
C7	To reduce differences in income and wealth among people.

Note: Categories—not important, somewhat unimportant, somewhat important, very important.

GOVSO: Society-related Government Responsibilities	
What responsibilities should the government have?	
C3	To provide basic health care for everyone.
C4	To provide an adequate [decent] standard of living for old people.
C8	To provide free basic education for all.
C9	To ensure [be sure there are] equal political opportunities for men and women.
C10	To control pollution of the environment.

Note: Categories—not important, somewhat unimportant, somewhat important, very important.

TRUST: Trust in Government-related Institutions	
How much of the time can you trust each of the following institutions?	
D1	The national [federal] government
D2	The local council or government of town or city
D3	Courts
D4	The police
D8	Political parties
D11	National Parliament [Congress]

Note: Categories—never, only some of the time, most of the time, always.

MEDIA: Trust in Media	
How much of the time can you trust each of the following institutions?	
D5	News on television
D6	News on the radio
D7	News in the press [newspapers]

Note: Categories—never, only some of the time, most of the time, always.

PATRI: Positive Attitudes toward One's Nation	
E3	The flag of this country [name of country] is important
E7	I have great love for this country [name of country].
E9	This country [name of country] should be proud of what it has achieved.
E11*	I would prefer to live permanently in another country.

Notes: Categories—strongly disagree, disagree, agree, strongly agree. *Reversed item.

PROTC: Protective Feelings toward One's Nation	
E1	To help protect jobs in this country [name of country] we should buy products made in this country [name of country].
E2	We should keep [prevent] other countries from trying to influence political decisions in this country [name of country].
E4	We should always be alert and stop threats from other countries to this country's [name of country] political independence.
E12	We should stop outsiders from influencing this country's [name of country] traditions and culture.

Notes: Categories—strongly disagree, disagree, agree, strongly agree.

WOMRT: Attitudes toward Women's Political and Economic Rights	
G1	Women should run for public office [a seat in the legislature] and take part in the government just as men do.
G4	Women should have the same rights as men in every way.
G6*	Women should stay out of politics
G9*	When jobs are scarce, men [should] have more right to a job than women.
G11	Men and women should get equal pay when they are in the same jobs [occupations].
G13*	Men are better qualified to be political leaders than women.

Notes: Categories-strongly disagree, disagree, agree, strongly agree. *Reversed items.

MINOR: Attitudes toward Opportunities for Minorities	
G2	All ethnic [racial or national] groups should have equal chances to get a good education in this country.
G5	All ethnic [racial or national] groups should have equal chances to get good jobs in this country.
G8	Schools should teach students to respect members of all ethnic [racial or national] groups.
G12	Members of all ethnic [racial or national] groups should be encouraged to run in elections for political office

Notes: Categories-strongly disagree, disagree, agree, strongly agree. *Reversed items.

ADGR: Attitudes toward Political Rights for Anti-Democratic Groups	
G3	Members of anti-democratic groups [groups that are against democracy] should be prohibited from hosting a television show talking about these [their] ideas.
G7	Members of anti-democratic groups [groups that are against democracy] should be prohibited from organizing peaceful [non-violent] demonstrations or rallies.
G10	Members of anti-democratic groups [groups that are against democracy] should be prohibited from running in an election for political office.
G14	Members of anti-democratic groups [groups that are against democracy] should be prohibited from making public speeches about these [their] ideas.

Notes: Categories-strongly disagree, disagree, agree, strongly agree.

IMMIG: Positive Attitudes toward Immigrants	
H1	Immigrants should have the opportunity [option] to keep [continue speaking] their own language.
H2	Immigrants' children should have the same opportunities for education that other children in the country have.
H3	Immigrants who live in a country for several years should have the opportunity to vote in elections.
H4	Immigrants should have the opportunity [option] to keep [continue] their own customs and lifestyle.
H5	Immigrants should have all the same rights that everyone else in a country has.
H6*	Immigrants should be forbidden to engage in political activity.
H7*	Having many immigrants makes it difficult for a country to be united and patriotic.
H8	All countries should accept refugees who are trying to escape from wars or political persecution in other countries.

Notes: Categories—strongly disagree, disagree, agree, strongly agree. *Reversed items.

EFFIC: internal political efficacy	
I2	I know more about politics than most people my age
I5	When political issues or problems are being discussed, I usually have something to say
I8	I am able to understand most political issues easily
I10	I am interested in politics

Note: Categories—Very bad, somewhat bad, somewhat good, very good for democracy, disagree, agree,.

CONFS: Confidence in Participation at School	
J1	Electing student representatives to suggest changes in how the school is run [how to solve school problems] makes schools better.
J2	Lots of positive changes happen in this school when students work together.
J3	Organizing groups of students to state their opinions could help solve problems in this school.
J5	Students acting together [in groups] can have more influence on what happens in this school than students acting alone [by themselves].

Note: Categories—strongly disagree, disagree, agree, strongly agree.

SCON: Self-Confident participation at school	
J6	I am interested in participating in discussions about school problems.
J7	When school problems are being discussed I usually have something to say.

Note: Categories—strongly disagree, disagree, agree, strongly agree.

POLAT: Political activities	
When you are an adult, what do you expect that you will do?	
M3	Join a political party
M4	Write letters to a newspaper about social or political concerns
M5	Be a candidate for a local or city office

Notes: Categories—I will certainly not do this; I will probably not do this; I will probably do this; I will certainly do this.

PROTE:	
What do you expect that you will do over the next few years?
M10	Spray-paint protest slogans on walls
M11	Block traffic as a form of protest
M12	Occupy public buildings as a form of protest

Notes: Categories—I will certainly not do this; I will probably not do this; I will probably do this; I will certainly do this.

VOTE: Expectations associated with voting	
When you are an adult, what do you expect that you will do?
M1	Vote in national elections
M2	Get information about candidates before voting in an election

Note: Categories—Very bad, somewhat bad, somewhat good, very good for democracy

COMM: Expectations of community participation	
What do you expect that you will do over the next few years?
M6	Volunteer time to help people in the community
M7	Collect money for a cause
M8	Collect signatures for a petition

Note: Categories—Very bad, somewhat bad, somewhat good, very good for democracy

CCLIM: Open Climate for Classroom Discussion	
N1	Students feel free to disagree openly with their teachers about political and social issues during class.
N2	Students are encouraged to make up their own minds about issues.
N3	Teachers respect our opinions and encourage us to express them during class.
N5	Students feel free to express opinions in class even when their opinions are different from most of the other students.
N7	Teachers encourage us to discuss political or social issues about which people have different opinions.
N8	Teachers present several sides of [positions on] an issue when explaining it in class.

Notes: Categories—strongly disagree, disagree, agree, strongly agree.

LECTR: Lecturing Style	
N4	Teachers place great importance [stress, emphasis] on learning facts or dates when presenting history or political events.
N6	Teachers require students to memorize dates or definitions.
N10	Memorizing dates and facts is the best way to get a good grade [mark] from teachers in these classes.
N11	Teachers lecture and the students take notes.
N12	Students work on material from the textbook.

Notes: Categories—strongly disagree, disagree, agree, strongly agree.

Annex III: Creating a scale for democratic rights and other scales

The scale democratic rights (DEM) was identified and calculated by the authors. This annex presents the process and results of the creation of the scale DEM. The scale SCON was identified by IEA but not developed. This annex presents also the item parameters of this scale. Information on the rest of the scales and their item parameters can be found in Schultz and Sibberns (2004).

Table A12: Items on democracy

A1+	When everyone has the right to express their opinions freely that is
A2*	When differences in income and wealth between the rich and the poor are small, that is
A3	When political leaders in power give jobs in the government [public sector] to members of their family, that is
A4+	When newspapers are free of all government [state, political] control, that is
A5*	When private businesses have no restrictions from government, that is
A6+	*When one company owns all the newspapers, that is*
A7+	When people demand their political and social rights, that is
A8*	When immigrants are expected to give up the language and customs of their former countries, that is
A9*	When political parties have rules that support women to become political leaders, that is
A10+	*When people who are critical of the government are forbidden from speaking at public meetings, that is*
A11+	When citizens have the right to elect political leaders freely, that is
A12	When courts and judges are influenced by politicians, that is
A13+	When many different organisations [associations] are available [exist] for people who wish to belong to them, that is
A14*	When there is a separation [segregation] between the church [institutional church] and the state [government], that is
A15*	When young people have an obligation [are obliged] to participate in activities to benefit [help] the community [society], that is
A16*	When a minimum income [living standard] is assured for everyone, that is
A17	When political parties have different opinions [positions] on important issues, that is
A18	When people participate in political parties in order to influence government, that is
A19*	When laws that women claim are unfair to them are changed, that is
A20	When all the television stations present the same opinion about politics, that is
A21	When people refuse to obey a law which violates human rights, that is
A22*	When newspapers are forbidden to publish stories that might offend ethnic groups [immigrant groups, racial groups, national groups], that is
A23	When wealthy business people have more influence on government than others, that is
A24	When government leaders are trusted without question, that is
A25+	When people peacefully protest against a law they believe to be unjust, that is

*Items excluded because of lack of adjustment to a normative structure for civic competences
+items used to create the DEM scale
Italic items were reverse-coded
Notes: Categories – very bad for democracy, somewhat bad for democracy, somewhat good for democracy and very good for democracy

The CivEd questionnaire has 25 Likert-type items referring to "what is good and what is bad for democracy". Students had to provide their opinion on certain statements about democracy from "very good" to "very bad for democracy". From the 25 items, we selected only items that could be related to a normative framework for civic competence (see table A12). As a result 16 items on democracy were used in a factor analysis to discover underlying constructs. The factor analysis presented was on items as they were originally worded. In other words, negative loadings were expected on items that show statements that are "bad" for democracy, such as A6 ("When one company owns all the newspapers, that is…"). Explanation on how to carry out and the logic behind factor analysis techniques can be found in Annex V.

The results of the factor analysis show three factors with eigenvalues greater than one. The variance explained by the three factors is 39% (see table A13). The Scree plot shows that it would be recommendable to select one factor (see figure A20).

Table A13: Total variance explained (16 items on democracy)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.586	22.410	22.410	3.586	22.410	22.410	2.641	16.507	16.507
2	1.416	8.852	31.262	1.416	8.852	31.262	2.135	13.343	29.850
3	1.195	7.468	38.730	1.195	7.468	38.730	1.421	8.880	38.730
4	.998	6.235	44.965						
5	.942	5.886	50.851						
6	.818	5.113	55.964						
7	.805	5.031	60.995						
8	.794	4.963	65.958						
9	.756	4.723	70.680						
10	.734	4.589	75.269						
11	.708	4.423	79.692						
12	.696	4.347	84.039						
13	.669	4.182	88.221						
14	.658	4.114	92.334						
15	.643	4.017	96.351						
16	.584	3.649	100.000						

Extraction Method: Principal Component Analysis.
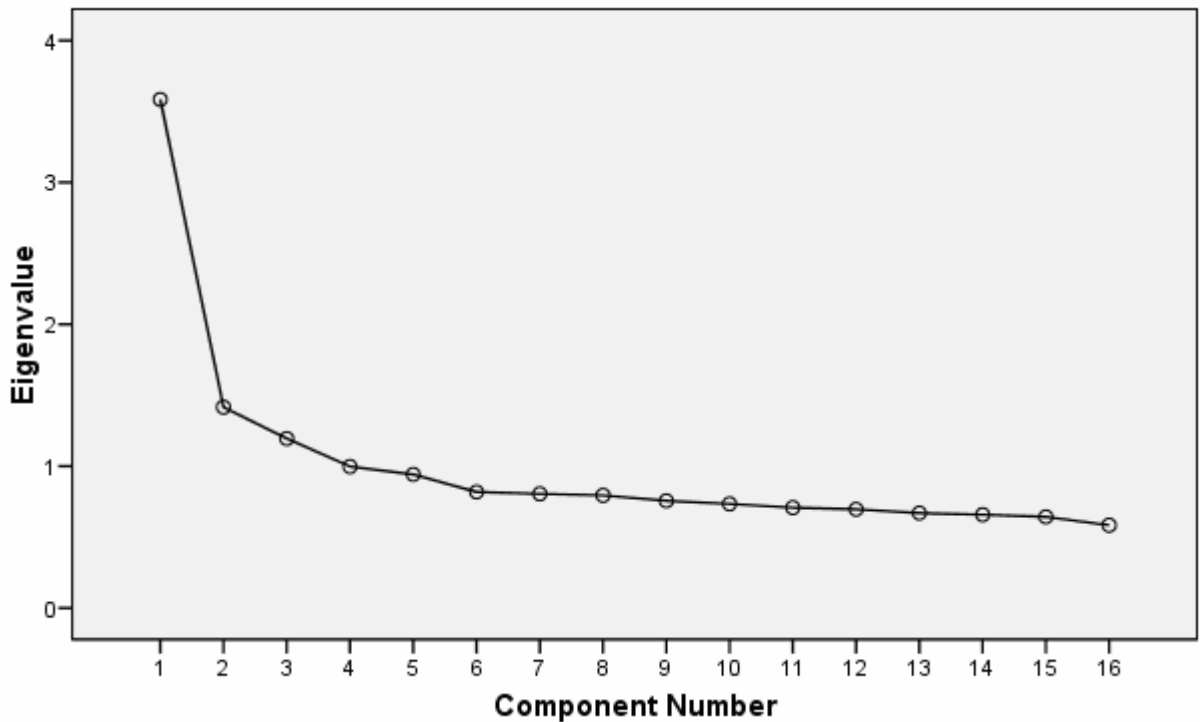
Figure A20: Scree plot for the principal component analysis of 16 items on democracy

Table A14 shows the component loading matrix of the 16 items for the three identified factors with eigenvalue greater than one. The un-rotated component matrix was used to base the decisions on item inclusions. The reason behind this is that we wanted a single democracy scale to account for as much variance as possible, rather

than getting multiple factors that each explained similar amounts of variance. The other, unrotated factors were kept to check and see if any of our items were more heavily loaded (or even cross-loaded) on this other factors. We set up a threshold for factor loadings of .35. The table shows that several items have high loadings in two or three components. The first factor, that would be recommendable to extract, refers mainly to questions of democracy and rights, we called it "democratic rights" (DEM), the second factor refers mainly to distrust of institutional power and the third factor seems to be mainly influenced by trusting in government and TV stations presenting similar opinions. In the first component (identified as DEM) six items present negative factor loadings and three of them present cross-loadings with component two (item A12, A23, A3). The latter items with cross-loadings were deleted from the scale in order to have a more reliable scale on democratic rights. Item 20 might also "produce some "noise" since it loads relatively high in component 3.

Table A14: Component matrix

		Component		
		1	2	3
bs3a10	CRITICAL PEOPLE FORBIDDEN FROM SPEAKING	-0.56	0.07	0.05
bs3a12	COURTS AND JUDGES INFLUENCED BY POLITICI	-0.51	0.48	-0.03
bs3a23	BUSINESS PEOPLE HAVE MORE INFLUENCE	-0.50	0.44	0.03
bs3a6	ONE COMPANY OWNS ALL NEWSPAPERS	-0.49	0.23	0.26
bs3a20	ALL TV STATIONS PRESENT SAME OPINION	-0.41	0.04	0.59
bs3a3	GIVE POLITICAL JOB TO FAMILIY-MEMBERS	-0.41	0.39	0.03
bs3a24	GOVERNMENT LEADERS ARE TRUSTED	-0.19	0.01	0.62
bs3a18	PEOPLE PARTICIPATE TO INFLUENCE	0.26	0.59	-0.13
bs3a21	WHICH VIOLATES HUMAN RIGHTS	0.30	0.26	0.08
bs3a17	POLITICAL PARTIES HAVE DIFFERENT OPINION	0.36	0.48	-0.34
bs3a4	NEWSPAPER ARE CONTROL FROM GOVERNMENT	0.47	0.23	0.05
bs3a13	MANY DIFFERENT ORGANIZATIONS AVAILABLE	0.52	0.15	0.21
bs3a7	PEOPLE DEMAND THEIR POLIT. AND SOC.RIGHT	0.54	0.17	0.22
bs3a25	PEOPLE PEACEFULLY PROTEST	0.57	0.14	0.13
bs3a1	RIGHT TO EXPRESS THEIR OPINIONS	0.60	0.10	0.29
bs3a11	RIGHT TO ELECT POLITICAL LEADERS FREELY	0.63	-0.05	0.24

Based on the factor analysis and on its scree plot, we decided to develop one scale with item A1, A4, A6, A7, A10, A11, A13, A25. Item 10 and 6 were reversed coded in order to make all the items point in a similar direction. A reliability analysis was carried out to check the statistical quality of the scale as well as if any improvement on reliability could be achieved by deleting an item. The Cronbach's alpha for scale (DEM) is satisfactory (.71) (see table A15). The Cronbach's Alpha would not improve by deleting any of the items (see table A16).

Table A15: Cronbach's Alpha, Democracy

Cronbach's Alpha	N of Items
.708	8

Table A16: Item analysis Democracy

		Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
bs3a1	RIGHT TO EXPRESS THEIR OPINIONS	21.75	12.71	0.48	0.666
bs3a4	NEWSPAPER ARE CONTROL FROM GOVERNMENT	22.65	12.44	0.33	0.699
bs3a6 (Reversed)	ONE COMPANY OWNS ALL NEWSPAPERS	22.01	13.10	0.32	0.697
bs3a7	PEOPLE DEMAND THEIR POLIT. AND SOC.RIGHT	22.19	12.28	0.41	0.677
bs3a10 (Reversed)	CRITICAL PEOPLE FORBIDDEN FROM SPEAKING	22.03	12.47	0.40	0.679
bs3a11	RIGHT TO ELECT POLITICAL LEADERS FREELY	21.71	12.49	0.48	0.665
bs3a13	MANY DIFFERENT ORGANIZATIONS AVAILABLE	22.04	12.86	0.39	0.682
bs3a25	PEOPLE PEACEFULLY PROTEST	22.15	12.23	0.42	0.676

8.1 IRT scaling of the democracy scale and self-confident participation

The IRT scaling followed the same procedures as described in the technical report (Schultz and Sibberns, 2004), but used WINSTEPS software (Linacre, 2007) instead of Quest/ConQuest. Certain parameters might not be comparable but equivalent to the ones presented in the IEA technical reports.

In the scaling of DEM, Item A4 (When newspapers are free from all government control) showed considerable misfit in four of the countries--Australia, Chile, Denmark, and Finland. It was considerably less discriminating than was expected given the partial credit model. In line with the procedures outlined in the IEA technical report, this item was set to missing in these countries only. Table A17 shows the item parameters for the scale DEM. Table A18 shows the parameters for SCON.

Table A17:Item parameters for Democracy scale

DEMOC		Location	Tau 1	Tau 2	Tau 3
A1	When everyone has the right to express their opinions freely	-0.59	-1.09	-1.19	0.50
A4	When newspapers are free of all government [state, political] control	0.94	-0.27	1.08	1.99
A6*	When one company owns all the newspapers	-0.07	-0.79	-0.57	1.14
A7	When people demand their political and social rights	0.22	-0.65	-0.18	1.48
A10*	When people who are critical of the government are forbidden from speaking at public meetings	-0.06	-0.77	-0.48	1.08
A11	When citizens have the right to elect political leaders freely	-0.53	-0.85	-0.83	0.10
A13	When many different organizations [associations] are available [exist] for people who wish to belong to them	-0.09	-0.87	-0.83	1.42
A25	When people peacefully protest against a law they believe to be unjust	0.19	-0.52	-0.29	1.38

* = reverse-coded

Table A18: Item parameters for Intended participation at school

SCON		Location	Tau 1	Tau 2	Tau 3
J6	I am interested in participating in discussions about school problems	-0.14	-4.33	-0.60	4.50
J7	When school problems are being discussed I usually have something to say	0.14	-4.35	0.35	5.12

Annex IV: Statistical significance and effect size
Statistical significance

In a first step the statistical significance of the difference between countries was checked. Significance is tested at the p-value .05. This implies that if a difference is said to be significant one can be 95% sure that it should not be attributed to random sampling variance. To facilitate interpretation these results can also be plotted. This is done by plotting for each country a confidence interval around its result. This confidence interval contains with a certain probability the 'true value' for each country. By checking the overlap of the confidence intervals one can evaluate statistical significance[5]. If the intervals overlap the difference is not significant, but if there is no overlap between the intervals the countries do differ significantly. To test the difference between two countries at the .05-level, confidence intervals need to be constructed by multiplying the standard error by 1.39 (Goldstein & Healy, 1995)[6] and not the commonly used 95% confidence interval calculated by multiplying the standard error by 1.96.

Calculation of the effect size

The following explanation on the use of effect size is based on the work of Coe (2002). If a certain concept is not measured on a familiar scale (e.g. a standardized scale like the IQ-scale) it is often very hard to interpret an observed difference, even if the statistical significance has been evaluated. What is the educational significance of a difference of 1.6 points between boys and girls on a test scored on 50 points? Should this be considered as a big gap between the two groups or not? A way to deal with this problem of interpreting the difference is using the amount of variation in scores to give meaning to this difference. The amount of variation can be used as a yardstick against which the observed difference can be compared and this is quantified in the calculation of the effect size. If the spread in scores for the test is very big the impact of a difference of 1.6 might be limited, but if there is very little spread in the scores the impact might be substantial.

In statistics the spread in the scores, the amount of variation, can be quantified using the standard deviation. This standard deviation quantifies the average deviation of the scores from the average. Now the effect size is calculated by comparing the difference between two groups to this standard deviation. Let's say that the standard deviation for the test described above was 2.0, this means that the effect size calculated based on the difference between boys and girls would be 1.6/2.0 = 0.8.

For the comparisons the calculation of the standard deviation demands a specific approach. A decision has to be made on which standard deviation to be used. For both countries involved in the comparison a standard deviation is calculated, but this does not give an accurate indication of the actual spread of the scores in the countries. For this reason, a so-called 'pooled' estimate of the standard deviation is calculated. Essentially this estimate is an average of both standard deviations[7]. This pooled estimate is calculated as follows:

---

[5] In the significance testing the clustering of the data has been taken into account in the calculation of the standard errors and the confidence intervals (Snijders & Bosker, 1999).

[6] "It is a common statistical misconception to suppose that two quantities whose 95% confidence intervals just fail to overlap are significantly different at the 5% significance level." (Goldstein & Healy, 1995, p.175)

[7] Note that this 'pooled' estimate does not equal the standard deviation of the 'pooled' data set, i.e. the data set including the values of both countries. If both countries have a low standard deviation but show a big difference in average score, the latter estimate will be much bigger than the true pooled estimate of the standard deviation.

$$pooledSD = \frac{\sqrt{(N_1 - 1)SD_1^2 + (N_2 - 1)SD_2^2}}{\sqrt{N_1 + N_2 - 2}}.$$

N_1 and N_2 refer to the sample sizes in the countries, while SD_1 and SD_2 refer to the observed standard deviation in these countries.

The resulting pooled standard deviation is used to calculate the effect size as follows:

effect size = ([average country 1] - [average country 2])/ pooled SD,

where country 1 is the highest ranked country in the comparison.

Interpretation of the effect size

Actually the effect size describes the overlap in the distribution of the two countries that are being compared. By comparing the difference to the standard deviation the calculation of the effect size results in a score that is equivalent to a Z-score. This means that an effect size of 0.8 implies that the score of the average student in the high scoring group is 0.8 standard deviations above the score of the average student in the other group. Based on the characteristics of the normal distribution this means that this score exceeds the score of 79% of the students in the other group. This is also referred to as the 79%-percentile of the distribution.

In this annex, tables A19 to A23 report the effect sizes for every pairwise comparison of countries. To make the effect sizes more interpretable a font coding has been applied. Following Cohen (1969) the thresholds were set at 0.2 (small), 0.5 (medium) and 0.8 (large). These effect sizes correspond respectively to an average score of the higher country that exceeds 58%, 69% and 79% of the scores of the lower ranked country in the comparison. Effect sizes smaller than 0.2 can be considered to be less salient given the large overlap in the distributions of the two groups.

The upper-diagonal part of the tables contains the effect sizes, while the lower part contains the corresponding percentiles in the distribution of the lower ranked country. This means that the tables can be read in two directions. If the table is read horizontally, for each country the comparison can be made to the lower ranked countries based on the effect sizes. If read vertically, every country can be set off to the lower ranking countries based on the corresponding percentile of the distribution of the lower ranking country.

Table A19: Citizenship values: effect sizes (upperdiagonal) and corresponding percentiles

		GRC	CYP	COL	ROM	LTU	CHL	POL	PRT	SVK	USA	ITA	BGR	HUN	NOR	RUS	DEU	HKG	LVA	CHE	SWE	SVN	CZE	DNK	AUS	ENG	EST	BFR	FIN
GRC	676	-	0.05	0.10	*0.23*	*0.35*	*0.39*	**0.55**	**0.58**	**0.62**	**0.54**	**0.68**	**0.67**	*0.86*	*0.90*	*0.94*	*0.97*	*0.93*	*1.01*	*1.04*	*1.00*	*1.00*	*1.11*	*1.24*	*1.18*	*1.29*	*1.34*	*1.30*	*1.48*
CYP	669	0.52	-	0.05	0.18	*0.30*	*0.34*	**0.50**	**0.54**	**0.57**	**0.50**	**0.64**	**0.63**	*0.83*	*0.86*	*0.91*	*0.93*	*0.89*	*0.98*	*1.01*	*0.97*	*0.97*	*1.08*	*1.22*	*1.15*	*1.27*	*1.31*	*1.28*	*1.46*
COL	663	0.54	0.52	-	0.13	*0.26*	*0.29*	*0.44*	*0.47*	**0.51**	*0.46*	**0.58**	**0.59**	*0.75*	*0.79*	*0.82*	*0.85*	*0.83*	*0.89*	*0.93*	*0.90*	*0.91*	*1.00*	*1.12*	*1.08*	*1.17*	*1.21*	*1.19*	*1.35*
ROM	645	0.59	0.57	0.55	-	0.12	0.15	*0.30*	*0.33*	*0.37*	*0.32*	*0.43*	*0.44*	**0.61**	**0.65**	**0.68**	**0.71**	**0.68**	**0.75**	**0.78**	**0.75**	**0.76**	*0.86*	*0.98*	*0.93*	*1.03*	*1.07*	*1.05*	*1.21*
LTU	628	0.64	0.62	0.60	0.55	-	0.02	0.17	0.19	*0.23*	*0.21*	*0.30*	*0.32*	*0.47*	**0.51**	**0.53**	**0.56**	**0.54**	**0.60**	**0.64**	**0.62**	**0.63**	**0.71**	*0.83*	*0.79*	*0.88*	*0.91*	*0.90*	*1.05*
CHL	626	0.65	0.63	0.61	0.56	0.51	-	0.16	0.18	*0.23*	*0.21*	*0.29*	*0.33*	*0.48*	**0.51**	**0.54**	**0.57**	**0.55**	**0.62**	**0.65**	**0.64**	**0.65**	**0.73**	*0.85*	*0.82*	*0.90*	*0.93*	*0.94*	*1.09*
POL	606	0.71	0.69	0.67	0.62	0.57	0.56	-	0.02	0.07	0.07	0.14	0.19	*0.33*	*0.37*	*0.41*	*0.42*	*0.41*	*0.48*	**0.52**	*0.50*	**0.51**	**0.59**	**0.72**	**0.68**	**0.78**	*0.81*	*0.82*	*0.98*
PRT	604	0.72	0.71	0.68	0.63	0.57	0.57	0.51	-	0.05	0.05	0.13	0.18	*0.33*	*0.37*	*0.41*	*0.42*	*0.40*	*0.48*	**0.52**	*0.50*	**0.51**	**0.59**	**0.73**	**0.69**	**0.80**	*0.83*	*0.84*	*1.00*
SVK	598	0.73	0.72	0.70	0.64	0.59	0.59	0.53	0.52	-	0.00	0.07	0.13	*0.26*	*0.30*	*0.33*	*0.35*	*0.34*	*0.41*	*0.44*	*0.43*	*0.44*	**0.52**	**0.65**	**0.62**	**0.71**	**0.74**	**0.75**	*0.91*
USA	597	0.71	0.69	0.68	0.63	0.58	0.58	0.53	0.52	0.50	-	0.06	0.11	*0.22*	*0.26*	*0.27*	*0.30*	*0.30*	*0.34*	*0.38*	*0.37*	*0.38*	*0.45*	**0.55**	**0.53**	**0.60**	**0.63**	**0.62**	**0.77**
ITA	590	0.75	0.74	0.72	0.67	0.62	0.61	0.56	0.55	0.53	0.52	-	0.06	0.19	*0.23*	*0.26*	*0.28*	*0.27*	*0.33*	*0.37*	*0.36*	*0.38*	*0.45*	**0.57**	**0.55**	**0.63**	**0.66**	**0.68**	*0.83*
BGR	581	0.75	0.74	0.72	0.67	0.63	0.63	0.57	0.57	0.55	0.54	0.53	-	0.11	0.14	0.16	0.18	0.18	*0.23*	*0.26*	*0.26*	*0.28*	*0.34*	*0.44*	*0.42*	*0.49*	**0.52**	**0.52**	**0.66**
HUN	567	0.81	0.80	0.77	0.73	0.68	0.68	0.63	0.63	0.60	0.59	0.58	0.54	-	0.04	0.06	0.08	0.08	0.14	0.18	0.18	0.20	*0.26*	*0.38*	*0.36*	*0.44*	*0.47*	*0.49*	**0.64**
NOR	563	0.82	0.81	0.79	0.74	0.69	0.70	0.64	0.64	0.62	0.60	0.59	0.56	0.52	-	0.02	0.04	0.04	0.10	0.14	0.14	0.16	*0.22*	*0.34*	*0.32*	*0.40*	*0.42*	*0.45*	**0.60**
RUS	561	0.83	0.82	0.79	0.75	0.70	0.71	0.66	0.66	0.63	0.61	0.60	0.56	0.52	0.51	-	0.03	0.03	0.09	0.13	0.13	0.15	*0.22*	*0.35*	*0.32*	*0.42*	*0.44*	*0.47*	**0.63**
DEU	558	0.83	0.82	0.80	0.76	0.71	0.71	0.66	0.66	0.64	0.62	0.61	0.57	0.53	0.52	0.51	-	0.01	0.06	0.10	0.11	0.13	0.19	*0.31*	*0.29*	*0.37*	*0.39*	*0.43*	**0.58**
HKG	557	0.82	0.81	0.80	0.75	0.71	0.71	0.66	0.65	0.63	0.62	0.61	0.57	0.53	0.52	0.51	0.50	-	0.05	0.09	0.10	0.12	0.17	*0.28*	*0.27*	*0.34*	*0.36*	*0.39*	**0.53**
LVA	552	0.84	0.84	0.81	0.77	0.73	0.73	0.69	0.69	0.66	0.63	0.63	0.59	0.55	0.54	0.54	0.52	0.52	-	0.04	0.05	0.08	0.13	*0.25*	*0.24*	*0.32*	*0.34*	*0.38*	**0.53**
CHE	547	0.85	0.84	0.82	0.78	0.74	0.74	0.70	0.70	0.67	0.65	0.64	0.60	0.57	0.55	0.55	0.54	0.53	0.52	-	0.01	0.04	0.09	*0.20*	0.20	*0.27*	*0.29*	*0.33*	*0.47*
SWE	546	0.84	0.83	0.82	0.77	0.73	0.74	0.69	0.69	0.67	0.64	0.64	0.60	0.57	0.56	0.55	0.54	0.54	0.52	0.51	-	0.02	0.07	0.18	0.17	*0.24*	*0.26*	*0.29*	*0.43*
SVN	542	0.84	0.83	0.82	0.78	0.73	0.74	0.69	0.69	0.67	0.65	0.65	0.61	0.58	0.56	0.56	0.55	0.55	0.53	0.52	0.51	-	0.04	0.15	0.14	*0.20*	*0.22*	*0.26*	*0.39*
CZE	537	0.87	0.86	0.84	0.80	0.76	0.77	0.72	0.72	0.70	0.67	0.67	0.63	0.60	0.59	0.59	0.57	0.57	0.55	0.54	0.53	0.52	-	0.11	0.11	0.17	0.19	*0.23*	*0.37*
DNK	525	0.89	0.89	0.87	0.84	0.80	0.80	0.77	0.77	0.74	0.71	0.72	0.67	0.65	0.63	0.64	0.62	0.61	0.60	0.58	0.57	0.56	0.54	-	0.01	0.07	0.09	0.13	*0.28*
AUS	524	0.88	0.88	0.86	0.82	0.79	0.79	0.75	0.75	0.73	0.70	0.71	0.66	0.64	0.63	0.63	0.62	0.61	0.59	0.58	0.57	0.56	0.54	0.50	-	0.06	0.08	0.12	*0.25*
ENG	518	0.90	0.90	0.88	0.85	0.81	0.82	0.78	0.79	0.76	0.73	0.74	0.69	0.67	0.66	0.66	0.64	0.63	0.63	0.61	0.59	0.58	0.57	0.53	0.52	-	0.02	0.07	*0.21*
EST	516	0.91	0.91	0.89	0.86	0.82	0.82	0.79	0.80	0.77	0.74	0.75	0.70	0.68	0.66	0.67	0.65	0.64	0.63	0.61	0.60	0.59	0.58	0.53	0.53	0.51	-	0.05	0.19
BFR	510	0.90	0.90	0.88	0.85	0.82	0.83	0.79	0.80	0.77	0.73	0.75	0.70	0.69	0.67	0.68	0.67	0.65	0.65	0.63	0.61	0.60	0.59	0.55	0.55	0.53	0.52	-	0.13
FIN	496	0.93	0.93	0.91	0.89	0.85	0.86	0.84	0.84	0.82	0.78	0.80	0.75	0.74	0.72	0.74	0.72	0.70	0.70	0.68	0.66	0.65	0.64	0.61	0.60	0.58	0.58	0.55	-

Table A20: Social justice (V/A): effect sizes (upperdiagonal) and corresponding percentiles

		CYP	PRT	COL	USA	NOR	ENG	POL	GRC	SWE	DNK	AUS	FIN	CHL	BFR	LTU	CZE	CHE	ITA	SVK	HKG	ROM	EST	SVN	DEU	RUS	HUN	BGR	LVA
CYP	707	-	0.19	0.20	0.18	0.20	0.24	0.26	0.27	0.36	0.36	0.39	0.41	0.45	0.51	0.64	0.67	0.64	0.66	0.69	0.64	0.68	0.76	0.75	0.73	0.86	0.92	0.83	1.03
PRT	680	0.57	-	0.01	0.01	0.02	0.06	0.08	0.09	0.18	0.18	0.21	0.23	0.26	0.34	0.45	0.48	0.45	0.47	0.50	0.46	0.49	0.56	0.56	0.55	0.67	0.72	0.66	0.84
COL	678	0.58	0.51	-	0.00	0.01	0.05	0.07	0.08	0.16	0.17	0.20	0.21	0.24	0.33	0.42	0.45	0.44	0.45	0.47	0.44	0.47	0.53	0.54	0.53	0.64	0.69	0.65	0.80
USA	678	0.57	0.51	0.50	-	0.00	0.05	0.06	0.07	0.15	0.15	0.18	0.19	0.23	0.29	0.39	0.42	0.40	0.42	0.44	0.41	0.43	0.49	0.50	0.49	0.58	0.64	0.59	0.74
NOR	678	0.58	0.51	0.50	0.50	-	0.04	0.06	0.07	0.15	0.15	0.18	0.20	0.23	0.30	0.41	0.43	0.41	0.43	0.45	0.42	0.45	0.51	0.52	0.51	0.61	0.67	0.61	0.77
ENG	671	0.60	0.53	0.52	0.52	0.52	-	0.02	0.03	0.10	0.11	0.14	0.15	0.18	0.26	0.36	0.38	0.37	0.38	0.40	0.37	0.40	0.46	0.47	0.46	0.56	0.61	0.56	0.72
POL	668	0.60	0.53	0.53	0.53	0.52	0.51	-	0.01	0.09	0.09	0.12	0.13	0.16	0.24	0.34	0.36	0.35	0.36	0.38	0.36	0.38	0.44	0.45	0.44	0.54	0.59	0.55	0.70
GRC	667	0.61	0.54	0.53	0.53	0.53	0.51	0.50	-	0.08	0.08	0.12	0.13	0.16	0.24	0.33	0.36	0.35	0.36	0.38	0.35	0.38	0.44	0.45	0.44	0.54	0.60	0.55	0.70
SWE	655	0.64	0.57	0.56	0.56	0.56	0.54	0.53	0.53	-	0.00	0.04	0.04	0.07	0.16	0.25	0.28	0.27	0.28	0.29	0.27	0.30	0.35	0.37	0.36	0.46	0.51	0.47	0.62
DNK	654	0.64	0.57	0.57	0.56	0.56	0.54	0.54	0.53	0.50	-	0.03	0.04	0.06	0.16	0.24	0.27	0.26	0.27	0.28	0.27	0.29	0.34	0.36	0.35	0.45	0.50	0.47	0.61
AUS	649	0.65	0.58	0.58	0.57	0.57	0.56	0.55	0.55	0.52	0.51	-	0.00	0.03	0.12	0.20	0.23	0.22	0.23	0.24	0.23	0.25	0.30	0.31	0.31	0.40	0.45	0.42	0.56
FIN	649	0.66	0.59	0.58	0.58	0.58	0.56	0.55	0.55	0.52	0.52	0.50	-	0.02	0.12	0.21	0.24	0.23	0.24	0.25	0.23	0.26	0.31	0.33	0.32	0.43	0.48	0.44	0.60
CHL	645	0.68	0.60	0.60	0.59	0.59	0.57	0.56	0.56	0.53	0.53	0.51	0.51	-	0.11	0.19	0.22	0.21	0.22	0.23	0.22	0.25	0.29	0.32	0.31	0.41	0.46	0.44	0.58
BFR	630	0.69	0.63	0.63	0.61	0.62	0.60	0.60	0.59	0.56	0.56	0.55	0.55	0.54	-	0.07	0.09	0.09	0.10	0.10	0.10	0.12	0.16	0.18	0.18	0.27	0.32	0.30	0.43
LTU	620	0.74	0.67	0.66	0.65	0.66	0.64	0.63	0.63	0.60	0.60	0.58	0.58	0.58	0.53	-	0.03	0.03	0.03	0.04	0.04	0.06	0.10	0.13	0.13	0.22	0.27	0.26	0.40
CZE	617	0.75	0.68	0.67	0.66	0.67	0.65	0.64	0.64	0.61	0.61	0.59	0.59	0.59	0.54	0.51	-	0.00	0.01	0.01	0.01	0.03	0.07	0.10	0.10	0.20	0.25	0.24	0.37
CHE	616	0.74	0.68	0.67	0.66	0.66	0.64	0.64	0.64	0.60	0.60	0.59	0.59	0.58	0.54	0.51	0.50	-	0.00	0.01	0.01	0.03	0.06	0.09	0.09	0.18	0.23	0.22	0.35
ITA	616	0.75	0.68	0.67	0.66	0.67	0.65	0.64	0.64	0.61	0.61	0.59	0.59	0.59	0.54	0.51	0.50	0.50	-	0.01	0.01	0.03	0.07	0.10	0.10	0.19	0.24	0.23	0.36
SVK	616	0.75	0.69	0.68	0.67	0.67	0.65	0.65	0.65	0.61	0.61	0.60	0.60	0.59	0.54	0.52	0.50	0.50	0.50	-	0.00	0.02	0.06	0.10	0.09	0.19	0.24	0.24	0.37
HKG	615	0.74	0.68	0.67	0.66	0.66	0.65	0.64	0.64	0.61	0.60	0.59	0.59	0.59	0.54	0.51	0.50	0.50	0.50	0.50	-	0.02	0.05	0.08	0.09	0.17	0.22	0.22	0.33
ROM	613	0.75	0.69	0.68	0.67	0.67	0.65	0.65	0.65	0.62	0.61	0.60	0.60	0.60	0.55	0.52	0.51	0.51	0.51	0.51	0.51	-	0.04	0.07	0.07	0.16	0.21	0.20	0.33
EST	608	0.78	0.71	0.70	0.69	0.70	0.68	0.67	0.67	0.64	0.63	0.62	0.62	0.62	0.56	0.54	0.53	0.53	0.53	0.53	0.52	0.51	-	0.04	0.04	0.13	0.18	0.18	0.32
SVN	604	0.77	0.71	0.71	0.69	0.70	0.68	0.67	0.67	0.64	0.64	0.62	0.63	0.62	0.57	0.55	0.54	0.54	0.54	0.54	0.53	0.53	0.51	-	0.00	0.09	0.14	0.14	0.26
DEU	603	0.77	0.71	0.70	0.69	0.69	0.68	0.67	0.67	0.64	0.64	0.62	0.63	0.62	0.57	0.55	0.54	0.54	0.54	0.54	0.53	0.53	0.52	0.50	-	0.08	0.13	0.14	0.24
RUS	593	0.81	0.75	0.74	0.72	0.73	0.71	0.70	0.71	0.68	0.67	0.66	0.67	0.66	0.61	0.59	0.58	0.57	0.57	0.58	0.57	0.56	0.55	0.53	0.53	-	0.05	0.07	0.18
HUN	586	0.82	0.77	0.75	0.74	0.75	0.73	0.72	0.72	0.70	0.69	0.67	0.68	0.68	0.63	0.61	0.60	0.59	0.59	0.60	0.59	0.58	0.57	0.55	0.55	0.52	-	0.02	0.13
BGR	583	0.80	0.75	0.74	0.72	0.73	0.71	0.71	0.71	0.68	0.68	0.66	0.67	0.67	0.62	0.60	0.60	0.59	0.59	0.59	0.59	0.58	0.57	0.56	0.55	0.53	0.51	-	0.09
LVA	571	0.85	0.80	0.79	0.77	0.78	0.76	0.76	0.76	0.73	0.73	0.71	0.72	0.72	0.66	0.65	0.65	0.64	0.64	0.65	0.63	0.63	0.62	0.60	0.60	0.57	0.55	0.54	-

Table A21: Participatory attitudes: effect sizes (upperdiagonal) and corresponding percentiles

	N	CYP	COL	GRC	CHL	ROM	POL	PRT	USA	SVK	ITA	LVA	HKG	AUS	SVN	HUN	NOR	RUS	BFR	BGR	DNK	LTU	ENG	DEU	CHE	EST	FIN	SWE	CZE
CYP	613	-	0.07	0.31	0.32	0.42	0.46	0.57	0.51	0.58	0.77	0.81	0.80	0.81	0.91	0.94	0.88	0.94	0.98	1.01	1.02	1.06	1.05	1.11	1.16	1.19	1.20	1.18	1.31
COL	604	0.53	-	0.24	0.26	0.35	0.39	0.49	0.45	0.50	0.70	0.73	0.73	0.75	0.82	0.85	0.81	0.85	0.90	0.94	0.94	0.98	0.98	1.04	1.08	1.10	1.11	1.11	1.21
GRC	572	0.62	0.59	-	0.03	0.11	0.16	0.25	0.23	0.26	0.47	0.51	0.51	0.53	0.60	0.62	0.59	0.63	0.68	0.72	0.73	0.76	0.77	0.82	0.86	0.89	0.90	0.90	1.00
CHL	567	0.62	0.60	0.51	-	0.07	0.12	0.19	0.19	0.20	0.40	0.44	0.45	0.46	0.51	0.53	0.52	0.54	0.59	0.63	0.64	0.67	0.68	0.72	0.76	0.77	0.78	0.80	0.88
ROM	558	0.66	0.64	0.54	0.53	-	0.05	0.14	0.13	0.15	0.35	0.40	0.40	0.41	0.48	0.50	0.48	0.51	0.56	0.60	0.61	0.64	0.65	0.70	0.74	0.76	0.77	0.78	0.87
POL	550	0.68	0.65	0.56	0.55	0.52	-	0.08	0.07	0.08	0.29	0.33	0.34	0.35	0.40	0.43	0.41	0.44	0.49	0.53	0.53	0.57	0.58	0.62	0.66	0.68	0.69	0.70	0.79
PRT	540	0.72	0.69	0.60	0.58	0.55	0.53	-	0.01	0.01	0.22	0.27	0.28	0.30	0.35	0.37	0.36	0.39	0.45	0.48	0.49	0.53	0.54	0.58	0.63	0.64	0.66	0.67	0.76
USA	539	0.70	0.68	0.59	0.57	0.55	0.53	0.50	-	0.00	0.20	0.24	0.25	0.26	0.31	0.33	0.32	0.33	0.38	0.42	0.43	0.46	0.48	0.52	0.56	0.57	0.58	0.59	0.67
SVK	539	0.72	0.69	0.60	0.58	0.56	0.53	0.50	0.50	-	0.22	0.27	0.27	0.29	0.34	0.37	0.35	0.38	0.44	0.48	0.49	0.52	0.53	0.58	0.62	0.64	0.65	0.66	0.75
ITA	511	0.78	0.76	0.68	0.65	0.64	0.61	0.59	0.58	0.59	-	0.05	0.07	0.08	0.12	0.14	0.14	0.16	0.22	0.26	0.27	0.30	0.32	0.35	0.40	0.41	0.42	0.45	0.51
LVA	503	0.79	0.77	0.70	0.67	0.65	0.63	0.61	0.59	0.61	0.52	-	0.02	0.03	0.06	0.08	0.09	0.10	0.16	0.20	0.21	0.24	0.26	0.29	0.34	0.35	0.36	0.38	0.45
HKG	501	0.79	0.77	0.70	0.67	0.66	0.63	0.61	0.60	0.61	0.53	0.51	-	0.02	0.04	0.06	0.07	0.08	0.14	0.18	0.19	0.21	0.25	0.27	0.31	0.32	0.33	0.36	0.42
AUS	499	0.79	0.77	0.70	0.68	0.66	0.64	0.62	0.60	0.61	0.53	0.51	0.51	-	0.02	0.04	0.06	0.06	0.12	0.16	0.17	0.19	0.22	0.25	0.29	0.30	0.31	0.34	0.40
SVN	495	0.82	0.79	0.73	0.69	0.68	0.66	0.64	0.62	0.63	0.55	0.52	0.52	0.51	-	0.02	0.03	0.04	0.11	0.15	0.16	0.18	0.22	0.25	0.29	0.30	0.31	0.34	0.41
HUN	493	0.83	0.80	0.73	0.70	0.69	0.67	0.65	0.63	0.64	0.55	0.53	0.52	0.52	0.51	-	0.02	0.03	0.09	0.14	0.14	0.17	0.20	0.23	0.28	0.28	0.30	0.33	0.39
NOR	490	0.81	0.79	0.72	0.70	0.68	0.66	0.64	0.62	0.64	0.56	0.54	0.53	0.52	0.51	0.51	-	0.01	0.07	0.11	0.11	0.14	0.17	0.20	0.24	0.24	0.26	0.29	0.34
RUS	490	0.83	0.80	0.74	0.70	0.70	0.67	0.65	0.63	0.65	0.56	0.54	0.53	0.52	0.52	0.51	0.50	-	0.06	0.11	0.11	0.14	0.17	0.20	0.24	0.25	0.27	0.30	0.36
BFR	481	0.84	0.82	0.75	0.72	0.71	0.69	0.67	0.65	0.67	0.59	0.56	0.56	0.55	0.54	0.54	0.53	0.53	-	0.04	0.05	0.07	0.11	0.13	0.17	0.18	0.20	0.23	0.28
BGR	475	0.84	0.83	0.76	0.73	0.73	0.70	0.69	0.66	0.68	0.60	0.58	0.57	0.56	0.56	0.55	0.54	0.54	0.52	-	0.01	0.03	0.07	0.09	0.13	0.14	0.15	0.19	0.23
DNK	474	0.85	0.83	0.77	0.74	0.73	0.70	0.69	0.67	0.69	0.61	0.58	0.58	0.57	0.56	0.56	0.55	0.55	0.52	0.50	-	0.02	0.06	0.08	0.12	0.13	0.14	0.18	0.23
LTU	471	0.86	0.84	0.78	0.75	0.74	0.71	0.70	0.68	0.70	0.62	0.59	0.58	0.58	0.57	0.57	0.55	0.56	0.53	0.51	0.51	-	0.04	0.06	0.10	0.11	0.12	0.16	0.21
ENG	464	0.85	0.84	0.78	0.75	0.74	0.72	0.70	0.68	0.70	0.63	0.60	0.60	0.59	0.59	0.58	0.57	0.57	0.54	0.53	0.52	0.52	-	0.02	0.06	0.06	0.07	0.11	0.15
DEU	462	0.87	0.85	0.79	0.76	0.76	0.73	0.72	0.70	0.72	0.64	0.62	0.61	0.60	0.60	0.59	0.58	0.58	0.55	0.53	0.53	0.52	0.51	-	0.04	0.05	0.06	0.10	0.14
CHE	456	0.88	0.86	0.81	0.78	0.77	0.75	0.73	0.71	0.73	0.65	0.63	0.62	0.61	0.61	0.61	0.59	0.60	0.57	0.55	0.55	0.54	0.52	0.52	-	0.00	0.02	0.06	0.10
EST	456	0.88	0.86	0.81	0.78	0.78	0.75	0.74	0.72	0.74	0.66	0.64	0.63	0.62	0.62	0.61	0.60	0.60	0.57	0.55	0.55	0.54	0.52	0.52	0.50	-	0.01	0.06	0.10
FIN	454	0.88	0.87	0.82	0.78	0.78	0.75	0.75	0.72	0.74	0.66	0.64	0.63	0.62	0.62	0.62	0.60	0.60	0.58	0.56	0.56	0.55	0.53	0.52	0.51	0.51	-	0.05	0.08
SWE	447	0.88	0.87	0.82	0.79	0.78	0.76	0.75	0.72	0.75	0.67	0.65	0.64	0.63	0.63	0.63	0.61	0.62	0.59	0.57	0.57	0.56	0.55	0.54	0.53	0.52	0.52	-	0.03
CZE	443	0.90	0.89	0.84	0.81	0.81	0.78	0.78	0.75	0.77	0.70	0.67	0.66	0.65	0.66	0.65	0.63	0.64	0.61	0.59	0.59	0.58	0.56	0.56	0.54	0.54	0.53	0.51	-

Table A22: Cognitions about democratic institutions: effect sizes (upperdiagonal) and corresponding percentiles

		CYP	GRC	USA	FIN	POL	SVK	HKG	ITA	AUS	SWE	NOR	CZE	ENG	DNK	DEU	CHE	SVN	HUN	RUS	BGR	BFR	PRT	EST	ROM	LTU	LVA	COL	CHL
CYP	595	-	0.01	0.05	0.05	0.07	0.17	0.16	0.20	0.28	0.29	0.30	0.39	0.45	0.44	0.48	0.52	0.58	0.60	0.68	0.69	0.74	0.82	0.93	0.91	0.96	1.06	1.19	1.13
GRC	593	0.51	-	0.03	0.04	0.06	0.14	0.14	0.18	0.25	0.25	0.26	0.35	0.41	0.40	0.43	0.47	0.52	0.54	0.61	0.63	0.67	0.74	0.84	0.82	0.87	0.96	1.09	1.05
USA	587	0.52	0.51	-	0.00	0.03	0.11	0.11	0.15	0.22	0.23	0.24	0.32	0.38	0.37	0.41	0.44	0.50	0.52	0.59	0.61	0.65	0.73	0.83	0.81	0.86	0.95	1.09	1.04
FIN	587	0.52	0.51	0.50	-	0.02	0.11	0.11	0.14	0.22	0.23	0.24	0.33	0.39	0.37	0.41	0.45	0.51	0.53	0.61	0.62	0.67	0.74	0.85	0.83	0.88	0.98	1.11	1.06
POL	583	0.53	0.52	0.51	0.51	-	0.08	0.08	0.12	0.19	0.20	0.21	0.29	0.35	0.34	0.37	0.41	0.47	0.48	0.56	0.58	0.62	0.69	0.79	0.77	0.82	0.92	1.04	1.00
SVK	571	0.57	0.56	0.54	0.54	0.53	-	0.00	0.04	0.12	0.13	0.14	0.23	0.30	0.29	0.32	0.36	0.42	0.44	0.53	0.55	0.60	0.66	0.77	0.76	0.80	0.92	1.03	0.98
HKG	570	0.56	0.56	0.54	0.54	0.53	0.50	-	0.04	0.11	0.12	0.13	0.21	0.27	0.27	0.29	0.33	0.39	0.40	0.49	0.50	0.55	0.61	0.70	0.69	0.73	0.84	0.95	0.92
ITA	565	0.58	0.57	0.56	0.56	0.55	0.52	0.51	-	0.08	0.09	0.10	0.18	0.24	0.24	0.26	0.30	0.36	0.37	0.46	0.48	0.53	0.59	0.69	0.68	0.72	0.83	0.94	0.90
AUS	553	0.61	0.60	0.59	0.59	0.58	0.55	0.54	0.53	-	0.01	0.02	0.10	0.16	0.16	0.18	0.22	0.28	0.29	0.38	0.40	0.44	0.50	0.60	0.59	0.63	0.74	0.85	0.81
SWE	552	0.61	0.60	0.59	0.59	0.58	0.55	0.55	0.53	0.50	-	0.01	0.09	0.15	0.15	0.17	0.21	0.27	0.28	0.37	0.39	0.43	0.49	0.59	0.58	0.62	0.73	0.84	0.80
NOR	549	0.62	0.60	0.59	0.59	0.58	0.56	0.55	0.54	0.51	0.51	-	0.07	0.13	0.13	0.15	0.18	0.24	0.25	0.35	0.36	0.41	0.46	0.56	0.55	0.59	0.69	0.80	0.77
CZE	538	0.65	0.64	0.63	0.63	0.62	0.59	0.58	0.57	0.54	0.54	0.53	-	0.06	0.07	0.08	0.12	0.18	0.19	0.30	0.31	0.36	0.41	0.51	0.50	0.54	0.66	0.76	0.72
ENG	529	0.67	0.66	0.65	0.65	0.64	0.62	0.61	0.59	0.56	0.56	0.55	0.52	-	0.01	0.02	0.05	0.12	0.12	0.24	0.25	0.30	0.35	0.45	0.44	0.48	0.60	0.70	0.66
DNK	528	0.67	0.65	0.64	0.65	0.63	0.61	0.61	0.59	0.56	0.56	0.55	0.53	0.50	-	0.01	0.04	0.10	0.11	0.22	0.23	0.27	0.32	0.41	0.41	0.44	0.56	0.66	0.63
DEU	526	0.68	0.67	0.66	0.66	0.65	0.62	0.62	0.60	0.57	0.57	0.56	0.53	0.51	0.50	-	0.03	0.09	0.10	0.22	0.23	0.28	0.33	0.43	0.42	0.46	0.58	0.68	0.64
CHE	522	0.70	0.68	0.67	0.67	0.66	0.64	0.63	0.62	0.59	0.58	0.57	0.55	0.52	0.52	0.51	-	0.06	0.07	0.19	0.20	0.26	0.30	0.41	0.40	0.44	0.57	0.66	0.63
SVN	513	0.72	0.70	0.69	0.70	0.68	0.66	0.65	0.64	0.61	0.60	0.60	0.57	0.55	0.54	0.54	0.53	-	0.01	0.13	0.14	0.20	0.24	0.34	0.34	0.37	0.51	0.60	0.56
HUN	512	0.72	0.70	0.70	0.70	0.69	0.67	0.65	0.64	0.61	0.61	0.60	0.57	0.55	0.54	0.54	0.53	0.50	-	0.13	0.14	0.19	0.24	0.34	0.34	0.37	0.51	0.60	0.56
RUS	494	0.75	0.73	0.72	0.73	0.71	0.70	0.69	0.68	0.65	0.65	0.64	0.62	0.59	0.59	0.59	0.58	0.55	0.55	-	0.01	0.06	0.09	0.19	0.19	0.22	0.34	0.43	0.41
BGR	493	0.76	0.73	0.73	0.73	0.72	0.71	0.69	0.68	0.65	0.65	0.64	0.62	0.60	0.59	0.59	0.58	0.56	0.56	0.50	-	0.05	0.08	0.18	0.18	0.21	0.34	0.42	0.40
BFR	486	0.77	0.75	0.74	0.75	0.73	0.73	0.71	0.70	0.67	0.67	0.66	0.64	0.62	0.61	0.61	0.60	0.58	0.58	0.52	0.52	-	0.03	0.13	0.13	0.16	0.29	0.37	0.35
PRT	482	0.79	0.77	0.77	0.77	0.76	0.75	0.73	0.72	0.69	0.69	0.68	0.66	0.64	0.63	0.63	0.62	0.59	0.59	0.54	0.53	0.51	-	0.10	0.10	0.13	0.27	0.35	0.33
EST	469	0.82	0.80	0.80	0.80	0.78	0.78	0.76	0.75	0.73	0.72	0.71	0.69	0.67	0.66	0.66	0.66	0.63	0.63	0.57	0.57	0.55	0.54	-	0.01	0.03	0.18	0.25	0.24
ROM	468	0.82	0.79	0.79	0.80	0.78	0.78	0.76	0.75	0.72	0.72	0.71	0.69	0.67	0.66	0.66	0.66	0.63	0.63	0.57	0.57	0.55	0.54	0.50	-	0.03	0.17	0.24	0.23
LTU	465	0.83	0.81	0.80	0.81	0.79	0.79	0.77	0.76	0.74	0.73	0.72	0.70	0.68	0.67	0.68	0.67	0.65	0.65	0.59	0.58	0.56	0.55	0.51	0.51	-	0.15	0.22	0.21
LVA	446	0.86	0.83	0.83	0.84	0.82	0.82	0.80	0.80	0.77	0.77	0.76	0.74	0.73	0.71	0.72	0.72	0.69	0.69	0.63	0.63	0.61	0.61	0.57	0.57	0.56	-	0.07	0.06
COL	437	0.88	0.86	0.86	0.87	0.85	0.85	0.83	0.83	0.80	0.80	0.79	0.78	0.76	0.74	0.75	0.75	0.72	0.72	0.67	0.66	0.64	0.64	0.60	0.60	0.59	0.53	-	0.00
CHL	437	0.87	0.85	0.85	0.85	0.84	0.84	0.82	0.82	0.79	0.79	0.78	0.76	0.75	0.74	0.74	0.73	0.71	0.71	0.66	0.66	0.64	0.63	0.59	0.59	0.58	0.53	0.50	-

Table A23: Civic competence: effect sizes (upperdiagonal) and corresponding percentiles

		CYP	GRC	USA	POL	COL	SVK	PRT	NOR	ITA	ROM	CHL	HKG	AUS	SWE	DNK	FIN	ENG	LTU	SVN	HUN	DEU	CHE	BGR	RUS	CZE	BFR	LVA	EST
CYP	642	-	0.18	0.40	0.46	0.57	0.75	0.77	0.76	0.80	0.84	0.84	0.88	0.91	0.96	1.03	1.08	1.05	1.12	1.20	1.25	1.20	1.23	1.17	1.28	1.27	1.25	1.46	1.57
GRC	623	0.57	-	0.22	0.26	0.36	0.53	0.55	0.55	0.59	0.62	0.63	0.67	0.69	0.74	0.80	0.84	0.82	0.87	0.95	0.99	0.97	0.98	0.94	1.01	1.03	1.01	1.18	1.29
USA	598	0.65	0.59	-	0.03	0.12	0.27	0.29	0.31	0.34	0.36	0.37	0.42	0.44	0.49	0.55	0.58	0.56	0.60	0.68	0.72	0.70	0.71	0.67	0.73	0.76	0.74	0.90	1.00
POL	594	0.68	0.60	0.51	-	0.09	0.25	0.28	0.30	0.33	0.35	0.36	0.42	0.44	0.49	0.55	0.59	0.57	0.61	0.70	0.73	0.71	0.73	0.69	0.76	0.77	0.77	0.93	1.03
COL	585	0.71	0.64	0.55	0.54	-	0.17	0.20	0.23	0.25	0.28	0.28	0.34	0.38	0.43	0.49	0.53	0.51	0.54	0.64	0.66	0.65	0.67	0.64	0.70	0.71	0.73	0.88	0.98
SVK	569	0.77	0.70	0.61	0.60	0.57	-	0.04	0.07	0.09	0.12	0.12	0.19	0.22	0.28	0.34	0.37	0.36	0.39	0.49	0.51	0.50	0.52	0.50	0.55	0.56	0.58	0.74	0.84
PRT	565	0.78	0.71	0.62	0.61	0.58	0.52	-	0.04	0.05	0.08	0.08	0.15	0.18	0.24	0.30	0.33	0.32	0.34	0.44	0.46	0.45	0.47	0.45	0.50	0.51	0.53	0.68	0.78
NOR	562	0.78	0.71	0.62	0.62	0.59	0.53	0.51	-	0.02	0.04	0.04	0.11	0.14	0.19	0.25	0.27	0.26	0.28	0.37	0.39	0.39	0.40	0.39	0.43	0.44	0.46	0.60	0.69
ITA	560	0.79	0.72	0.63	0.63	0.60	0.54	0.52	0.51	-	0.02	0.03	0.09	0.13	0.18	0.24	0.26	0.26	0.27	0.37	0.39	0.39	0.40	0.39	0.42	0.44	0.46	0.60	0.70
ROM	558	0.80	0.73	0.64	0.64	0.61	0.55	0.53	0.51	0.51	-	0.01	0.08	0.11	0.16	0.22	0.25	0.24	0.26	0.36	0.38	0.37	0.39	0.37	0.42	0.43	0.45	0.60	0.70
CHL	557	0.80	0.73	0.65	0.64	0.61	0.55	0.53	0.52	0.51	0.50	-	0.07	0.10	0.16	0.22	0.24	0.24	0.25	0.34	0.36	0.36	0.38	0.37	0.40	0.42	0.45	0.58	0.67
HKG	550	0.81	0.75	0.66	0.66	0.63	0.57	0.56	0.54	0.54	0.53	0.53	-	0.03	0.09	0.14	0.17	0.16	0.17	0.27	0.28	0.28	0.30	0.29	0.32	0.34	0.36	0.49	0.58
AUS	547	0.82	0.76	0.67	0.67	0.65	0.59	0.57	0.55	0.55	0.54	0.54	0.51	-	0.06	0.11	0.13	0.13	0.14	0.23	0.25	0.25	0.26	0.25	0.28	0.30	0.33	0.46	0.55
SWE	541	0.83	0.77	0.69	0.69	0.67	0.61	0.59	0.58	0.57	0.57	0.56	0.54	0.52	-	0.05	0.07	0.07	0.08	0.17	0.18	0.19	0.20	0.20	0.22	0.24	0.27	0.39	0.48
DNK	535	0.85	0.79	0.71	0.71	0.69	0.63	0.62	0.60	0.59	0.59	0.59	0.56	0.54	0.52	-	0.02	0.02	0.02	0.12	0.13	0.14	0.15	0.15	0.17	0.19	0.22	0.34	0.43
FIN	533	0.86	0.80	0.72	0.72	0.70	0.65	0.63	0.61	0.60	0.60	0.60	0.57	0.55	0.53	0.51	-	0.00	0.00	0.10	0.11	0.12	0.13	0.13	0.15	0.17	0.21	0.34	0.43
ENG	533	0.85	0.79	0.71	0.72	0.70	0.64	0.62	0.60	0.60	0.60	0.59	0.56	0.55	0.53	0.51	0.50	-	0.00	0.10	0.11	0.12	0.13	0.13	0.15	0.17	0.20	0.32	0.41
LTU	533	0.87	0.81	0.73	0.73	0.71	0.65	0.63	0.61	0.61	0.60	0.60	0.57	0.55	0.53	0.51	0.50	0.50	-	0.10	0.11	0.12	0.14	0.14	0.16	0.18	0.22	0.35	0.45
SVN	524	0.89	0.83	0.75	0.76	0.74	0.69	0.67	0.65	0.64	0.64	0.63	0.60	0.59	0.57	0.55	0.54	0.54	0.54	-	0.01	0.02	0.03	0.04	0.05	0.08	0.12	0.24	0.33
HUN	523	0.89	0.84	0.76	0.77	0.75	0.69	0.68	0.65	0.65	0.65	0.64	0.61	0.60	0.57	0.55	0.54	0.54	0.50	0.50	-	0.02	0.03	0.04	0.05	0.07	0.12	0.24	0.34
DEU	521	0.89	0.83	0.76	0.76	0.74	0.69	0.67	0.65	0.65	0.65	0.64	0.61	0.60	0.57	0.55	0.55	0.55	0.55	0.51	0.51	-	0.01	0.02	0.03	0.05	0.09	0.21	0.30
CHE	520	0.89	0.84	0.76	0.77	0.75	0.70	0.68	0.66	0.66	0.65	0.65	0.62	0.60	0.58	0.56	0.55	0.55	0.55	0.51	0.51	0.50	-	0.01	0.02	0.04	0.09	0.21	0.30
BGR	519	0.88	0.83	0.75	0.76	0.74	0.69	0.67	0.65	0.65	0.65	0.64	0.61	0.60	0.58	0.56	0.55	0.55	0.55	0.52	0.51	0.51	0.50	-	0.01	0.03	0.07	0.18	0.27
RUS	519	0.90	0.84	0.77	0.78	0.76	0.71	0.69	0.67	0.66	0.66	0.66	0.62	0.61	0.59	0.57	0.56	0.56	0.56	0.52	0.52	0.51	0.51	0.50	-	0.03	0.07	0.19	0.29
CZE	516	0.90	0.85	0.78	0.78	0.76	0.71	0.69	0.67	0.67	0.67	0.66	0.63	0.62	0.60	0.57	0.57	0.57	0.57	0.53	0.53	0.52	0.52	0.51	0.51	-	0.04	0.16	0.25
BFR	512	0.89	0.84	0.77	0.78	0.77	0.72	0.70	0.68	0.68	0.68	0.67	0.64	0.63	0.60	0.59	0.58	0.58	0.59	0.55	0.55	0.54	0.53	0.53	0.53	0.52	-	0.10	0.19
LVA	502	0.93	0.88	0.82	0.82	0.81	0.77	0.75	0.73	0.73	0.73	0.72	0.69	0.68	0.65	0.63	0.63	0.63	0.64	0.59	0.60	0.58	0.58	0.57	0.58	0.56	0.54	-	0.10
EST	494	0.94	0.90	0.84	0.85	0.84	0.80	0.78	0.76	0.76	0.76	0.75	0.72	0.71	0.69	0.67	0.67	0.66	0.67	0.63	0.63	0.62	0.62	0.61	0.61	0.60	0.58	0.54	-

Annex V: Factor Analysis results

Factor analysis

In general, two applications of factor analytical techniques can be distinguished: (1) reduce the number of variables that are included in an analysis (data reduction) and (2) detect structure in the relationships between the variables. The second application can be used in a deductive way by hypothesising a certain structure, identify some dimensions in the subject of study, and applying factor analysis to check whether these dimensions actually emerge from the data. The second approach is the method that we will use to test the structure of the proposed model for civic competence.

Using a metaphor we will try to convey an intuitive idea of the method of factor analysis. Imagine you are standing on a beach and at the horizon you see three ship funnels. You observe these funnels and you notice that they are always moving simultaneously. Then it might be a reasonable conclusion that the funnels are not three separate phenomena, but that they all belong to the same ship. A comparable situation will be encountered in a research context when you study three variables and you notice that the values for these variables always move together ("co-vary"), when the value for one variable goes up the others tend to go up as well. In that case it is reasonable to say that there is a common (latent) thing driving the variability in the phenomena, there is an underlying dimension. Factor analysis is a technique that studies this (co-)variance in data and that makes it possible to detect the underlying dimensions, the factors driving this process of co-variance.

In the group of factor analytical techniques a common distinction is the one between Principal Component Analysis (PCA) and Principal Factor Analysis (PFA). The main difference between both is that PCA uses all the variability in the items to perform the analysis, while in PFA only the variability that the items have in common with the other items will be used. In general, both techniques will yield very similar results. For the current analyses PCA is applied. In the report the generic term factor analysis (FA) was used.

Applied approach

The structure of the model was checked by doing a factor analysis on the scale scores. A crucial step in the FA is the decision on the number of factors that should be used to describe the data. The eigenvalue of a factor is often used as the basis for the selection of factors. The eigenvalue reflects the amount of variance in the data that is captured by the factor. The total sum of the eigenvalues will equal the number of variables included in the FA. Two technical criteria for the selection of the number of factors are the use of the scree plot (Cattell, 1966) and the Kaiser criterion (1960). The former plots the eigenvalues of the factors and gives an indication of the number of factors to select using the 'elbow' in this plot. The latter criterion retains all the factors with an eigenvalue greater than 1. This means that it only extracts factors that at least capture as much variance as the equivalent of one of the original variables. Not always will both criteria indicate to the same number of factors. In practice, as a consequence, an important additional criterion is the interpretability of the result.

A factor analysis will produce an initial result producing for all variables factor loadings, which are the correlations between the variable and the factor. This initial result will often be hard to interpret. However, a factor analytical solution has rotational freedom. This means that the factors can be visualised as dimensions that can be rotated freely, resulting in mathematically equivalent solutions. Every rotated factor solution captures exactly as much of the variance in the data as the initial

solution (Kim & Mueller, 1978). By rotating it is possible to make the output more understandable and facilitate the interpretation of factors. One looks for a so-called 'simple structure' (Thurstone, 1935) which implies that items have high loadings on as few factors as possible and at the same time factors have many high and many low loadings.

One can distinguish an orthogonal way of rotating and oblique rotation. An *orthogonal rotation* retains independent, uncorrelated factors. An *oblique rotation* allows the factors to correlate. Interpretation of an oblique solution is often more difficult since distinction between the factors becomes less clear. In the current analysis an orthogonal rotation strategy will be applied. Based on the factor loadings of the rotated solution one can interpret the factors and assign the variables to the detected dimensions in the data.

Factor Analysis results (with trust)

Table A24: Varimax rotated matrix of civic competence subdomains (including TRUST)

	Component			
	1	2	3	4
CTCON	-0.05	0.03	0.23	0.81
CTSOC	0.03	0.28	0.02	0.73
TRUST	0.08	0.04	0.07	0.49
EFFIC	0.15	-0.07	0.75	0.11
POLAT	-0.01	-0.04	0.75	0.13
VOTE	-0.01	0.48	0.56	0.00
COMM	-0.18	0.45	0.45	0.21
SCON	0.40	0.23	0.38	0.31
MINOR	0.14	0.71	0.00	0.14
WOMRT	0.33	0.68	-0.15	0.00
CONFS	0.11	0.66	0.12	0.18
DEM	0.68	0.20	0.04	0.15
SKILS	0.85	0.09	-0.01	-0.06
KNOWL	0.88	0.07	0.05	0.00

Table A25: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.452	24.656	24.656	3.452	24.656	24.656	2.331	16.649	16.649
2	2.109	15.063	39.720	2.109	15.063	39.720	2.034	14.529	31.179
3	1.333	9.524	49.244	1.333	9.524	49.244	1.884	13.456	44.635
4	1.031	7.366	56.609	1.031	7.366	56.609	1.676	11.975	56.609
5	.946	6.758	63.368						
6	.824	5.885	69.252						
7	.700	4.997	74.249						
8	.651	4.648	78.897						
9	.592	4.230	83.127						
10	.573	4.096	87.223						
11	.552	3.945	91.168						
12	.495	3.539	94.707						
13	.459	3.280	97.987						
14	.282	2.013	100.000						

Extraction Method: Principal Component Analysis.
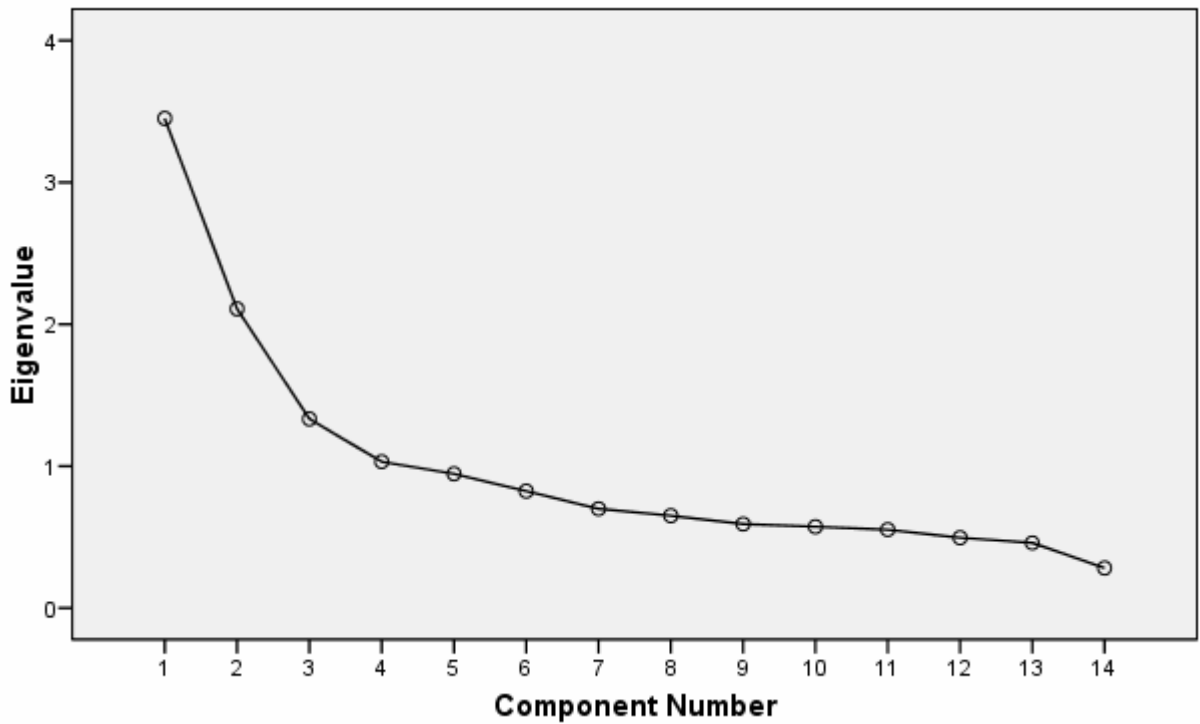
Figure A21: Scree plot for the principal component analysis of civic competence scale

Annex VI: Reliability analysis
Scale: Citizenship Values (with TRUST)

Table A26: Reliability Statistic

Cronbach's Alpha	N of Items
.523	3

Table A27: Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
IMPORTANCE OF CONVENTIONAL CITIZENSHIP	20.0093	8.868	.461	.206
IMPORTANCE OF SOCIAL-MOVEMENT-RELATED CITIZENSHIP	20.0068	9.662	.376	.357
TRUST IN GOVERNMENT RELATED INSTITUTIONS	20.0071	11.704	.194	.641

Scale: Citizenship Values (without TRUST)

Table A28: Reliability Statistic

Cronbach's Alpha	N of Items
.642	2

Table A29: Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
IMPORTANCE OF CONVENTIONAL CITIZENSHIP	10.0003	4.000	.473	n/a
IMPORTANCE OF SOCIAL-MOVEMENT-RELATED CITIZENSHIP	10.0001	3.991	.473	n/a

Scale: Social Justice

Table A30: Reliability Statistic

Cronbach's Alpha	N of Items
.622	3

Table A31: Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
ATTITUDES TOWARDS WOMENS POLITICAL AND ECONOMIC RIGHTS	20.0112	10.719	.440	.510
MINORITIES SCALE	20.0151	10.369	.475	.459
SCORE CONFIDENCE IN PARTICIPATING AT SCHOOL	20.0170	11.355	.380	.594

Scale: Participatory Attitude

Table A32: Reliability Statistic

Cronbach's Alpha	N of Items
.652	5

Table A33: Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
POLITICAL EFFICACY	40.0443	28.548	.420	.592
COMMUNITY PARTICIPATION SCALE	40.0887	29.189	.389	.607
POLITICAL ACTIVITIES	40.0576	28.128	.445	.581
VOTING SCALE	40.0462	29.493	.366	.618
SELF-CONFIDENT PARTICIPATION	40.0645	28.795	.403	.600

Scale: Cognitions about democratic institutions

Table A34: Reliability Statistic

Cronbach's Alpha	N of Items
.779	3

Table A35: Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
DEMOCRATIC RIGHTS	.0196998	3.399	.493	.829
KNOWLEDGE OF CONTENT	.0095969	2.829	.713	.590
SKILLS IN INTERPRETATION OF MATERIAL WITH CIVIC AND POLITICAL CONTENT	.0110033	2.979	.652	.660

Annex VII Robustness analysis

Alternative scenarios

In order to investigate the robustness of the ranking based on the proposed composite indicator, the rankings based on several alternative methods of weighting, structures and standardisation methods can be compared in a sensitivity analysis. To ensure the validity of the messages conveyed by the composite indicator, it is important that the sensitivity of the country rankings to the structure and aggregation approach be adequately studied in order to show that the composite indicator does not depend heavily on data treatment. In the current analysis the validity of the ranking for the civic competence composite has been assessed by evaluating how sensitive it is to the assumptions that have been made about the structure and the aggregation of the different scales. The sensitivity analysis was undertaken with respect to the following sources of uncertainty: the structure of the affective domain, the standardization technique and the aggregation procedure. In comparison with the presented composite four alternative scenarios were analysed:

1. (Z) Instead of a min-max standardization procedure, the results were standardized by converting them into z-scores. For each scale, the average across countries and the standard deviation across countries are calculated. And the z-score is calculated by comparing the difference between the score on the scale and the average to the overall standard deviation:

   Z-score = ([score] - [average across countries])/ SD across countries

   This approach converts all indicators to a common scale with an average of zero and standard deviation of one.

2. (No structure Min-Max) A second alternative scenario imposed no structure within the composite and attributes the same weight to all the scales. A min-max standardization will be used.

3. (No structure Z) The third alternative scenario is the second scenario but now with the z-standardization.

4. (Geometrical average) In the fourth scenario we make different aggregation procedure. Instead of using the arithmetical average to calculate the CCCI, we used the geometrical average. The formula for the geometrical average is as follow:

   Geometrical average =$((X_1)(X_2)(X_3).........(X_N))^{1/N}$

   This approach avoids compensation schemes, where one country could have a high score in one of the sub-domain and very low in the others.

Robustness civic competence results

In Table A36 results are presented for the alternative scenarios with regard to the civic competence composite indicator. The first two columns indicate the results as they ware presented before and the countries are ranked based on this result. The remainder of the table contains the results for the three alternative scenarios with three columns for each scenario. A first column indicates the country ranking in the alternative scenario. The second column presents the country result and, finally, the third column shows the shift in ranking compared to the original ranking. To facilitate readability and interpretation of the results, again, in the final stage, all country results are rescaled on a scale from 0 to 1000. It was considered to be a necessary addition to enable a correct interpretation of the actual impact of the shifts in ranking. If this shift is actually related to a minor difference in the result, this is important to take into account.

It shows that, overall, the ranking is not sensitive to any of the choices made in the

different scenarios for civic competence composite indicator. In very few cases, the shift in rank is two or three positions, but most of the times the ranking remains unchanged or there is only a shift of one position. The bigger shifts are found for countries that where very close together in the original ranking. This outcome produces a high degree of confidence that the composite indicator provides a solid framework for assessing relative performance between the countries in a robust way

Table A36: Results robustness analysis civic competence

	Min-Max		Z			No structure Min-Max			No structure Z			Geometrical average		
	Ranking	Score	Ranking	Scores	Difference in ranking	Ranking	Scores	Difference in ranking	Ranking	Scores	Difference in ranking	Ranking	Scores	Difference in ranking
CYP	1	642	1	636	0	1	641	0	1	630	0	1	658	0
GRC	2	623	2	617	0	2	615	0	2	607	0	2	639	0
USA	3	598	3	589	0	3	592	0	3	583	0	3	612	0
POL	4	594	4	588	0	5	590	-1	4	582	0	4	611	0
COL	5	585	5	584	0	4	592	1	5	578	0	5	597	0
SVK	6	569	6	562	0	6	566	0	6	557	0	6	591	0
PRT	7	565	7	560	0	7	565	0	7	552	0	7	584	0
NOR	8	562	11	552	-3	10	554	-2	11	545	-3	11	573	0
ITA	9	560	10	554	-1	11	553	-2	10	547	-1	10	576	0
ROM	10	558	8	558	2	9	558	1	9	549	1	8	581	1
CHL	11	557	9	557	2	8	562	3	8	551	3	9	577	-1
HKG	12	550	12	546	0	12	545	0	12	541	0	12	569	0
AUS	13	547	13	539	0	13	545	0	13	536	0	13	564	0
SWE	14	541	14	534	0	15	528	-1	14	525	0	14	555	0
DNK	15	535	16	527	-1	14	530	1	15	521	0	15	554	0
FIN	16	533	18	524	-2	17	525	-1	16	519	0	16	551	0
ENG	17	533	17	525	0	16	528	1	17	519	0	18	550	-1
LTU	18	533	15	532	3	19	522	-1	18	517	0	17	550	1
SVN	19	524	19	518	0	18	522	1	19	513	0	20	546	-1
HUN	20	523	21	517	-1	20	519	0	20	510	0	19	547	1
DEU	21	521	22	517	-1	22	513	-1	22	509	-1	23	541	-1
CHE	22	520	23	516	-1	25	512	-3	24	507	-2	22	541	2
BGR	23	519	20	518	3	24	512	-1	23	508	0	24	539	-1
RUS	24	519	24	515	0	21	516	3	21	509	3	21	543	0
CZE	25	516	25	510	0	26	506	-1	26	501	-1	26	533	0
BFR	26	512	26	507	0	23	512	3	25	503	1	25	538	0
LVA	27	502	27	500	0	27	505	0	27	495	0	27	525	0
EST	28	494	28	490	0	28	491	0	28	483	0	28	517	0

Annex VIII: Active Citizenship in relation to Civic competence

Table A37: Active citizenship composite indicator scores

Active Citizenship

Country	Average
Belgium	553
Germany	504
Denmark	601
Finland	401
Greece	185
Hungary	173
Italy	229
Norway	704
Poland	176
Portugal	215
Slovenia	336
Sweden	686
United Kingdom	517

Equation shown on chart: $y = 0.0009x^2 - 0.9453x + 754.52$, $R^2 = 0.6566$
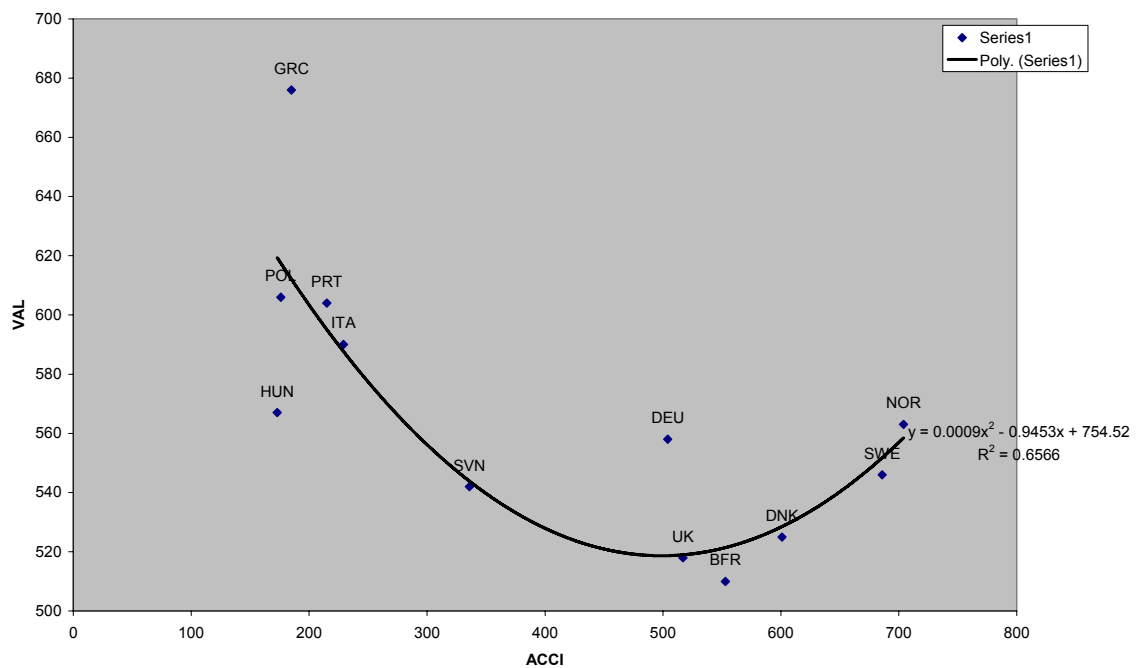
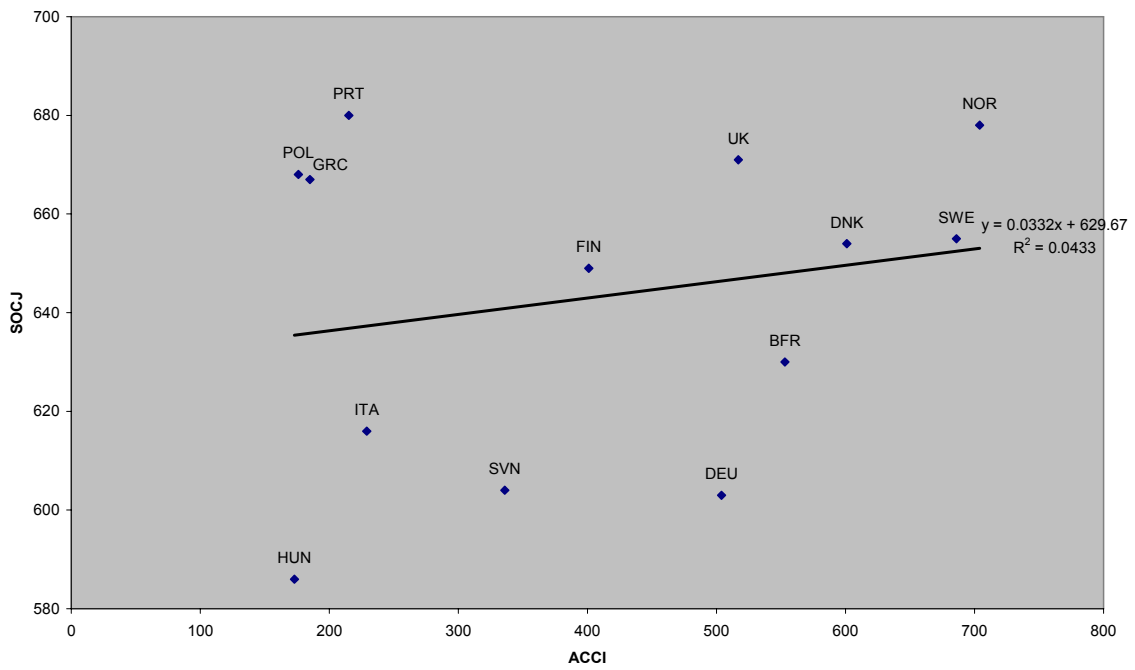**Figure A22: Active citizenship composite indicator and Citizenship values**

Figure A23: Active citizenship composite indicator and Social justice (values and attitudes)
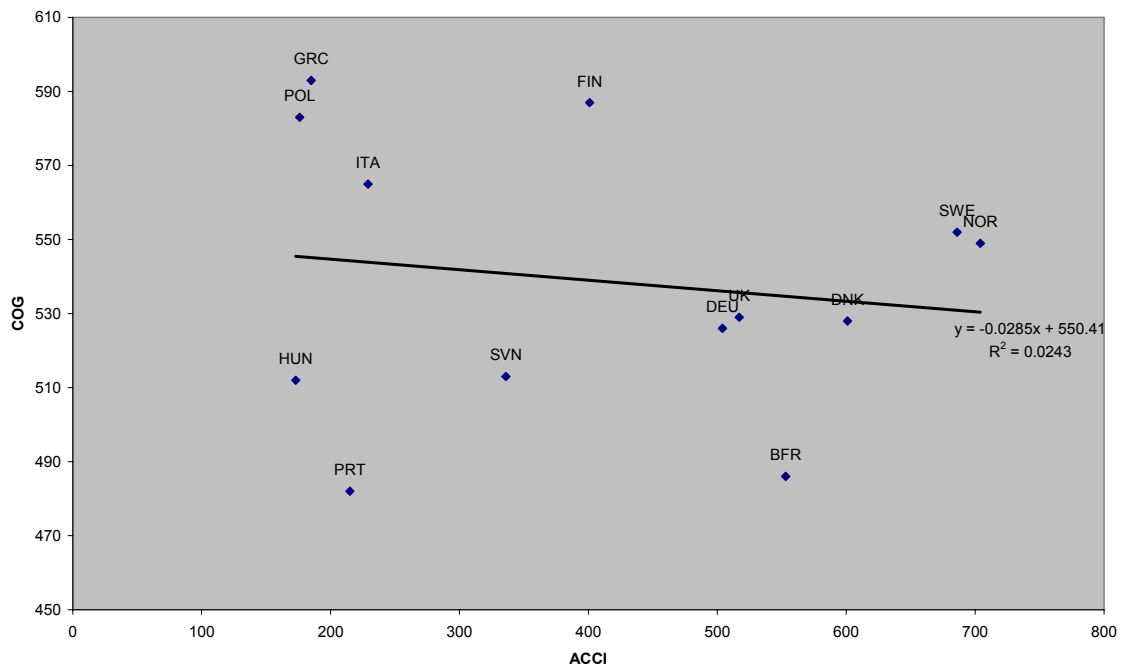

Figure A24: Active citizenship composite indicator and Cognition about democratic institutions

Annex IX: Remarks on single items included into the CCCI

These remarks were sent by Hermann Josef Abs, from the *Deutches Intitut für Internationale Pädagogische Forschung*, Frankfurt, Germany, a nominated expert by the German Ministry and participant of the European Commission expert group on active citizenship.

CTCON: B 10 "An adult who is a good citizen shows respect for government representatives (leaders, officials)". In Germany we think a good citizen should show the same kind of respect to all citizens, therefore we have a normative argument not to favour special respect to government representatives as a criterion for civic competence. On the contrary we had a period in German history when presumably many Germans would have scored very high on this item, but we don't want to go back to this period.

EFFIC: I2 "I know more about politics than most people my age". In this question the 14 year old boy or girl compares him- or herself to his class mates or other youngsters around him. It is a relational statement. From an outside perspective it should be obvious that in all countries there are exactly the same proportions of young students who know more about politics than most of the other young students. Therefore you are measuring efficacy only on the level of the individual in relation to his or her peers. On the level of country comparison you are measuring the proportion of people who underestimates or overestimates their abilities.

POLAT: There should also be some negative items in order to control for the tendency to adequacy which is culturally constrained.

VOTE: M1 "When you are an adult, what do you expect to do? Vote in national elections". In some countries it is a curriculum goal that students develop an attitude in favour of voting (or even a feeling of obligation), in others it is not. In the case that you make this question an element of the composite indicator you are implicitly telling European countries, that they should work towards this direction and that their curricula should be designed to support statements M1. In the context of evidence based policy one may ask for the empirical basis or the evidence whether such a curriculum goal or such statements contribute to higher turn out rates in elections among future voters. We compared two countries in IEA-Cived 1999. In country A (USA) "development of an attitude in favour of voting" is part of the curriculum; in country B (Germany) it is not. In Country B Curriculum Goals sound generally like this: "Knowing about the right to vote and not to vote" and/or "Understanding the meaning of voting with a democracy". Not surprisingly in Country A you have higher percentages of students who agree to the above mentioned item (i.e. 85%) than in country B (i.e. 68%). If you compare the participation in the next national elections in these two countries you find out that there has been a lower turn out rate in country A (51%) than in country B (79%). The Curriculum concept aiming at some attitude statement (like it is tested by M1) seems to be not very helpful in terms of for citizenship competence in cross national comparison. Using questions like M1 in the indicator could influence European countries in a direction of superficial educational efforts, without any empirical evidence that this will contribute to problem solutions in the field of active citizenship.

DEM: A1. According to European law member states are allowed to prohibit the free expression of the denial of the holocaust. In Germany sometimes extreme right groups argue, that the denial of the holocaust must be legal, because everyone should have the right to express their opinion freely. This item is favouring legal systems, where the denial of the holocaust is not prohibited.

Annex X: Analysis of the composite indicator by country

The present section annex presents the analysis by country. Table A38 presents the reliability analysis in each of the countries. The following section is showing the factor analysis Civic Competence Composite Indicator scale in each country. This shows in a clearer way how our composite indicator "behaves" in each country separately. There are two tables for each country, the first one presents the variance explained by the factors with Eigenvalue higher than 1, and the second one shows the factor loadings for the varimax rotation solution. This analysis shows that our model works relatively well in all the countries independently. In general terms, the structure we adopted is repeated in all countries (four factors with eigenvalues higher than 1) with certain variation in the loadings of one or two scales (usually VOTE, COMM or SCON). Only Germany and Denmark present three components in the factor analysis, which might indicate that young people in these countries might have an approach to civic competence that our composite does not fully capture.

Table A38: Cronbach's Alpha by country

	Citizenship values	Social Justice	Participatory attitudes	Cognition about democratic institutions
All countries*	0.64	0.62	0.65	0.78
European Countries*	0.65	0.62	0.64	0.79
AUS	0.63	0.65	0.69	0.78
BFR	0.53	0.65	0.56	0.80
BGR	0.70	0.69	0.58	0.75
CHE	0.53	0.53	0.61	0.76
CHL	0.54	0.55	0.63	0.74
COL	0.54	0.67	0.63	0.66
CYP	0.61	0.64	0.63	0.77
CZE	0.54	0.60	0.58	0.80
DEU	0.56	0.50	0.58	0.78
DNK	0.50	0.59	0.66	0.79
ENG	0.56	0.69	0.70	0.75
EST	0.54	0.58	0.64	0.75
FIN	0.59	0.65	0.66	0.79
GRC	0.58	0.64	0.55	0.80
HKG	0.77	0.74	0.71	0.77
HUN	0.61	0.52	0.61	0.78
ITA	0.57	0.60	0.59	0.79
LTU	0.64	0.60	0.63	0.74
LVA	0.55	0.58	0.61	0.77
NOR	0.56	0.64	0.66	0.82
POL	0.66	0.64	0.66	0.80
PRT	0.51	0.66	0.60	0.76
ROM	0.58	0.59	0.54	0.74
RUS	0.56	0.56	0.67	0.80
SVK	0.63	0.57	0.60	0.77
SVN	0.60	0.62	0.56	0.77
SWE	0.62	0.63	0.67	0.80
USA	0.68	0.71	0.73	0.77

*Using Senate Weights

```
FACTOR
  /VARIABLES ctconmle ctsocmle womrtmle
  minormle confsmle efficmle commmle polatmle
  votemle sconmle democmle knowlmle skilsmle /MISSING LISTWISE
 /ANALYSIS ctconmle ctsocmle womrtmle
  minormle confsmle efficmle commmle polatmle
  votemle sconmle democmle knowlmle skilsmle
  /CRITERIA MINEIGEN(1) ITERATE(25)
  /EXTRACTION PC
  /CRITERIA ITERATE(25)
  /ROTATION VARIMAX
  /METHOD=CORRELATION .
```

Factor Analysis

ALPHA NUMERIC COUNTRY CODE = AUS

Total Variance Explained(a)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.507	26.980	26.980	3.507	26.980	26.980	2.320	17.843	17.843
2	2.024	15.571	42.552	2.024	15.571	42.552	2.188	16.832	34.675
3	1.440	11.076	53.627	1.440	11.076	53.627	2.029	15.608	50.283
4	1.032	7.938	61.565	1.032	7.938	61.565	1.467	11.282	61.565
5	.766	5.891	67.456						
6	.721	5.548	73.004						
7	.688	5.296	78.300						
8	.611	4.701	83.001						
9	.519	3.990	86.992						
10	.512	3.937	90.928						
11	.474	3.646	94.574						
12	.442	3.401	97.975						
13	.263	2.025	100.000						

Extraction Method: Principal Component Analysis.
a ALPHA NUMERIC COUNTRY CODE = AUS

Rotated Component Matrix(a,b)

	Component			
	1	2	3	4
*MLE SCORE IMPORTANCE OF CONVENTIONAL CITIZENSHIP	-.119	.029	.208	.840
*MLE SCORE IMPORTANCE OF SOCIAL-MOVEMENT-RELATED CITIZENSHIP	.093	.263	.044	.802
*MLE SCORE ATTITUDES TOWARDS WOMENS POLITICAL AND ECONOMIC RIGHTS	.246	.750	-.162	.009
MLE SCORE MINORITIES SCALE	.253	.651	.005	.135
*MLE SCORE CONFIDENCE IN PARTICIPATING AT SCHOOL	.053	.673	.187	.156
MLE SCORE Political EFFICACY	.243	-.171	.720	.140
MLE SCORE COMMUNITY PARTICIPATION SCALE	-.110	.543	.488	.083
*MLE SCORE POLITICAL ACTIVITIES	-.023	.016	.796	.083
MLE SCORE VOTING SCALE	.370	.345	.400	.179
MLE SCORE (SCON IRT score)	.007	.420	.599	.042
MLE Democracy IRT score (standardized M = 10 SD = 2)	.689	.210	.003	.046
MLE SCORE KNOWLEDGE SCALE	.891	.052	.109	-.025
MLE SCORE SKILLS SCALE	.832	.113	.042	-.069

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 7 iterations.
b ALPHA NUMERIC COUNTRY CODE = AUS

Total Variance Explained(a)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.532	27.171	27.171	3.532	27.171	27.171	2.543	19.560	19.560
2	1.926	14.819	41.990	1.926	14.819	41.990	2.214	17.031	36.591
3	1.251	9.623	51.613	1.251	9.623	51.613	1.610	12.383	48.974
4	1.046	8.044	59.657	1.046	8.044	59.657	1.389	10.683	59.657
5	.869	6.682	66.339						
6	.756	5.819	72.158						
7	.712	5.478	77.636						
8	.583	4.487	82.123						
9	.560	4.311	86.434						
10	.540	4.153	90.587						
11	.510	3.926	94.513						
12	.454	3.491	98.004						
13	.259	1.996	100.000						

Extraction Method: Principal Component Analysis.
a ALPHA NUMERIC COUNTRY CODE = BFR

Rotated Component Matrix(a,b)

	Component			
	1	2	3	4
*MLE SCORE IMPORTANCE OF CONVENTIONAL CITIZENSHIP	-.116	.140	.210	.780
*MLE SCORE IMPORTANCE OF SOCIAL-MOVEMENT-RELATED CITIZENSHIP	.220	.143	-.015	.804
*MLE SCORE ATTITUDES TOWARDS WOMENS POLITICAL AND ECONOMIC RIGHTS	.398	.610	-.321	.064
MLE SCORE MINORITIES SCALE	.213	.606	-.205	.172
*MLE SCORE CONFIDENCE IN PARTICIPATING AT SCHOOL	.153	.717	1.67E-006	.131
MLE SCORE Political EFFICACY	.039	.118	.721	.105
MLE SCORE COMMUNITY PARTICIPATION SCALE	.042	.597	.211	.121
*MLE SCORE POLITICAL ACTIVITIES	-.047	-.040	.795	.063
MLE SCORE VOTING SCALE	.476	.360	.307	.136
MLE SCORE (SCON IRT score)	-.017	.615	.351	-.059
MLE Democracy IRT score (standardized M = 10 SD = 2)	.718	.093	.004	.157
MLE SCORE KNOWLEDGE SCALE	.882	.132	-.006	-.009
MLE SCORE SKILLS SCALE	.853	.121	-.081	-.076

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 5 iterations.
b ALPHA NUMERIC COUNTRY CODE = BFR

Total Variance Explained(a)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.420	26.309	26.309	3.420	26.309	26.309	2.298	17.677	17.677
2	2.017	15.514	41.823	2.017	15.514	41.823	2.105	16.189	33.867
3	1.305	10.035	51.858	1.305	10.035	51.858	1.742	13.402	47.268
4	1.118	8.602	60.461	1.118	8.602	60.461	1.715	13.193	60.461
5	.867	6.666	67.127						
6	.738	5.681	72.807						
7	.706	5.428	78.235						
8	.630	4.843	83.078						
9	.554	4.261	87.339						
10	.503	3.866	91.205						
11	.472	3.632	94.837						
12	.407	3.127	97.964						
13	.265	2.036	100.000						

Extraction Method: Principal Component Analysis.
a ALPHA NUMERIC COUNTRY CODE = BGR

Rotated Component Matrix(a,b)

	Component			
	1	2	3	4
*MLE SCORE IMPORTANCE OF CONVENTIONAL CITIZENSHIP	-.038	.059	.144	.835
*MLE SCORE IMPORTANCE OF SOCIAL-MOVEMENT-RELATED CITIZENSHIP	.126	.257	-.046	.796
*MLE SCORE ATTITUDES TOWARDS WOMENS POLITICAL AND ECONOMIC RIGHTS	.395	.654	-.150	.094
MLE SCORE MINORITIES SCALE	.109	.678	.029	.213
*MLE SCORE CONFIDENCE IN PARTICIPATING AT SCHOOL	.191	.780	.061	.110
MLE SCORE Political EFFICACY	-.041	.107	.709	-.151
MLE SCORE COMMUNITY PARTICIPATION SCALE	.022	.111	.472	.374
*MLE SCORE POLITICAL ACTIVITIES	-.028	-.307	.722	.196
MLE SCORE VOTING SCALE	.400	.210	.443	.284
MLE SCORE (SCON IRT score)	-.037	.559	.488	.012
MLE Democracy IRT score (standardized M = 10 SD = 2)	.632	.202	.080	.177
MLE SCORE KNOWLEDGE SCALE	.873	.128	-.055	-.024
MLE SCORE SKILLS SCALE	.866	.090	-.043	-.074

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 6 iterations.
b ALPHA NUMERIC COUNTRY CODE = BGR

ALPHA NUMERIC COUNTRY CODE = CHE

Total Variance Explained(a)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.956	22.741	22.741	2.956	22.741	22.741	2.312	17.788	17.788
2	1.864	14.338	37.079	1.864	14.338	37.079	1.974	15.187	32.975
3	1.629	12.528	49.607	1.629	12.528	49.607	1.870	14.385	47.360
4	1.111	8.548	58.154	1.111	8.548	58.154	1.403	10.794	58.154
5	.871	6.704	64.858						
6	.743	5.718	70.576						
7	.716	5.505	76.081						
8	.655	5.041	81.122						
9	.629	4.835	85.956						
10	.538	4.139	90.096						
11	.513	3.947	94.042						
12	.471	3.626	97.668						
13	.303	2.332	100.000						

Extraction Method: Principal Component Analysis.
a ALPHA NUMERIC COUNTRY CODE = CHE

Rotated Component Matrix(a,b)

	Component			
	1	2	3	4
*MLE SCORE IMPORTANCE OF CONVENTIONAL CITIZENSHIP	-.036	-.037	.299	.753
*MLE SCORE IMPORTANCE OF SOCIAL-MOVEMENT-RELATED CITIZENSHIP	.123	.253	-.021	.794
*MLE SCORE ATTITUDES TOWARDS WOMENS POLITICAL AND ECONOMIC RIGHTS	.334	.591	-.217	.168
MLE SCORE MINORITIES SCALE	.060	.675	-.099	.079
*MLE SCORE CONFIDENCE IN PARTICIPATING AT SCHOOL	.119	.660	.075	.002
MLE SCORE Political EFFICACY	.112	-.010	.767	.051
MLE SCORE COMMUNITY PARTICIPATION SCALE	-.217	.578	.237	.241
*MLE SCORE POLITICAL ACTIVITIES	-.004	-.010	.761	.186
MLE SCORE VOTING SCALE	.435	.126	.519	.115
MLE SCORE (SCON IRT score)	-.002	.554	.457	-.172
MLE Democracy IRT score (standardized M = 10 SD = 2)	.691	.089	.083	.163
MLE SCORE KNOWLEDGE SCALE	.867	.028	.085	-.042
MLE SCORE SKILLS SCALE	.830	.055	.037	-.066

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 6 iterations.
b ALPHA NUMERIC COUNTRY CODE = CHE

ALPHA NUMERIC COUNTRY CODE = CHL

Total Variance Explained(a)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.157	24.282	24.282	3.157	24.282	24.282	2.275	17.501	17.501
2	1.999	15.376	39.658	1.999	15.376	39.658	1.836	14.123	31.624
3	1.193	9.174	48.833	1.193	9.174	48.833	1.832	14.094	45.718
4	1.035	7.963	56.796	1.035	7.963	56.796	1.440	11.078	56.796
5	.848	6.521	63.317						
6	.765	5.881	69.199						
7	.713	5.486	74.684						
8	.665	5.119	79.803						
9	.610	4.693	84.496						
10	.603	4.640	89.136						
11	.561	4.313	93.449						
12	.529	4.068	97.517						
13	.323	2.483	100.000						

Extraction Method: Principal Component Analysis.
a ALPHA NUMERIC COUNTRY CODE = CHL

Rotated Component Matrix(a,b)

	Component			
	1	2	3	4
*MLE SCORE IMPORTANCE OF CONVENTIONAL CITIZENSHIP	-.041	.258	.072	.777
*MLE SCORE IMPORTANCE OF SOCIAL-MOVEMENT-RELATED CITIZENSHIP	.110	.019	.236	.759
*MLE SCORE ATTITUDES TOWARDS WOMENS POLITICAL AND ECONOMIC RIGHTS	.439	-.119	.507	.145
MLE SCORE MINORITIES SCALE	.148	-.019	.657	.180
*MLE SCORE CONFIDENCE IN PARTICIPATING AT SCHOOL	.166	.142	.677	.068
MLE SCORE Political EFFICACY	.065	.735	.094	.037
MLE SCORE COMMUNITY PARTICIPATION SCALE	-.273	.258	.516	.154
*MLE SCORE POLITICAL ACTIVITIES	-.085	.742	.027	.163
MLE SCORE VOTING SCALE	.297	.530	.044	.312
MLE SCORE (SCON IRT score)	-.009	.536	.524	-.133
MLE Democracy IRT score (standardized M = 10 SD = 2)	.616	.011	.268	.175
MLE SCORE KNOWLEDGE SCALE	.875	.080	.037	.008
MLE SCORE SKILLS SCALE	.836	.054	.003	-.065

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 6 iterations.
b ALPHA NUMERIC COUNTRY CODE = CHL

ALPHA NUMERIC COUNTRY CODE = COL

Total Variance Explained(a)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.250	25.003	25.003	3.250	25.003	25.003	2.086	16.048	16.048
2	2.063	15.871	40.874	2.063	15.871	40.874	2.015	15.500	31.548
3	1.140	8.769	49.644	1.140	8.769	49.644	1.967	15.132	46.680
4	1.123	8.642	58.285	1.123	8.642	58.285	1.509	11.605	58.285
5	.864	6.648	64.934						
6	.719	5.533	70.466						
7	.675	5.191	75.657						
8	.659	5.067	80.724						
9	.597	4.593	85.318						
10	.582	4.479	89.797						
11	.542	4.171	93.968						
12	.433	3.329	97.297						
13	.351	2.703	100.000						

Extraction Method: Principal Component Analysis.
a ALPHA NUMERIC COUNTRY CODE = COL

Rotated Component Matrix(a,b)

	Component			
	1	2	3	4
*MLE SCORE IMPORTANCE OF CONVENTIONAL CITIZENSHIP	-.050	-.061	.321	.721
*MLE SCORE IMPORTANCE OF SOCIAL-MOVEMENT-RELATED CITIZENSHIP	.230	.041	.028	.797
*MLE SCORE ATTITUDES TOWARDS WOMENS POLITICAL AND ECONOMIC RIGHTS	.726	.281	-.086	.153
MLE SCORE MINORITIES SCALE	.744	.238	.043	.153
*MLE SCORE CONFIDENCE IN PARTICIPATING AT SCHOOL	.683	-.030	.250	.037
MLE SCORE Political EFFICACY	.084	.060	.696	-.009
MLE SCORE COMMUNITY PARTICIPATION SCALE	.266	-.139	.500	.185
*MLE SCORE POLITICAL ACTIVITIES	-.124	-.042	.753	.118
MLE SCORE VOTING SCALE	.229	.412	.447	.189
MLE SCORE (SCON IRT score)	.510	-.086	.528	-.007
MLE Democracy IRT score (standardized M = 10 SD = 2)	.237	.455	-.086	.462
MLE SCORE KNOWLEDGE SCALE	.145	.864	-.052	.041
MLE SCORE SKILLS SCALE	.034	.848	-.007	-.076

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 6 iterations.
b ALPHA NUMERIC COUNTRY CODE = COL

ALPHA NUMERIC COUNTRY CODE = CYP

Total Variance Explained(a)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.398	26.138	26.138	3.398	26.138	26.138	2.230	17.156	17.156
2	1.782	13.705	39.843	1.782	13.705	39.843	2.194	16.876	34.032
3	1.408	10.827	50.670	1.408	10.827	50.670	1.757	13.519	47.551
4	1.092	8.403	59.073	1.092	8.403	59.073	1.498	11.522	59.073
5	.798	6.137	65.210						
6	.763	5.868	71.079						
7	.715	5.497	76.576						
8	.614	4.726	81.302						
9	.560	4.309	85.611						
10	.553	4.255	89.866						
11	.506	3.895	93.760						
12	.490	3.766	97.526						
13	.322	2.474	100.000						

Extraction Method: Principal Component Analysis.
a ALPHA NUMERIC COUNTRY CODE = CYP

Rotated Component Matrix(a,b)

	Component			
	1	2	3	4
*MLE SCORE IMPORTANCE OF CONVENTIONAL CITIZENSHIP	.045	.043	.211	.813
*MLE SCORE IMPORTANCE OF SOCIAL-MOVEMENT-RELATED CITIZENSHIP	.059	.204	-.014	.831
*MLE SCORE ATTITUDES TOWARDS WOMENS POLITICAL AND ECONOMIC RIGHTS	.333	.654	-.172	-.018
MLE SCORE MINORITIES SCALE	.150	.702	-.079	.147
*MLE SCORE CONFIDENCE IN PARTICIPATING AT SCHOOL	.164	.697	.096	.105
MLE SCORE Political EFFICACY	.071	.026	.782	.020
MLE SCORE COMMUNITY PARTICIPATION SCALE	-.198	.464	.352	.250
*MLE SCORE POLITICAL ACTIVITIES	.119	-.031	.767	.125
MLE SCORE VOTING SCALE	.290	.329	.380	.142
MLE SCORE (SCON IRT score)	-.034	.603	.423	.014
MLE Democracy IRT score (standardized M = 10 SD = 2)	.690	.196	.083	.120
MLE SCORE KNOWLEDGE SCALE	.862	.088	.095	.012
MLE SCORE SKILLS SCALE	.837	.092	.063	-.023

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 6 iterations.
b ALPHA NUMERIC COUNTRY CODE = CYP

ALPHA NUMERIC COUNTRY CODE = CZE

Total Variance Explained(a)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.260	25.075	25.075	3.260	25.075	25.075	2.598	19.988	19.988
2	1.795	13.809	38.884	1.795	13.809	38.884	1.777	13.672	33.660
3	1.515	11.651	50.535	1.515	11.651	50.535	1.700	13.075	46.735
4	1.056	8.124	58.659	1.056	8.124	58.659	1.550	11.924	58.659
5	.958	7.367	66.026						
6	.745	5.733	71.759						
7	.728	5.599	77.358						
8	.585	4.499	81.857						
9	.556	4.275	86.132						
10	.528	4.063	90.195						
11	.516	3.965	94.161						
12	.500	3.843	98.004						
13	.260	1.996	100.000						

Extraction Method: Principal Component Analysis.
a ALPHA NUMERIC COUNTRY CODE = CZE

Rotated Component Matrix(a,b)

	Component			
	1	2	3	4
*MLE SCORE IMPORTANCE OF CONVENTIONAL CITIZENSHIP	-.075	.700	-.063	.185
*MLE SCORE IMPORTANCE OF SOCIAL-MOVEMENT-RELATED CITIZENSHIP	.020	.703	.183	-.089
*MLE SCORE ATTITUDES TOWARDS WOMENS POLITICAL AND ECONOMIC RIGHTS	.398	.260	.506	-.259
MLE SCORE MINORITIES SCALE	.255	.436	.463	-.280
*MLE SCORE CONFIDENCE IN PARTICIPATING AT SCHOOL	.108	.132	.708	-.024
MLE SCORE Political EFFICACY	.161	.015	.120	.764
MLE SCORE COMMUNITY PARTICIPATION SCALE	.011	.538	.162	.254
*MLE SCORE POLITICAL ACTIVITIES	.155	.324	-.095	.673
MLE SCORE VOTING SCALE	.559	.342	.027	.295
MLE SCORE (SCON IRT score)	-.042	-.033	.764	.391
MLE Democracy IRT score (standardized M = 10 SD = 2)	.699	-.032	.234	.043
MLE SCORE KNOWLEDGE SCALE	.883	-.027	.032	.116
MLE SCORE SKILLS SCALE	.851	-.067	.024	.069

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 10 iterations.
b ALPHA NUMERIC COUNTRY CODE = CZE

ALPHA NUMERIC COUNTRY CODE = DEU

Total Variance Explained(a)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.149	24.225	24.225	3.149	24.225	24.225	2.506	19.276	19.276
2	1.920	14.769	38.995	1.920	14.769	38.995	2.021	15.546	34.822
3	1.446	11.126	50.121	1.446	11.126	50.121	1.989	15.299	50.121
4	.997	7.667	57.788						
5	.918	7.059	64.847						
6	.753	5.793	70.640						
7	.695	5.347	75.987						
8	.676	5.198	81.185						
9	.629	4.837	86.023						
10	.542	4.173	90.196						
11	.511	3.933	94.129						
12	.486	3.738	97.866						
13	.277	2.134	100.000						

Extraction Method: Principal Component Analysis.
a ALPHA NUMERIC COUNTRY CODE = DEU

Rotated Component Matrix(a,b)

	Component		
	1	2	3
*MLE SCORE IMPORTANCE OF CONVENTIONAL CITIZENSHIP	.030	.215	.588
*MLE SCORE IMPORTANCE OF SOCIAL-MOVEMENT-RELATED CITIZENSHIP	.040	.577	.260
*MLE SCORE ATTITUDES TOWARDS WOMENS POLITICAL AND ECONOMIC RIGHTS	.257	.671	-.167
MLE SCORE MINORITIES SCALE	.183	.626	-.062
*MLE SCORE CONFIDENCE IN PARTICIPATING AT SCHOOL	.028	.552	.208
MLE SCORE Political EFFICACY	.322	-.131	.670
MLE SCORE COMMUNITY PARTICIPATION SCALE	-.195	.598	.310
*MLE SCORE POLITICAL ACTIVITIES	.004	.042	.686
MLE SCORE VOTING SCALE	.568	.043	.444
MLE SCORE (SCON IRT score)	-.003	.295	.523
MLE Democracy IRT score (standardized M = 10 SD = 2)	.689	.133	.114
MLE SCORE KNOWLEDGE SCALE	.877	.057	.017
MLE SCORE SKILLS SCALE	.834	.085	-.026

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 6 iterations.
b ALPHA NUMERIC COUNTRY CODE = DEU

ALPHA NUMERIC COUNTRY CODE = DNK

Total Variance Explained(a)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.529	27.144	27.144	3.529	27.144	27.144	2.437	18.747	18.747
2	1.791	13.776	40.920	1.791	13.776	40.920	2.217	17.054	35.801
3	1.507	11.589	52.509	1.507	11.589	52.509	2.172	16.708	52.509
4	.985	7.580	60.089						
5	.889	6.838	66.927						
6	.728	5.598	72.525						
7	.651	5.010	77.535						
8	.632	4.863	82.398						
9	.577	4.442	86.840						
10	.524	4.030	90.870						
11	.489	3.763	94.632						
12	.437	3.363	97.996						
13	.261	2.004	100.000						

Extraction Method: Principal Component Analysis.
a ALPHA NUMERIC COUNTRY CODE = DNK

Rotated Component Matrix(a,b)

	Component		
	1	2	3
*MLE SCORE IMPORTANCE OF CONVENTIONAL CITIZENSHIP	-.012	.224	.554
*MLE SCORE IMPORTANCE OF SOCIAL-MOVEMENT-RELATED CITIZENSHIP	-.008	.582	.198
*MLE SCORE ATTITUDES TOWARDS WOMENS POLITICAL AND ECONOMIC RIGHTS	.330	.676	-.099
MLE SCORE MINORITIES SCALE	.226	.666	.074
*MLE SCORE CONFIDENCE IN PARTICIPATING AT SCHOOL	.038	.637	.068
MLE SCORE Political EFFICACY	.323	-.145	.740
MLE SCORE COMMUNITY PARTICIPATION SCALE	-.161	.504	.448
*MLE SCORE POLITICAL ACTIVITIES	.078	-.033	.761
MLE SCORE VOTING SCALE	.374	.274	.452
MLE SCORE (SCON IRT score)	.020	.348	.496
MLE Democracy IRT score (standardized M = 10 SD = 2)	.702	.214	.122
MLE SCORE KNOWLEDGE SCALE	.883	.024	.108
MLE SCORE SKILLS SCALE	.852	.060	.038

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 5 iterations.
b ALPHA NUMERIC COUNTRY CODE = DNK

ALPHA NUMERIC COUNTRY CODE = ENG

Total Variance Explained(a)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.565	27.420	27.420	3.565	27.420	27.420	2.251	17.319	17.319
2	1.923	14.793	42.213	1.923	14.793	42.213	2.184	16.801	34.120
3	1.333	10.256	52.469	1.333	10.256	52.469	2.116	16.275	50.395
4	1.135	8.731	61.201	1.135	8.731	61.201	1.405	10.806	61.201
5	.833	6.410	67.611						
6	.698	5.366	72.977						
7	.690	5.307	78.284						
8	.652	5.012	83.296						
9	.541	4.164	87.460						
10	.504	3.874	91.334						
11	.458	3.525	94.858						
12	.393	3.020	97.878						
13	.276	2.122	100.000						

Extraction Method: Principal Component Analysis.
a ALPHA NUMERIC COUNTRY CODE = ENG

Rotated Component Matrix(a,b)

	Component			
	1	2	3	4
*MLE SCORE IMPORTANCE OF CONVENTIONAL CITIZENSHIP	-.056	-.050	.260	.794
*MLE SCORE IMPORTANCE OF SOCIAL-MOVEMENT-RELATED CITIZENSHIP	.087	.237	.015	.800
*MLE SCORE ATTITUDES TOWARDS WOMENS POLITICAL AND ECONOMIC RIGHTS	.238	.771	-.112	.027
MLE SCORE MINORITIES SCALE	.305	.693	.047	.143
*MLE SCORE CONFIDENCE IN PARTICIPATING AT SCHOOL	.062	.686	.188	.054
MLE SCORE Political EFFICACY	.208	-.135	.767	.095
MLE SCORE COMMUNITY PARTICIPATION SCALE	-.096	.500	.498	.041
*MLE SCORE POLITICAL ACTIVITIES	-.019	.002	.743	.152
MLE SCORE VOTING SCALE	.361	.321	.458	.124
MLE SCORE (SCON IRT score)	-.007	.388	.620	.004
MLE Democracy IRT score (standardized M = 10 SD = 2)	.688	.125	.013	.209
MLE SCORE KNOWLEDGE SCALE	.878	.105	.116	-.065
MLE SCORE SKILLS SCALE	.812	.180	.035	-.113

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 6 iterations.
b ALPHA NUMERIC COUNTRY CODE = ENG

ALPHA NUMERIC COUNTRY CODE = EST

Total Variance Explained(a)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.033	23.330	23.330	3.033	23.330	23.330	2.247	17.285	17.285
2	1.922	14.785	38.115	1.922	14.785	38.115	1.965	15.112	32.397
3	1.363	10.486	48.601	1.363	10.486	48.601	1.791	13.775	46.172
4	1.069	8.226	56.827	1.069	8.226	56.827	1.385	10.656	56.827
5	.866	6.660	63.488						
6	.816	6.276	69.764						
7	.741	5.700	75.464						
8	.645	4.959	80.423						
9	.608	4.680	85.103						
10	.593	4.561	89.664						
11	.534	4.110	93.774						
12	.503	3.872	97.645						
13	.306	2.355	100.000						

Extraction Method: Principal Component Analysis.
a ALPHA NUMERIC COUNTRY CODE = EST

Rotated Component Matrix(a,b)

	Component			
	1	2	3	4
*MLE SCORE IMPORTANCE OF CONVENTIONAL CITIZENSHIP	.051	.210	-.010	.791
*MLE SCORE IMPORTANCE OF SOCIAL-MOVEMENT-RELATED CITIZENSHIP	-.029	.029	.173	.814
*MLE SCORE ATTITUDES TOWARDS WOMENS POLITICAL AND ECONOMIC RIGHTS	.371	-.071	.623	-.012
MLE SCORE MINORITIES SCALE	.110	-.037	.724	.115
*MLE SCORE CONFIDENCE IN PARTICIPATING AT SCHOOL	.070	.174	.690	.057
MLE SCORE Political EFFICACY	.162	.691	-.051	.081
MLE SCORE COMMUNITY PARTICIPATION SCALE	-.231	.430	.359	.197
*MLE SCORE POLITICAL ACTIVITIES	.016	.764	-.067	.080
MLE SCORE VOTING SCALE	.382	.548	.134	.124
MLE SCORE (SCON IRT score)	-.055	.567	.431	-.005
MLE Democracy IRT score (standardized M = 10 SD = 2)	.661	.053	.143	.086
MLE SCORE KNOWLEDGE SCALE	.861	.081	.086	-.023
MLE SCORE SKILLS SCALE	.826	.073	.074	-.064

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 6 iterations.
b ALPHA NUMERIC COUNTRY CODE = EST

ALPHA NUMERIC COUNTRY CODE = FIN

Total Variance Explained(a)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.429	26.376	26.376	3.429	26.376	26.376	2.305	17.729	17.729
2	1.930	14.848	41.224	1.930	14.848	41.224	2.069	15.912	33.641
3	1.578	12.140	53.364	1.578	12.140	53.364	1.842	14.172	47.813
4	1.010	7.766	61.130	1.010	7.766	61.130	1.731	13.317	61.130
5	.885	6.810	67.941						
6	.806	6.200	74.141						
7	.667	5.134	79.275						
8	.553	4.254	83.529						
9	.532	4.095	87.624						
10	.479	3.688	91.312						
11	.446	3.434	94.747						
12	.390	2.997	97.743						
13	.293	2.257	100.000						

Extraction Method: Principal Component Analysis.
a ALPHA NUMERIC COUNTRY CODE = FIN

Rotated Component Matrix(a,b)

	Component			
	1	2	3	4
*MLE SCORE IMPORTANCE OF CONVENTIONAL CITIZENSHIP	-.043	-.065	.167	.838
*MLE SCORE IMPORTANCE OF SOCIAL-MOVEMENT-RELATED CITIZENSHIP	.047	.313	.058	.690
*MLE SCORE ATTITUDES TOWARDS WOMENS POLITICAL AND ECONOMIC RIGHTS	.293	.728	-.127	.077
MLE SCORE MINORITIES SCALE	.270	.685	-.063	.286
*MLE SCORE CONFIDENCE IN PARTICIPATING AT SCHOOL	-.009	.648	.135	.006
MLE SCORE Political EFFICACY	.258	-.238	.720	.155
MLE SCORE COMMUNITY PARTICIPATION SCALE	-.156	.469	.362	.313
*MLE SCORE POLITICAL ACTIVITIES	.028	.012	.713	.302
MLE SCORE VOTING SCALE	.249	.192	.330	.472
MLE SCORE (SCON IRT score)	.009	.438	.696	-.076
MLE Democracy IRT score (standardized M = 10 SD = 2)	.725	.186	.021	.147
MLE SCORE KNOWLEDGE SCALE	.878	.048	.098	-.008
MLE SCORE SKILLS SCALE	.832	.067	.102	-.040

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 6 iterations.
b ALPHA NUMERIC COUNTRY CODE = FIN

ALPHA NUMERIC COUNTRY CODE = GRC

Total Variance Explained(a)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.667	28.206	28.206	3.667	28.206	28.206	2.680	20.615	20.615
2	1.832	14.089	42.295	1.832	14.089	42.295	2.591	19.927	40.542
3	1.409	10.836	53.131	1.409	10.836	53.131	1.637	12.589	53.131
4	.969	7.454	60.585						
5	.791	6.081	66.667						
6	.718	5.520	72.187						
7	.700	5.387	77.573						
8	.595	4.577	82.150						
9	.540	4.152	86.302						
10	.520	3.999	90.302						
11	.499	3.839	94.140						
12	.481	3.703	97.844						
13	.280	2.156	100.000						

Extraction Method: Principal Component Analysis.
a ALPHA NUMERIC COUNTRY CODE = GRC

Rotated Component Matrix(a,b)

	Component		
	1	2	3
*MLE SCORE IMPORTANCE OF CONVENTIONAL CITIZENSHIP	.456	.035	.428
*MLE SCORE IMPORTANCE OF SOCIAL-MOVEMENT-RELATED CITIZENSHIP	.583	.256	.051
*MLE SCORE ATTITUDES TOWARDS WOMENS POLITICAL AND ECONOMIC RIGHTS	.470	.498	-.232
MLE SCORE MINORITIES SCALE	.647	.111	-.201
*MLE SCORE CONFIDENCE IN PARTICIPATING AT SCHOOL	.684	.247	-.087
MLE SCORE Political EFFICACY	.075	.128	.749
MLE SCORE COMMUNITY PARTICIPATION SCALE	.571	-.141	.299
*MLE SCORE POLITICAL ACTIVITIES	-.047	-.078	.786
MLE SCORE VOTING SCALE	.468	.351	.231
MLE SCORE (SCON IRT score)	.644	.026	.152
MLE Democracy IRT score (standardized M = 10 SD = 2)	.227	.720	.034
MLE SCORE KNOWLEDGE SCALE	.040	.880	.056
MLE SCORE SKILLS SCALE	.052	.862	.006

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 5 iterations.
b ALPHA NUMERIC COUNTRY CODE = GRC

ALPHA NUMERIC COUNTRY CODE = HKG

Total Variance Explained(a)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.659	28.145	28.145	3.659	28.145	28.145	2.369	18.222	18.222
2	2.496	19.200	47.345	2.496	19.200	47.345	2.209	16.988	35.211
3	1.168	8.981	56.327	1.168	8.981	56.327	2.129	16.377	51.588
4	1.013	7.796	64.122	1.013	7.796	64.122	1.629	12.534	64.122
5	.878	6.757	70.879						
6	.656	5.048	75.927						
7	.604	4.648	80.574						
8	.569	4.374	84.949						
9	.490	3.772	88.720						
10	.480	3.689	92.409						
11	.358	2.756	95.165						
12	.338	2.602	97.767						
13	.290	2.233	100.000						

Extraction Method: Principal Component Analysis.
a ALPHA NUMERIC COUNTRY CODE = HKG

Rotated Component Matrix(a,b)

	Component			
	1	2	3	4
*MLE SCORE IMPORTANCE OF CONVENTIONAL CITIZENSHIP	.267	.074	.002	.864
*MLE SCORE IMPORTANCE OF SOCIAL-MOVEMENT-RELATED CITIZENSHIP	.157	.226	.111	.853
*MLE SCORE ATTITUDES TOWARDS WOMENS POLITICAL AND ECONOMIC RIGHTS	-.115	.769	.292	.013
MLE SCORE MINORITIES SCALE	.108	.774	.197	.185
*MLE SCORE CONFIDENCE IN PARTICIPATING AT SCHOOL	.183	.759	.062	.124
MLE SCORE Political EFFICACY	.700	-.155	-.097	.143
MLE SCORE COMMUNITY PARTICIPATION SCALE	.565	.278	.072	.159
*MLE SCORE POLITICAL ACTIVITIES	.753	-.156	-.047	.144
MLE SCORE VOTING SCALE	.588	.224	.284	.123
MLE SCORE (SCON IRT score)	.700	.198	-.098	.031
MLE Democracy IRT score (standardized M = 10 SD = 2)	.010	.373	.576	.154
MLE SCORE KNOWLEDGE SCALE	-.009	.135	.893	.017
MLE SCORE SKILLS SCALE	-.026	.118	.867	-.003

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 5 iterations.
b ALPHA NUMERIC COUNTRY CODE = HKG

ALPHA NUMERIC COUNTRY CODE = HUN

Total Variance Explained(a)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.992	23.015	23.015	2.992	23.015	23.015	2.377	18.287	18.287
2	2.109	16.227	39.241	2.109	16.227	39.241	1.863	14.329	32.616
3	1.378	10.600	49.841	1.378	10.600	49.841	1.653	12.714	45.330
4	1.042	8.017	57.858	1.042	8.017	57.858	1.629	12.528	57.858
5	.962	7.404	65.262						
6	.752	5.788	71.050						
7	.668	5.137	76.187						
8	.645	4.962	81.149						
9	.612	4.707	85.856						
10	.554	4.259	90.115						
11	.522	4.012	94.127						
12	.472	3.628	97.755						
13	.292	2.245	100.000						

Extraction Method: Principal Component Analysis.
a ALPHA NUMERIC COUNTRY CODE = HUN

Rotated Component Matrix(a,b)

	Component			
	1	2	3	4
*MLE SCORE IMPORTANCE OF CONVENTIONAL CITIZENSHIP	.090	.758	-.002	.132
*MLE SCORE IMPORTANCE OF SOCIAL-MOVEMENT-RELATED CITIZENSHIP	-.041	.717	.284	-.104
*MLE SCORE ATTITUDES TOWARDS WOMENS POLITICAL AND ECONOMIC RIGHTS	.352	.066	.628	-.104
MLE SCORE MINORITIES SCALE	-.016	.272	.648	-.094
*MLE SCORE CONFIDENCE IN PARTICIPATING AT SCHOOL	.106	.035	.653	.319
MLE SCORE Political EFFICACY	.135	.143	-.098	.747
MLE SCORE COMMUNITY PARTICIPATION SCALE	-.168	.538	.215	.260
*MLE SCORE POLITICAL ACTIVITIES	.050	.471	-.243	.516
MLE SCORE VOTING SCALE	.477	.383	.127	.290
MLE SCORE (SCON IRT score)	-.005	-.013	.424	.706
MLE Democracy IRT score (standardized M = 10 SD = 2)	.702	.053	.127	.037
MLE SCORE KNOWLEDGE SCALE	.872	-.065	.033	.043
MLE SCORE SKILLS SCALE	.839	-.097	.061	.037

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 12 iterations.
b ALPHA NUMERIC COUNTRY CODE = HUN

ALPHA NUMERIC COUNTRY CODE = ITA

Total Variance Explained(a)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.501	26.933	26.933	3.501	26.933	26.933	2.575	19.806	19.806
2	1.786	13.739	40.672	1.786	13.739	40.672	2.008	15.446	35.252
3	1.285	9.881	50.553	1.285	9.881	50.553	1.621	12.472	47.724
4	1.079	8.297	58.850	1.079	8.297	58.850	1.446	11.126	58.850
5	.891	6.850	65.700						
6	.709	5.458	71.157						
7	.690	5.310	76.468						
8	.656	5.050	81.518						
9	.584	4.490	86.008						
10	.552	4.247	90.255						
11	.515	3.960	94.216						
12	.469	3.611	97.827						
13	.282	2.173	100.000						

Extraction Method: Principal Component Analysis.
a ALPHA NUMERIC COUNTRY CODE = ITA

Rotated Component Matrix(a,b)

	Component			
	1	2	3	4
*MLE SCORE IMPORTANCE OF CONVENTIONAL CITIZENSHIP	.024	.017	.238	.833
*MLE SCORE IMPORTANCE OF SOCIAL-MOVEMENT-RELATED CITIZENSHIP	.159	.254	-.059	.779
*MLE SCORE ATTITUDES TOWARDS WOMENS POLITICAL AND ECONOMIC RIGHTS	.468	.525	-.206	.109
MLE SCORE MINORITIES SCALE	.319	.579	-.145	.205
*MLE SCORE CONFIDENCE IN PARTICIPATING AT SCHOOL	.215	.576	-.051	.076
MLE SCORE Political EFFICACY	.074	.002	.794	.047
MLE SCORE COMMUNITY PARTICIPATION SCALE	-.074	.622	.264	.123
*MLE SCORE POLITICAL ACTIVITIES	-.029	.108	.777	.077
MLE SCORE VOTING SCALE	.411	.325	.360	.146
MLE SCORE (SCON IRT score)	-.036	.689	.236	-.024
MLE Democracy IRT score (standardized M = 10 SD = 2)	.707	.115	.014	.199
MLE SCORE KNOWLEDGE SCALE	.876	.069	.074	.013
MLE SCORE SKILLS SCALE	.856	.069	.009	-.028

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 6 iterations.
b ALPHA NUMERIC COUNTRY CODE = ITA

ALPHA NUMERIC COUNTRY CODE = LTU

Total Variance Explained(a)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.904	22.337	22.337	2.904	22.337	22.337	2.211	17.009	17.009
2	2.074	15.954	38.291	2.074	15.954	38.291	1.949	14.992	32.001
3	1.375	10.575	48.867	1.375	10.575	48.867	1.798	13.829	45.829
4	1.142	8.784	57.651	1.142	8.784	57.651	1.537	11.822	57.651
5	.891	6.856	64.507						
6	.747	5.745	70.251						
7	.698	5.368	75.620						
8	.659	5.066	80.686						
9	.619	4.760	85.446						
10	.586	4.512	89.958						
11	.521	4.009	93.967						
12	.491	3.773	97.740						
13	.294	2.260	100.000						

Extraction Method: Principal Component Analysis.
a ALPHA NUMERIC COUNTRY CODE = LTU

Rotated Component Matrix(a,b)

	Component			
	1	2	3	4
*MLE SCORE IMPORTANCE OF CONVENTIONAL CITIZENSHIP	-.072	.185	.007	.832
*MLE SCORE IMPORTANCE OF SOCIAL-MOVEMENT-RELATED CITIZENSHIP	.034	.008	.165	.823
*MLE SCORE ATTITUDES TOWARDS WOMENS POLITICAL AND ECONOMIC RIGHTS	.291	-.042	.703	.000
MLE SCORE MINORITIES SCALE	-.044	.074	.760	.062
*MLE SCORE CONFIDENCE IN PARTICIPATING AT SCHOOL	.117	.122	.673	.163
MLE SCORE Political EFFICACY	.154	.708	-.066	.120
MLE SCORE COMMUNITY PARTICIPATION SCALE	-.156	.590	.221	.135
*MLE SCORE POLITICAL ACTIVITIES	-.039	.748	-.125	.010
MLE SCORE VOTING SCALE	.353	.357	.228	.323
MLE SCORE (SCON IRT score)	.084	.584	.317	.007
MLE Democracy IRT score (standardized M = 10 SD = 2)	.652	.104	.120	.001
MLE SCORE KNOWLEDGE SCALE	.882	-.035	.064	-.012
MLE SCORE SKILLS SCALE	.849	-.045	.077	-.017

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 5 iterations.
b ALPHA NUMERIC COUNTRY CODE = LTU

ALPHA NUMERIC COUNTRY CODE = LVA

Total Variance Explained(a)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.854	21.955	21.955	2.854	21.955	21.955	2.321	17.851	17.851
2	2.145	16.497	38.452	2.145	16.497	38.452	1.933	14.867	32.717
3	1.363	10.486	48.938	1.363	10.486	48.938	1.781	13.697	46.415
4	1.105	8.502	57.440	1.105	8.502	57.440	1.433	11.025	57.440
5	.965	7.422	64.862						
6	.757	5.823	70.685						
7	.704	5.419	76.104						
8	.633	4.870	80.974						
9	.609	4.685	85.659						
10	.551	4.242	89.900						
11	.528	4.058	93.958						
12	.497	3.822	97.780						
13	.289	2.220	100.000						

Extraction Method: Principal Component Analysis.
a ALPHA NUMERIC COUNTRY CODE = LVA

Rotated Component Matrix(a,b)

	Component			
	1	2	3	4
*MLE SCORE IMPORTANCE OF CONVENTIONAL CITIZENSHIP	-.078	.201	-.027	.821
*MLE SCORE IMPORTANCE OF SOCIAL-MOVEMENT-RELATED CITIZENSHIP	.096	-.006	.236	.771
*MLE SCORE ATTITUDES TOWARDS WOMENS POLITICAL AND ECONOMIC RIGHTS	.274	.071	.620	.102
MLE SCORE MINORITIES SCALE	-.009	-.057	.769	-.014
*MLE SCORE CONFIDENCE IN PARTICIPATING AT SCHOOL	.115	.135	.696	.150
MLE SCORE Political EFFICACY	.160	.643	-.077	-.026
MLE SCORE COMMUNITY PARTICIPATION SCALE	-.261	.527	.289	.170
*MLE SCORE POLITICAL ACTIVITIES	-.132	.730	-.119	.159
MLE SCORE VOTING SCALE	.361	.493	.088	.253
MLE SCORE (SCON IRT score)	.033	.629	.341	-.051
MLE Democracy IRT score (standardized M = 10 SD = 2)	.730	.044	.067	.082
MLE SCORE KNOWLEDGE SCALE	.865	-.030	.101	-.047
MLE SCORE SKILLS SCALE	.832	.016	.146	-.039

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 5 iterations.
b ALPHA NUMERIC COUNTRY CODE = LVA

ALPHA NUMERIC COUNTRY CODE = NOR

Total Variance Explained(a)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.592	27.631	27.631	3.592	27.631	27.631	2.550	19.618	19.618
2	1.871	14.389	42.021	1.871	14.389	42.021	2.094	16.106	35.724
3	1.494	11.489	53.509	1.494	11.489	53.509	1.978	15.215	50.939
4	1.066	8.203	61.712	1.066	8.203	61.712	1.400	10.773	61.712
5	.867	6.672	68.384						
6	.710	5.462	73.846						
7	.632	4.861	78.707						
8	.570	4.385	83.092						
9	.538	4.141	87.233						
10	.501	3.856	91.090						
11	.473	3.636	94.725						
12	.428	3.295	98.021						
13	.257	1.979	100.000						

Extraction Method: Principal Component Analysis.
a ALPHA NUMERIC COUNTRY CODE = NOR

Rotated Component Matrix(a,b)

	Component			
	1	2	3	4
*MLE SCORE IMPORTANCE OF CONVENTIONAL CITIZENSHIP	-.104	.006	.230	.836
*MLE SCORE IMPORTANCE OF SOCIAL-MOVEMENT-RELATED CITIZENSHIP	.178	.304	.000	.757
*MLE SCORE ATTITUDES TOWARDS WOMENS POLITICAL AND ECONOMIC RIGHTS	.214	.774	-.095	.024
MLE SCORE MINORITIES SCALE	.272	.687	.035	.160
*MLE SCORE CONFIDENCE IN PARTICIPATING AT SCHOOL	.034	.655	.143	.112
MLE SCORE Political EFFICACY	.272	-.148	.733	.095
MLE SCORE COMMUNITY PARTICIPATION SCALE	-.109	.432	.512	.114
*MLE SCORE POLITICAL ACTIVITIES	.082	-.035	.766	.140
MLE SCORE VOTING SCALE	.455	.267	.360	.140
MLE SCORE (SCON IRT score)	-.012	.426	.606	-.066
MLE Democracy IRT score (standardized M = 10 SD = 2)	.776	.114	.049	.131
MLE SCORE KNOWLEDGE SCALE	.890	.090	.077	-.039
MLE SCORE SKILLS SCALE	.833	.132	.054	-.073

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 6 iterations.
b ALPHA NUMERIC COUNTRY CODE = NOR

ALPHA NUMERIC COUNTRY CODE = POL

Total Variance Explained(a)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.369	25.915	25.915	3.369	25.915	25.915	2.389	18.375	18.375
2	2.097	16.129	42.045	2.097	16.129	42.045	2.184	16.804	35.178
3	1.332	10.248	52.292	1.332	10.248	52.292	1.779	13.688	48.866
4	1.106	8.510	60.802	1.106	8.510	60.802	1.552	11.936	60.802
5	.835	6.422	67.224						
6	.771	5.935	73.158						
7	.648	4.982	78.140						
8	.593	4.559	82.699						
9	.575	4.427	87.126						
10	.496	3.819	90.945						
11	.476	3.663	94.607						
12	.430	3.305	97.913						
13	.271	2.087	100.000						

Extraction Method: Principal Component Analysis.
a ALPHA NUMERIC COUNTRY CODE = POL

Rotated Component Matrix(a,b)

	Component			
	1	2	3	4
*MLE SCORE IMPORTANCE OF CONVENTIONAL CITIZENSHIP	-.071	.108	.151	.837
*MLE SCORE IMPORTANCE OF SOCIAL-MOVEMENT-RELATED CITIZENSHIP	.096	.172	.021	.836
*MLE SCORE ATTITUDES TOWARDS WOMENS POLITICAL AND ECONOMIC RIGHTS	.291	.691	-.188	.031
MLE SCORE MINORITIES SCALE	.203	.680	-.039	.176
*MLE SCORE CONFIDENCE IN PARTICIPATING AT SCHOOL	.117	.720	.137	.115
MLE SCORE Political EFFICACY	.159	-.105	.747	.073
MLE SCORE COMMUNITY PARTICIPATION SCALE	-.234	.473	.421	.190
*MLE SCORE POLITICAL ACTIVITIES	-.035	.020	.751	.101
MLE SCORE VOTING SCALE	.374	.396	.291	.216
MLE SCORE (SCON IRT score)	-.020	.486	.557	-.077
MLE Democracy IRT score (standardized M = 10 SD = 2)	.726	.173	.063	.051
MLE SCORE KNOWLEDGE SCALE	.876	.092	.021	-.020
MLE SCORE SKILLS SCALE	.848	.141	-.042	-.022

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 5 iterations.
b ALPHA NUMERIC COUNTRY CODE = POL

ALPHA NUMERIC COUNTRY CODE = PRT

Total Variance Explained(a)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.512	27.018	27.018	3.512	27.018	27.018	2.391	18.389	18.389
2	1.753	13.482	40.500	1.753	13.482	40.500	2.370	18.229	36.617
3	1.371	10.547	51.046	1.371	10.547	51.046	1.876	14.429	51.046
4	.965	7.426	58.473						
5	.823	6.328	64.801						
6	.758	5.833	70.633						
7	.687	5.282	75.915						
8	.606	4.662	80.577						
9	.596	4.584	85.161						
10	.558	4.292	89.453						
11	.546	4.199	93.652						
12	.504	3.879	97.531						
13	.321	2.469	100.000						

Extraction Method: Principal Component Analysis.
a ALPHA NUMERIC COUNTRY CODE = PRT

Rotated Component Matrix(a,b)

	Component		
	1	2	3
*MLE SCORE IMPORTANCE OF CONVENTIONAL CITIZENSHIP	.319	-.042	.524
*MLE SCORE IMPORTANCE OF SOCIAL-MOVEMENT-RELATED CITIZENSHIP	.606	.077	.155
*MLE SCORE ATTITUDES TOWARDS WOMENS POLITICAL AND ECONOMIC RIGHTS	.555	.396	-.135
MLE SCORE MINORITIES SCALE	.672	.211	-.058
*MLE SCORE CONFIDENCE IN PARTICIPATING AT SCHOOL	.710	.222	.005
MLE SCORE Political EFFICACY	-.052	.207	.731
MLE SCORE COMMUNITY PARTICIPATION SCALE	.521	-.180	.328
*MLE SCORE POLITICAL ACTIVITIES	.006	-.052	.753
MLE SCORE VOTING SCALE	.255	.408	.478
MLE SCORE (SCON IRT score)	.511	.066	.300
MLE Democracy IRT score (standardized M = 10 SD = 2)	.196	.657	.158
MLE SCORE KNOWLEDGE SCALE	.117	.860	.049
MLE SCORE SKILLS SCALE	.068	.831	-.027

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 6 iterations.
b ALPHA NUMERIC COUNTRY CODE = PRT

ALPHA NUMERIC COUNTRY CODE = ROM

Total Variance Explained(a)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.088	23.754	23.754	3.088	23.754	23.754	2.251	17.319	17.319
2	1.931	14.857	38.612	1.931	14.857	38.612	1.868	14.372	31.691
3	1.157	8.898	47.509	1.157	8.898	47.509	1.705	13.117	44.809
4	1.030	7.922	55.431	1.030	7.922	55.431	1.381	10.623	55.431
5	.872	6.706	62.138						
6	.775	5.958	68.096						
7	.743	5.713	73.808						
8	.686	5.276	79.085						
9	.660	5.077	84.162						
10	.620	4.766	88.928						
11	.606	4.658	93.586						
12	.518	3.984	97.569						
13	.316	2.431	100.000						

Extraction Method: Principal Component Analysis.
a ALPHA NUMERIC COUNTRY CODE = ROM

Rotated Component Matrix(a,b)

	Component			
	1	2	3	4
*MLE SCORE IMPORTANCE OF CONVENTIONAL CITIZENSHIP	-.081	.017	.186	.841
*MLE SCORE IMPORTANCE OF SOCIAL-MOVEMENT-RELATED CITIZENSHIP	.248	.216	-.019	.763
*MLE SCORE ATTITUDES TOWARDS WOMENS POLITICAL AND ECONOMIC RIGHTS	.345	.642	-.035	-.060
MLE SCORE MINORITIES SCALE	.020	.749	.034	.115
*MLE SCORE CONFIDENCE IN PARTICIPATING AT SCHOOL	.151	.666	.143	.141
MLE SCORE Political EFFICACY	-.096	.000	.664	.049
MLE SCORE COMMUNITY PARTICIPATION SCALE	-.023	.290	.551	.128
*MLE SCORE POLITICAL ACTIVITIES	.069	-.129	.766	-.029
MLE SCORE VOTING SCALE	.375	.361	.228	.068
MLE SCORE (SCON IRT score)	.029	.353	.510	.100
MLE Democracy IRT score (standardized M = 10 SD = 2)	.658	.160	-.016	.144
MLE SCORE KNOWLEDGE SCALE	.862	.135	-.061	-.012
MLE SCORE SKILLS SCALE	.842	.063	-.025	-.001

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 5 iterations.
b ALPHA NUMERIC COUNTRY CODE = ROM

Total Variance Explained(a)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.032	23.321	23.321	3.032	23.321	23.321	2.261	17.395	17.395
2	2.090	16.078	39.399	2.090	16.078	39.399	2.104	16.183	33.578
3	1.355	10.425	49.824	1.355	10.425	49.824	1.762	13.551	47.129
4	1.083	8.329	58.153	1.083	8.329	58.153	1.433	11.024	58.153
5	.893	6.870	65.023						
6	.765	5.886	70.910						
7	.725	5.575	76.484						
8	.619	4.758	81.243						
9	.586	4.507	85.749						
10	.567	4.361	90.110						
11	.557	4.288	94.397						
12	.489	3.760	98.157						
13	.240	1.843	100.000						

Extraction Method: Principal Component Analysis.
a ALPHA NUMERIC COUNTRY CODE = RUS

Rotated Component Matrix(a,b)

	Component			
	1	2	3	4
*MLE SCORE IMPORTANCE OF CONVENTIONAL CITIZENSHIP	.012	.208	-.049	.817
*MLE SCORE IMPORTANCE OF SOCIAL-MOVEMENT-RELATED CITIZENSHIP	-.037	.042	.229	.811
*MLE SCORE ATTITUDES TOWARDS WOMENS POLITICAL AND ECONOMIC RIGHTS	.219	.030	.740	-.062
MLE SCORE MINORITIES SCALE	.059	.043	.747	.153
*MLE SCORE CONFIDENCE IN PARTICIPATING AT SCHOOL	-.003	.189	.603	.079
MLE SCORE Political EFFICACY	.172	.644	.004	-.032
MLE SCORE COMMUNITY PARTICIPATION SCALE	-.162	.603	.203	.212
*MLE SCORE POLITICAL ACTIVITIES	.002	.759	-.090	.096
MLE SCORE VOTING SCALE	.310	.592	.174	.098
MLE SCORE (SCON IRT score)	-.015	.549	.339	.068
MLE Democracy IRT score (standardized M = 10 SD = 2)	.709	.091	.201	.036
MLE SCORE KNOWLEDGE SCALE	.895	.074	.041	-.055
MLE SCORE SKILLS SCALE	.867	.019	.007	-.025

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 5 iterations.
b ALPHA NUMERIC COUNTRY CODE = RUS

ALPHA NUMERIC COUNTRY CODE = SVK

Total Variance Explained(a)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.292	25.323	25.323	3.292	25.323	25.323	2.414	18.567	18.567
2	1.858	14.290	39.613	1.858	14.290	39.613	1.809	13.914	32.481
3	1.253	9.640	49.253	1.253	9.640	49.253	1.786	13.739	46.220
4	1.134	8.721	57.974	1.134	8.721	57.974	1.528	11.754	57.974
5	.939	7.224	65.198						
6	.711	5.467	70.666						
7	.695	5.346	76.011						
8	.629	4.842	80.853						
9	.601	4.625	85.478						
10	.569	4.379	89.857						
11	.544	4.183	94.040						
12	.471	3.622	97.662						
13	.304	2.338	100.000						

Extraction Method: Principal Component Analysis.
a ALPHA NUMERIC COUNTRY CODE = SVK

Rotated Component Matrix(a,b)

	Component			
	1	2	3	4
*MLE SCORE IMPORTANCE OF CONVENTIONAL CITIZENSHIP	.042	.164	-.049	.831
*MLE SCORE IMPORTANCE OF SOCIAL-MOVEMENT-RELATED CITIZENSHIP	.014	.064	.205	.822
*MLE SCORE ATTITUDES TOWARDS WOMENS POLITICAL AND ECONOMIC RIGHTS	.334	.029	.666	-.063
MLE SCORE MINORITIES SCALE	.075	-.055	.761	.112
*MLE SCORE CONFIDENCE IN PARTICIPATING AT SCHOOL	.148	.262	.585	.105
MLE SCORE Political EFFICACY	.282	.671	-.082	.095
MLE SCORE COMMUNITY PARTICIPATION SCALE	-.194	.511	.351	.184
*MLE SCORE POLITICAL ACTIVITIES	.154	.710	-.063	.117
MLE SCORE VOTING SCALE	.442	.277	.242	.219
MLE SCORE (SCON IRT score)	-.071	.637	.361	-.027
MLE Democracy IRT score (standardized M = 10 SD = 2)	.703	.049	.208	.144
MLE SCORE KNOWLEDGE SCALE	.859	.062	.082	-.044
MLE SCORE SKILLS SCALE	.837	.046	.069	-.083

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 5 iterations.
b ALPHA NUMERIC COUNTRY CODE = SVK

ALPHA NUMERIC COUNTRY CODE = SVN

Total Variance Explained(a)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.100	23.849	23.849	3.100	23.849	23.849	2.277	17.514	17.514
2	1.868	14.371	38.220	1.868	14.371	38.220	2.094	16.105	33.619
3	1.367	10.512	48.732	1.367	10.512	48.732	1.642	12.634	46.253
4	1.153	8.871	57.603	1.153	8.871	57.603	1.475	11.350	57.603
5	.829	6.380	63.983						
6	.791	6.084	70.066						
7	.742	5.707	75.774						
8	.671	5.160	80.934						
9	.625	4.808	85.742						
10	.581	4.470	90.212						
11	.522	4.019	94.231						
12	.470	3.616	97.847						
13	.280	2.153	100.000						

Extraction Method: Principal Component Analysis.
a ALPHA NUMERIC COUNTRY CODE = SVN

Rotated Component Matrix(a,b)

	Component			
	1	2	3	4
*MLE SCORE IMPORTANCE OF CONVENTIONAL CITIZENSHIP	-.063	-.014	.198	.840
*MLE SCORE IMPORTANCE OF SOCIAL-MOVEMENT-RELATED CITIZENSHIP	.090	.221	-.032	.817
*MLE SCORE ATTITUDES TOWARDS WOMENS POLITICAL AND ECONOMIC RIGHTS	.340	.671	-.171	-.033
MLE SCORE MINORITIES SCALE	.110	.688	-.084	.061
*MLE SCORE CONFIDENCE IN PARTICIPATING AT SCHOOL	.135	.669	.071	.121
MLE SCORE Political EFFICACY	.123	-.137	.706	.112
MLE SCORE COMMUNITY PARTICIPATION SCALE	-.138	.541	.338	.137
*MLE SCORE POLITICAL ACTIVITIES	-.086	.002	.720	.029
MLE SCORE VOTING SCALE	.328	.327	.395	.179
MLE SCORE (SCON IRT score)	.079	.454	.517	-.044
MLE Democracy IRT score (standardized M = 10 SD = 2)	.681	.193	.005	.110
MLE SCORE KNOWLEDGE SCALE	.886	.068	.075	-.044
MLE SCORE SKILLS SCALE	.846	.084	.019	-.048

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 6 iterations.
b ALPHA NUMERIC COUNTRY CODE = SVN

Total Variance Explained(a)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.558	27.369	27.369	3.558	27.369	27.369	2.699	20.760	20.760
2	2.201	16.929	44.298	2.201	16.929	44.298	2.303	17.719	38.479
3	1.393	10.717	55.014	1.393	10.717	55.014	2.150	16.535	55.014
4	.942	7.248	62.263						
5	.891	6.857	69.120						
6	.658	5.060	74.180						
7	.620	4.768	78.949						
8	.583	4.482	83.431						
9	.530	4.079	87.510						
10	.469	3.606	91.116						
11	.458	3.527	94.643						
12	.439	3.377	98.019						
13	.257	1.981	100.000						

Extraction Method: Principal Component Analysis.
a ALPHA NUMERIC COUNTRY CODE = SWE

Rotated Component Matrix(a,b)

	Component		
	1	2	3
*MLE SCORE IMPORTANCE OF CONVENTIONAL CITIZENSHIP	-.185	.528	.398
*MLE SCORE IMPORTANCE OF SOCIAL-MOVEMENT-RELATED CITIZENSHIP	-.087	.250	.674
*MLE SCORE ATTITUDES TOWARDS WOMENS POLITICAL AND ECONOMIC RIGHTS	.449	-.122	.581
MLE SCORE MINORITIES SCALE	.329	.086	.652
*MLE SCORE CONFIDENCE IN PARTICIPATING AT SCHOOL	.136	.088	.655
MLE SCORE Political EFFICACY	.222	.726	-.165
MLE SCORE COMMUNITY PARTICIPATION SCALE	-.085	.521	.326
*MLE SCORE POLITICAL ACTIVITIES	-.036	.765	-.026
MLE SCORE VOTING SCALE	.481	.480	.200
MLE SCORE (SCON IRT score)	.089	.555	.305
MLE Democracy IRT score (standardized M = 10 SD = 2)	.723	-.054	.275
MLE SCORE KNOWLEDGE SCALE	.881	.063	.035
MLE SCORE SKILLS SCALE	.856	.047	.010

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 7 iterations.
b ALPHA NUMERIC COUNTRY CODE = SWE

ALPHA NUMERIC COUNTRY CODE = USA

Total Variance Explained(a)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.969	30.530	30.530	3.969	30.530	30.530	2.328	17.911	17.911
2	1.898	14.597	45.127	1.898	14.597	45.127	2.243	17.257	35.168
3	1.410	10.846	55.973	1.410	10.846	55.973	2.101	16.158	51.326
4	1.040	8.002	63.975	1.040	8.002	63.975	1.644	12.649	63.975
5	.751	5.778	69.753						
6	.702	5.397	75.150						
7	.647	4.978	80.128						
8	.546	4.202	84.331						
9	.498	3.827	88.158						
10	.450	3.460	91.618						
11	.403	3.102	94.719						
12	.382	2.941	97.661						
13	.304	2.339	100.000						

Extraction Method: Principal Component Analysis.
a ALPHA NUMERIC COUNTRY CODE = USA

Rotated Component Matrix(a,b)

	Component			
	1	2	3	4
*MLE SCORE IMPORTANCE OF CONVENTIONAL CITIZENSHIP	.002	.005	.239	.840
*MLE SCORE IMPORTANCE OF SOCIAL-MOVEMENT-RELATED CITIZENSHIP	.008	.299	.014	.807
*MLE SCORE ATTITUDES TOWARDS WOMENS POLITICAL AND ECONOMIC RIGHTS	.248	.777	-.070	.091
MLE SCORE MINORITIES SCALE	.287	.744	.013	.088
*MLE SCORE CONFIDENCE IN PARTICIPATING AT SCHOOL	.047	.680	.238	.141
MLE SCORE Political EFFICACY	.197	-.023	.792	-.011
MLE SCORE COMMUNITY PARTICIPATION SCALE	-.019	.420	.437	.287
*MLE SCORE POLITICAL ACTIVITIES	.113	-.015	.741	.276
MLE SCORE VOTING SCALE	.421	.254	.438	.298
MLE SCORE (SCON IRT score)	-.081	.485	.623	-.017
MLE Democracy IRT score (standardized M = 10 SD = 2)	.708	.157	.145	.053
MLE SCORE KNOWLEDGE SCALE	.879	.068	.114	-.034
MLE SCORE SKILLS SCALE	.820	.165	-.007	-.025

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 7 iterations.
b ALPHA NUMERIC COUNTRY CODE = USA

Abstract

Measuring Civic Competence in Europe is part of a process to establish and monitor the learning outcomes needed to facilitate the development of active citizens in Europe. This report is an exploration of how civic competence can be measured and the results of these measurements across Europe and internationally. It describes what civic competence is in terms of the attitudes, values, knowledge and skills required and how it can be calculated using existing data from international tests. The data and scales used are from the IEA 1999 international Civic Education study of 14-year-olds in school. It clearly highlights the limitations of the data coverage for civic competence and explains which aspects of civic competence are not available and the implication for measuring civic competence. Following this the Civic Competence Composite Indicator is built using a framework comprised of 4 dimensions; **Citizenship values**, **Social justice** (both values and attitudes), **Participatory attitudes** and **Cognitions about democratic institutions**. Statistically the composite indicator was proved to be robust.

The results of the CCCI ranking do not show clear geographical patterns and where patterns do occur these do not follow typical European scoreboard results. There is some tendency for Southern-European countries to be in the upper part of the ranking with Cyprus and Greece doing particularly well in the overall CCCI. For the four dimensions the results across Europe show that in countries with long standing stable democracies, where there are high levels of adult participation, young people's attitudes towards participation and **Citizenship values** are low. The opposite is true for less stable and more recent democracies that can be found in south and east Europe: in these countries young people have greater **Participatory attitudes** and values. North and West Europe fared better in the results for cognition about democratic institutions and the values of **Social justice**. In this case it was Eastern European countries that had low scores. The lack of a history of democratic citizenship education and the experience of Communism are likely to be contributory factors.

The mission of the JRC is to provide customer-driven scientific and technical support for the conception, development, implementation and monitoring of EU policies. As a service of the European Commission, the JRC functions as a reference centre of science and technology for the Union. Close to the policy-making process, it serves the common interest of the Member States, while being independent of special interests, whether private or national.

European Commission

JRC

Publications Office
Publications.eu.int