Compulsory voting and political sophistication

A multilevel analysis of the relationship between the legal obligation to participate in elections and individual levels of political interest, knowledge and ideological understanding

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Abstract

This thesis investigates the relationship between compulsory voting and political sophistication. Political sophistication is defined as a concept consisting of three aspects: political interest, factual political knowledge and ideological understanding of politics. The research question is twofold: Does compulsory voting correspond with higher levels of political sophistication? And, is the effect of the strongest predictor of political sophistication, namely education, contingent on compulsory voting? To answer these questions, multilevel analyses of data on 41 countries and 69,301 individuals from the Comparative Study of Electoral Systems (module 3) is performed. This study finds that there is a positive effect of compulsory voting on all three aspects of political sophistication. Moreover, it finds that compulsory voting does not offset the strong effect of education. The effect of education on political interest and knowledge is rather stronger in compulsory voting countries than in voluntary voting countries. This suggests that Lijphart's (1997) argument that compulsory voting enhances political equality is questionable.

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All mistakes and omissions are solely my responsibility.

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Abbreviations:

VV = Voluntary voting
CV = Compulsory voting
CSES = Comparative Study of Electoral Systems

1 Introduction

Compulsory voting (CV) is a term for a system where participating in elections is not only a right, but also an obligation by law (Birch 2009). Compulsory voting is not an insignificant phenomenon; today, 27 countries employ some form of these laws (Birch 2009). The aim of this thesis is to investigate a suggested empirical implication of compulsory voting; namely that this institution affects political sophistication, which is defined as a concept that denotes factual political knowledge, interest, and an ideological understanding of politics.

Compulsory voting laws are primarily used as an instrument to combat low turnout, and declining turnout levels have sparked a debate over the advantages and disadvantages of compulsory voting laws (Lever 2010; Selb & Lachat 2009; Engelen 2007; Birch 2009). Low turnout means that politicians have incomplete information about the public's interests (Hill 2002:82). In turn, this can mean that the government is less representative and responsive to the whole public's wants and needs. Moreover, low turnout entails unequal turnout, as younger, poorer and less educated citizens participate less frequently (Keaney & Rogers 2006; Hill 2002; Lijphart 1997). The less people participate in elections, the more these citizens are alienated from the political process, which is argued to be a threat to democracy because, ideally, those affected by political decisions should participate in the process that leads to those decisions (Engelen 2007:24). Compulsory voting is, by some, viewed as an outdated and radical instrument, but its capacity to raise turnout is undisputed (cf. Birch 2009). When compulsory voting laws make participation close to a hundred per cent, it ensures Dahl's (1989:129) important principle of *inclusiveness*; that all adults should be included in the democratic process. Compulsory voting laws signalize that every vote is important, as these laws put a 'floor' under the 'ceiling' (which is one person, one vote) by making sure that everyone make use of the franchise (Verba et al. 1978:6; Lijphart 1997:2). Moreover, Dahl (1989:112) holds that citizens should have equal opportunities for discovering and affirming what choice would best serve their interest, and that the citizenry should retain enough political knowledge to have an *enlightened understanding* of politics.

When compulsory voting was introduced in Australia in 1924, a proponent in the House of Representatives claimed that 'by compelling people to vote we are likely to arouse in them an intelligent interest and to give them a political knowledge that they do not at present possess'

(Morris Jones 1954:32). As will be discussed more in detail further on, it is argued that compulsory voting can change the information environment in a country, and change how people value political sophistication, and in this sense create greater opportunities and motivation for the citizenry to get an enlightened understanding of political matters. The argument that compulsory voting raises citizens' political sophistication is what will be investigated in this thesis. Whether compulsory voting can enhance the political sophistication of individuals is worth looking into as political sophistication is, from a normative perspective, argued to facilitate what many would consider a well-functioning democracy (e.g. Delli Carpini & Keeter 1997), through enabling citizens to elect a government that is representative and effectively hold politicians accountable for their actions (Shineman 2012; Leeson 2008).

In the debate concerning the relationship between compulsory voting and political sophistication, opponents of these laws argue that compulsory voting leads less interested and less knowledgeable voters to the polls, and that these voters do not vote in line with their preferences. In other words, they are not knowledgeable enough to translate their political preferences into party choices (Selb & Lachat 2009). Moreover, some believe that compulsory voting may actually discourage the political education of the citizenry, because people obliged to participate will react against the source of oppression (Gratschew 2004:30). On the other hand, proponents of compulsory voting argue that these laws have a positive effect on the publics' degree of political sophistication (Lijphart 1997:10; Birch 2009:61; Gordon & Segura 1997). Although Lijphart's (1997:10) promotion of compulsory voting mainly focussed on the institution's benefits in making participation more equal, he also argues that compelling citizens to vote can increase their political interest and thus their willingness and engagement to become politically informed. Apart from Australia, this was also one of the central arguments for the introduction of compulsory voting in Belgium, Argentina, Thailand, Austria and the Netherlands (Birch 2009:31; Selb & Lachat 2009; Lijphart 1997). That compulsory voting can spark the political interest and political education of the electorate, serves as an implicit critique to the argument that uninformed and less knowledgeable voters will make choices that are arbitrary and thus undermine the quality of democratic decision-making (Birch 2009:50).

Meters of literature on the consequences of compulsory voting have been produced. Seeing as compulsory voting is first and foremost argued to be an effective way to raise the share of

electoral participation, previous studies on the consequences of CV have mainly focussed on how effective these laws are in increasing turnout (e.g. Birch 2009; Norris 2004; Singh 2011). Moreover, compulsory voting's implications for the distribution of partisan support have also received considerable attention in the literature (Birch 2009:120). However, little empirical research has been done to establish the relationship between compulsory voting and political sophistication. The existing evidence on this topic is thin and inconclusive (Selb & Lachat 2009:575; Shineman 2012; Birch 2009), and this serves as an argument for further investigation. A few studies that have specifically analysed this relationship have found that CV has a positive effect on citizens' levels of aspects of political sophistication (Shineman 2012; Gordon & Segura 1997; Sheppard 2015). Another group of studies find no statistically significant effect of CV on related concepts of political sophistication (Birch 2009; Loewen et al. 2008). However, these scholars have mainly used either data from one country (Shineman 2012 and Loewen et al. 2008) or only European countries (Gordon & Segura). Only Birch (2009) and Sheppard (2015) have analysed compulsory voting's effect on political knowledge based on a worldwide sample of countries. However, as will be discussed further, their measure of political knowledge might not capture the complex concept that is political *sophistication*.

Gordon & Segura (1997) and Shineman (2012) argue that the institution of compulsory voting creates greater opportunities to become politically sophisticated through changing the quality and accessibility of political information. If people in CV countries have more opportunities to become political sophisticated, another question that arises is whether political sophistication is more evenly distributed among sociodemographic groups in compulsory voting countries than in voluntary voting countries. Sheppard (2015) and Berggren (2001) have looked into this, but the results are inconclusive. All in all, the relationship between mandatory voting laws and the political sophistication of citizens remains a relatively open question. Attempting to contribute to the knowledge on this topic is also valuable because the introduction of compulsory voting is from time to time debated in countries like the United Kingdom, France and Canada (Birch 2009:27). For all of the above-mentioned reasons, I wish to devote my thesis to examine the relationship between compulsory voting and political sophistication. This leads to the research question of this thesis, which is:

To what degree, and how, does compulsory voting explain differences in individual levels of political sophistication?

In order to answer this question, a quantitative analysis of the political sophistication among individuals in compulsory voting (CV) countries and voluntary voting (VV) countries will be conducted. The analysis will be based on data from the Comparative Study of Electoral Systems (module 3), which gives data on relevant political topics for both countries and individuals.

The rest of the present chapter will give an overview of what compulsory voting is and the use of compulsory voting laws in the world today. The second chapter will outline the theoretical framework and give an account of the relevant previous research on the presented topic. This second chapter will end with a specification of the main research question into four underlying questions. Chapter three will lay out considerations about data and method, before moving on to the empirical analyses in chapter four. Chapter five concludes this thesis with a discussion of the implications of the findings.

1.1 The legal obligation to participate in elections

Compulsory voting is an umbrella term for institutions that oblige their citizens to participate in elections by law. However, it is necessary to give a more thorough background of compulsory voting. How is this institution defined? Which countries employ compulsory voting laws? What are the sanctions for non-voting? This section is devoted to answering these three questions.

First of all, it is important to note that compulsory *voting* is a misnomer. In practice, it entails compulsory *turnout*, as the secrecy of the ballot ensures that individuals can avoid giving their vote to a party or candidate by casting a blank ballot or by casting an invalid ballot (Hirczy de Miño 2000:45). Birch (2009:3) suggests that a more appropriate, although inconvenient, term is 'the legal obligation to participate in elections', as this is what defines this institution. For the sake of simplicity, the terms that will be used interchangeably in this thesis to refer to the definition above are 'compulsory voting', 'CV' in short, and 'mandatory voting'.

As of today, it is generally recognised that 27 countries employ compulsory voting in some form (cf. Birch 2009; IDEA[1]). Table 1.1 below gives an overview of these countries and whether the compulsory voting law is sanctioned. If applicable, table 1.1 also lists the sanctions for non-voting, where the less intuitive term 'explanation' refers to a sanction regime where non-voters are sent a letter asking them to give a valid reason for their abstention (Birch 2009).

Table 1.1 CV in the word today (2015)

Country	Sanctions?	Type of sanction(s)
Europe:		
Belgium	Yes	Explanation, fine, possible disenfranchise.
Cyprus	Yes	Explanation, fine.
Greece	No	-
Luxembourg	Yes	Explanation, fine.
Switzerland (Schaffhausen)	Yes	Fine.
Turkey	Yes	Explanation, fine.
Latin America:		
Argentina	No	-
Bolivia	Yes	Ineligible to run for office. Sanctions valid three months after election: loss of bank services, loss of right to get a passport, cannot get employment in the public sector.
Brazil	No	-
Costa Rica	No	-
Dominican Republic	No	-
Ecuador	Yes	Fine.
El Salvador	No	-
Guatemala	No	-
Honduras	No	-
Mexico	No	-
Panama	No	-
Paraguay	No	-
Peru	Yes	Fine, and a loss of public services and goods in a number of months following the election.
Uruguay	Yes	Fine.
Venezuela	No	-
Australasia:		
Australia	Yes	Explanation, fine.
Laos	No	-
Nauru	Yes	Explanation, fine.
Singapore	Yes	Removal from the voting register until a fine is paid or a valid reason for non-voting is given.
Thailand	Yes	Ineligible to run for office.
Africa:		
Egypt (men only)	Yes	Explanation, fine.

(Source: Birch 2009; IDEA[2])

[1] Available at http://www.idea.int/vt/compulsory_voting.cfm

[2] See "Compulsory voting" - available at http://www.idea.int/vt/compulsory_voting.cfm)

A sanctioned CV system entails that there is a functioning administrative apparatus in place to enforce the legal obligation to vote (Lundell 2012:224; Birch 2009:6). As presented in table 1.1, sanctions range from demand for explanations, fines, ineligibility for public employment, to loss of services and disenfranchisement (Birch 2009:7-9; Quintelier et al. 2011:397). Table 1.1. also shows that very few Latin American countries sanction non-voting. Among the countries that employ sanctions, the demand for explanation and/or a fine is the most common sanction regime. The fines given to non-voters are usually comparable to a parking ticket (Lijphart 1997:2). In Australia, a few days' prison sentence can be imposed on those who fail to pay the fine given for non-voting (Birch 2009:10). In this sense, imprisonment is part of the sanction regime in Australia. However, it is important to keep in mind that it is imprisonment for failing to pay the fine, not for failing to participate in the election.

When it comes to the geographical location of countries that employ compulsory voting laws, the most striking about the list in table 1.1 is that more than half of them are situated in Latin America. Birch (2009:27) writes that a scholar named Mario F. Baeza claims that this is due to a legal tradition that favoured formalization of political development. Moreover, the list of CV countries above includes no Eastern European country. This might be attributed to historical factors; an aversion to a compulsion to participate was perhaps created by the fact that mobilization was informally enforced under the communist regime (Birch 2009:35).

Among the countries that employ CV, the first country to introduce this law was Belgium in 1892, and presently the last country to introduce it was Thailand, where it was adopted in 1997. Countries that have abolished compulsory voting include the Netherlands, Austria and Switzerland (Birch 2009:35). Greece and Venezuela have compulsory voting laws, but both countries abandoned sanction regimes for non-voting in 2001 and 1993 respectively. Moreover, a handful of countries define participating in elections as a *duty* in their respective constitutions. These include the Central African Republic, Colombia, Cuba, East Timor, Haiti, Italy, Mozambique and Portugal (Birch 2009:14). However, as participation in elections is not compulsory by law, these countries are generally viewed as being states where voting is voluntary (Birch 2009).

1.1.1 The division between VV, non-sanctioned CV and sanctioned CV

As seen in table 1.1, only half (14 out of 27) of the world's compulsory voting countries impose sanctions on those who do not participate (Birch 2009:36). Moreover, countries differ as to whether there is a strict or weak enforcement of these laws (see Gratschew 2002:109). Due to the differences in sanctions and enforcement, one should think of compulsory voting as a continuum, 'ranging from the existence of a symbolic but basically impotent law to a system that systematically follows up each and every non-voting citizen and implements sanctions against them' (Gratschew 2002:106). Some countries never enforce the legal obligation to participate, and in that sense, these compulsory voting laws merely state what the responsibilities of their citizens are. In these countries, participating in elections is a legal requirement, but there are practically no sanctions for non-participation. A question is of course whether these countries can be regarded as practicing compulsory voting (Gratschew 2002:106). The countries that are listed in table 1.1 above, are those Birch (2009)[3] acknowledges as compulsory voting countries. This thesis will follow her classification.

Although one should recognise that there is a continuum concerning to which degree voting is mandatory in terms of the severity and frequency of sanctions, a coarse distinction can be made between countries where participating in elections is a right but not a legal obligation, countries where participation is compulsory but effectively without sanctions for non-participation, and countries where participation is mandatory and non-participation is effectively sanctioned (Birch 2009:7). The labels used in this thesis for these three types of countries respectively are *voluntary voting*, *non-sanctioned compulsory voting*, and *sanctioned compulsory voting*.

Dividing between different types of compulsory voting laws will give the opportunity to assess whether sanctions must be in place in order for compulsory voting to have an effect on political sophistication. It might be the case that compulsory voting has an effect regardless of whether the institution is sanctioned or not, but to assess this it is necessary to make a distinction. I will return to whether this differentiation has any significance for political sophistication.

[3] Birch (2009) also lists Fiji and Chile, but CV was abolished in these two countries after her book was printed; in 2014 and 2012 respectively (see http://www.idea.int/vt/compulsory_voting.cfm).

2 Theoretical framework

The following is an account for this thesis' understanding of the term political sophistication, which will mainly draw on Luskin's (1990; 1987) and Gordon & Segura's (1997) conceptualization. This chapter will also outline four theoretical mechanisms that shed light on how compulsory voting might enhance the political sophistication among the public. These are based on Shineman's (2012) work. A presentation of previous research that has relevance for this thesis will also be given. The chapter will end with a specification of the research question and a presentation of this thesis' hypotheses.

2.1 Defining political sophistication

At this point, it is necessary to give a proper definition of the term political sophistication. Some scholars refer to *civic literacy* (Milner 2002), others to *political knowledge* (Selb & Lachat 2009; Birch 2009; Sheppard 2015; Loewen et al. 2008), *political conceptualization* (Leighley 1991), or *political awareness* (Zaller 1990; 1992). All of these terms are used interchangeably to refer to more or less the same concept. The term that is used in this thesis, however, is political *sophistication*.

Political sophistication is not an easy term to define. An early scholar of political sophistication, namely Converse (1964), has written about political sophistication in terms of differences in belief systems. A belief system is by Converse (1964:209) defined as 'a configuration of ideas and attitudes in which the elements are bound together by some form of constraint or functional interdependence'. A politically sophisticated individual will have a highly constrained belief system and think about politics in terms of ideology. However, here it is defined as a concept that denotes something more than thinking in terms of ideology. In this thesis, it is defined somewhat more broadly, and this definition draws on Luskin's (1987;1990) definition. Luskin (1990) defines political sophistication as a conjunction of the size, range, and organisation of political information, where political information means political knowledge. Size refers to the number of political facts that are stored in memory. Range refers to the breadth of political areas the political information covers. Organization refers to whether these facts are tied together, which also includes to which degree they are organized in ideological terms (Luskin 1987). To sum up in a few words, Luskin (1987:861)

holds that political sophistication is political expertise, and that expertise is extensive and organized knowledge.

Political sophistication is not, however, limited to knowledge and understanding. Political interest is considered a part of the equation too. According to Luskin (1990:336), political information and interest mark the informational and motivational aspects that precede sophistication. Political sophistication depends on interest, but interest also depends on political sophistication (Luskin 1990:336).

What characterises a person that can be considered a political sophisticate? Politically sophisticated citizens retain more knowledge and have more accurate knowledge of politics than those who are 'political novices', and they organise and process political information in 'a more meaningful way' (Selb & Lachat 2009:576). Moreover, they are better at being aware of, and pursuing, his or her interests (Luskin 1990:333). To sum up, political sophisticates have more detailed and extensive knowledge about politics and they can put political facts into ideological contexts. However, one should note that this does not necessarily entail that there is some defined threshold at which one becomes politically sophisticated (Luskin 1987). In this thesis, political sophistication is understood as a term denoting the *degree* of *interest*, *knowledge* and ideological *understanding* of political matters.

2.1.1 Is a well-functioning democracy dependent on a public with a high level of political sophistication?

Now that political sophistication is defined, it is necessary to discuss this concept from a greater perspective. Does it matter whether some are more politically sophisticated than others? The purpose of this section is to give an overview of the relevant arguments in the normative discussion surrounding the role of political sophistication in a democratic society.

The political sophistication of the citizenry is on one hand held to be quite important for the well-being of democracy. For instance, it can be argued that a certain degree of political sophistication is necessary in order to make the vote choice that best serves the voter's interests. Lau et al. (2014) have demonstrated that political sophistication predicts whether voters, under conditions of uncertainty, vote 'correctly', meaning whether they choose the party or candidate they would have chosen if they were fully informed about issues and

candidates. That people vote according to their interests is in many ways a prerequisite for a government to actually be representative of the electorate; at least if the outcome of an election would change if everyone voted for the candidate or party that best served that voters' preferences. If individuals with high levels of political sophistication will vote 'correctly', while individuals with a low level of political sophistication will vote 'incorrectly', then being more politically sophisticated is important for the representativeness of elected officials.

On the other hand, some scholars downplay the need for a politically sophisticated public. It is argued that the need for a generally knowledgeable citizenry is exaggerated as it comes from an overly rigid definition of democracy (Delli Carpini 2000:132). Less informed citizens can still be informed *enough* to add to the quality of democracy (Shineman 2012:7). For instance, it is argued that the need for detailed and wide-ranging knowledge about politics can be circumvented as citizens can make use of heuristics and information shortcuts, which allow them to act as if they were more informed than they are (Selb & Lachat 2009:576; Lupia & McCubbins; Popkin 1991). Voters can rely on their perception of candidates' traits as opposed to their position on issues, or take information cues that allow them to vote according to their interest (Selb & Lachat 2009:576). For instance, when party positions are stable, using shortcuts based on overall positions on the left-right continuum can let individuals quite easily translate their preferences into party choices (Andersen et al. 2002). Lupia & McCubbins (1998:5) also agree that cognitive shortcuts can be effective. They argue that a lack of information does not mean than one is unable to make a reasoned choice, as people most often are able to distinguish between which cues should be listened to and which should be ignored. What it hinges on, according to Delli Carpini (2000:146), is the quality and the relevance of the information used.

When one relies on the advice of others in political matters, it can reduce the need for political sophistication in order to evaluate political matters, but it can also make one more vulnerable for deception. Luskin (1990:333) argues that a less sophisticated public will be less able to resist manipulation from elites. Others argue similarly that voters that are less knowledgeable can easily become the puppets of the campaign and media puppet masters (Lupia & McCubbins (1998:3). However, taking information from others can also lead to enlightenment. What determines whether a person becomes deceived or more able to foresee the consequences of their political choices by trusting cues given to them by others? Lupia & McCubbins (1998:10) argue that people know whom to go to for advice. For instance, when

one needs financial advice, they turn to financial advisors and not their mothers. Likewise, they would know who is more trustworthy for advice about political matters, which at least suggest that people who lack knowledge themselves are not necessarily easily susceptible for deception.

All in all, these arguments suggest that a well-functioning democracy does not necessarily rest heavily on the public having a high level of political sophistication. The question is rather; Does democratic decision making function even better once people have *more* information? Although information shortcuts might serve as a moderating effect on the differences in sophistication, these differences may still have consequences. Zaller (1992) argues that people cannot make use of information shortcuts unless they have sufficient knowledge to understand where the message is coming from. He argues that people who are less politically aware, or politically sophisticated, are more likely to accept messages that are inconsistent with their attitudes. What if people are met with complex political matters and lack access to information shortcuts? What if people who lack political sophistication choose the wrong means to an end they wish for? In this case, it can be argued that a higher degree of political sophistication can at least make it easier for the public to 'act as effective democratic citizens' (Grönlund & Milner 2006:338).

What we can take from this is that one side argues that people can make good choices with limited information, and that others argue that people who are less politically sophisticated to a greater extent make choices that are not beneficial to them. However, there is little doubt that some knowledge about politics is better than none in terms of democratic values. The purpose here is not to make any conclusions as to *how much* emphasis one should put on political sophistication in relation to a well-functioning democracy, but the empirical question of whether compulsory voting can function as an institutional instrument to achieve *higher* relative levels of political sophistication.

2.2 The necessary conditions for becoming sophisticated

The discussion of the importance of political sophistication for a well-functioning democracy is closed for now, and the focus in this section will be on *how* people can become politically sophisticated.

Converse (1964) believed that political sophistication is a product of the innate abilities of citizens. He argued that elite political discourse has a left-right ideological character, but that an overwhelming majority of Americans in his studies could not relate political information to ideology (Kuklinski & Peyton 2007). Moreover, Converse (1964) argues that there is a general lack of attitudinal constraint in what he labels the 'belief systems' of individuals; he found that attitudes were unstable in terms of ideology (Granberg & Holmberg 1988). In other words, politically unsophisticated people do not think of political and social issues in terms of ideology. Converse (1964) paint a grim picture of a citizenry that is not 'well versed in matters of politics' (Gordon & Segura 1997:126). Moreover, Converse's (1964) understanding of political sophistication implies that there is nothing that can be done about this lack of knowledge among citizens, as it merely rests on their inherent capabilities.

However, in line with Gordon & Segura's (1997) beliefs, this thesis suggests that the institutional context can affect people's motivation and opportunities for information processing. Individual capabilities do not represent the only way to become a political expert; institutions can facilitate political sophistication (Kuklinski & Peyton 2007). Granberg & Holmberg (1988:87), for instance, demonstrate a higher degree of constraint among Swedish voters than American voters, and argue that Converse's (1964) findings are system specific. Thus, a lack of sophistication might also be a product of the characteristics of the institutional context people live in, and not purely a result of a lack of innate capability.

Luskin (1990) and Gordon & Segura (1997:129) state that the conditions that lead to political sophistication are *ability*, *motivation*, and *opportunity*. A citizen's degree of political sophistication is dependent on the degree of these three principal conditions. Luskin (1990:334-335) argues that this is true for any activity, and illustrates this with the example that Bedouins in Sahara do not become champion swimmers because they lack the opportunity, motivation, and ability.

2.2.1 Ability

In terms of political sophistication, *ability* refers to the possession of adequate cognitive skills. Although Gordon & Segura (1997) challenge the belief that this is the only path to political sophistication, they agree with Converse's (1964) standpoint that ability *is* linked to

performance. Converse's (1964) beliefs are still valid to some extent, as the degree of political sophistication hinges on the individual's means to 'understand and evaluate political information in a meaningful and systematic manner' (Gordon & Segura 1997:129). Capable people know more, and they have more accurate information about politics. It is also an easier task for them to add to this knowledge. This means that individual level characteristics that indicate higher ability will influence political sophistication.

However, in addition to ability, *motivation* and *opportunity* also play a part. This entails that cognitive ability alone does not necessarily result in being politically sophisticated, considering that a capable individual can be uninformed if information is difficult to get by, or of limited use (Gordon & Segura 1997:129). In other words, s/he must be given an opportunity to become politically sophisticated, and be motivated to do so (Luskin 1990:338).

2.2.2 Motivation

The *motivation* to become politically sophisticated entails the desire to learn (Barabas et al. 2014; Gordon & Segura 1997; Luskin 1990). Individuals need to be motivated to gather information, which means that they must have the interest in doing so (Milner 2002). People that are more interested in politics notice more of the political information they are exposed to, and think more seriously about this information. Moreover, they also consume *more* information (Luskin 1990:335). The motivation for acquiring political information can also be enhanced by the opportunities given by the institutional context, which is accounted for in the next section.

2.2.3 Opportunity

According to Luskin (1990:335), 'to become highly sophisticated, we must encounter a certain quantity of political information, be intellectual enough to retain and organize large portions of the information we encounter, and have reason enough to make the effort'. The availability and quality of information that readily can be consumed is understood as the *opportunity* to become politically sophisticated. Gordon & Segura (1997) hold that party systems and electoral systems matter for the opportunity to become sophisticated as characteristics of these can facilitate the availability of more information - and information of

a higher quality. According to Gordon & Segura (1997), multiparty systems, nationally competitive elections, systems with low votes/seats disparities and compulsory voting are contextual factors that can change the information environment.

Moreover, institutions can play a part concerning both the motivation and the opportunity for political sophistication seeing as motivation is linked to opportunity; one can expect that the motivation to seek out information will decrease as information become scarce and vice versa (Gordon & Segura 1997:130). Contextual factors can increase the availability and quality of political information citizens are exposed to, and thus their opportunity and motivation to become politically sophisticated.

To sum up, variation in political sophistication can be explained on the basis of variation in individuals' ability, motivation and opportunity. Political sophistication is a product of the ability to process the information that one has acquired, but also of both motivation and opportunity to do so. The following section will outline *how* the institution of compulsory voting can influence individuals' political sophistication through creating and enhancing opportunities and motivation.

2.3 CV and political sophistication: Theoretical mechanisms

Before turning our attention to previous research in the field of mandatory voting and sophistication, I will outline some theoretical mechanisms that can lead CV to enhance the political sophistication among citizens. Although the mechanisms outlined here will not be quantified and empirically assessed, it is still helpful to understand how the two concepts can be tied together on a theoretical basis. As Shineman (2012:4) and Jakee & Sun (2006:64) points out, a convincing mechanism should illustrate how one can go from being uninterested and ignorant to sophisticated with CV, but not without it.

Institutions affect behaviour, and regarding the institution of compulsory voting, Mackerras & McAllister (1999:229) write that: '[c]ompulsory voting ensures that voters cast a ballot and the act of voting means that they are forced to think, however superficially, about the major parties'. Although this serves as nothing more than illustrating a weak link between compulsory voting and political sophistication, it is a good starting point for understanding

this relationship. Voters obliged to the polls, are to some extent, incentivised to inform themselves about political issues and parties and/or candidates in order to make a decision.

Gordon & Segura (1997) and Shineman (2012) depart from the belief that there is a cost-benefit analysis mechanism that drives the decision to become politically sophisticated. Shineman (2012:4) identifies four classes of mechanisms that can make compulsory voting influence political sophistication, and these will be accounted for and briefly discussed below. Following Gordon & Segura (1997) and Luskin's (1990) conditions for political sophistication, the two first classes of mechanisms constitute the *motivation* to become sophisticated, while the two last constitute the *opportunity* to become sophisticated.

2.3.1 CV offsets the cost of voting

Firstly, CV can offset the cost of voting, and increase the cost of non-voting. The institution of mandatory voting makes participation a legal requirement, in which people have to choose whether to obey the law or pay the penalty in whatever form it comes (Shineman 2012:5). As stated earlier, some countries are non-sanctioned compulsory voting states. This entails that one can choose not to vote without expecting any formal penalty. However, Shineman (2012:5) holds that even if there are no sanctions in place for those who do not participate in elections, there can be a psychological cost of not participating due to the intrinsic value of the law. Thus, both sanctioned and non-sanctioned CV systems can reduce the cost of voting and consequently increase the cost of non-voting. However, reducing the cost of voting does not translate into an automatic increase in the political sophistication of those choosing to vote instead of not voting. The act of voting does not *require* any specific insight or knowledge about political matters, so one must also keep in mind that it is fully possible that people simply choose to cast a random vote when obliged to vote. On the other hand, it can be argued that compelling people to vote will make it more likely that the uninformed actors will be motivated to gather and process information in order to make an informed choice (Engelen 2007:32). For instance, voters may feel that they have greater reason to follow the election campaign when they already know that they have to vote in the election (Birch 2009:61). Having to vote anyway might motivate a person to seek and process information about the upcoming election in order to make an informed choice, whereas non-voters have little or no incentives to seek information.

2.3.2 CV can increase motivation

Secondly, compulsory voting can increase voters' incentives to become informed by changing the inherent benefits associated with being politically sophisticated (Shineman 2012:5). The reasoning behind this is that introducing CV laws might change the social values in such a way that people feel proud of being politically sophisticated, and ashamed of not being politically informed and attentive. Although one should keep in mind the counter-argument that CV might create distaste for politics among some voters (Lundell 2012; Birch 2009; Jakee & Sun), Loewen et al. (2008:666) write that 'countries with compulsory voting may [...] develop a political culture which encourages greater engagement in politics'.

2.3.3 CV changes the information environment

Shineman's (2012:4) third mechanism is that CV may change the information environment in a way that decreases the cost of information, and will influence the content of the information s/he receives. In other words, it can create a better opportunity for citizens to become sophisticated through a more accessible and higher-quality information environment. Electoral institutions affect parties' campaign strategies, and these campaign strategies are by Shineman (2012:5) argued to be different under CV than VV. In voluntary voting systems, groups that normally are non-voters are targeted by campaigns less often. In mandatory voting systems, however, one could expect that information is more widely available as parties and candidates have stronger incentives to reach less interested and knowledgeable people with information (Gordon & Segura 1997; Lijphart 1997:10). Election campaigns can foster learning, and in compulsory voting countries, parties can spend more means on campaigning on issues instead of mobilizing voters than parties in voluntary voting countries can (Shineman 2012:5). Thus, the quality and availability of relevant information should be enhanced. This entails that 'political parties in compulsory voting environments may expend more effort educating voters [...] or compulsory voting may compel the media to place a greater effort on educating voters' (Loewen et al. 2008:666). This can be contrasted with voluntary voting environments, where one might argue that politicians will aim to 'maximize their *share* in the total amount of votes rather than their *absolute number* of votes' (Engelen 2007:32, emphasis added). This suggest that there will be a lesser focus on issues, and a stronger focus on getting voters to the polling station in voluntary voting countries. In this

sense, both parties and the news media, or the information environment as a whole in compulsory voting states, can facilitate political sophistication in the way and scope information is conveyed.

2.3.4 CV can shift the social environment

Fourthly, the institution of mandatory voting can shift the social environment so that citizens encounter political discussions more often. When more people participate in elections, it can be argued that individuals will be more likely to talk about issues and candidates in the upcoming election with people in their surroundings (Birch 2009:61). An increase in the political discussions among friends, colleagues and family will make it more probable that politically unengaged and less knowledgeable people will encounter political conversations (Shineman 2012). The increased passing around of information in social networks can in turn make more people more attentive and informed.

2.4 Previous research

This section is devoted to giving an account of the previous research that has relevance for this study.

Some scholars are sceptical to the proposition that compulsory voting can enhance the political sophistication of the citizenry. An example of this stance is a study by Selb & Lachat (2009). Their point of departure is Lijphart's (1997) argument of CV being the best solution to ensure a better representation of the preferences of low socio-economic status voters. Selb & Lachat's (2009:574) main aim is to study 'the impact of CV on the consistency of the translation of political preferences into party choices'. They compare the voting behaviour of those who claim to abstain if voting was voluntary with 'voluntary' voters, i.e. those who report that they would always turn out regardless of whether it is compulsory, using election survey data from Belgium. In other words, this is a hypothetical measure. Firstly, Selb & Lachat (2009) find that a substantial share (25%) of the respondents report that they would not vote if it were voluntary. Moreover, they suggest that compulsory voting compels less interested and knowledgeable people to the polls, as they find that the hypothetical non-voters have substantially less motivation and skills, i.e. political sophistication, than those who claim

that they would generally or always vote regardless of compulsory voting (ibid.:581). Finally, Selb & Lachat's (2009:591) results show that the party choices of these less politically sophisticated individuals correspond with their political preferences to a lesser degree.

Another group of scholars argue that compulsory voting can enhance the political sophistication of the public. Gordon & Segura (1997) and Shineman (2012) have studied compulsory voting's impact on measures of political sophistication, and these studies support the hypothesis that compulsory voting's relationship with political sophistication is a positive one. Shineman (2012) compares data from Austrian provinces with and without CV, while Gordon & Segura (1997) do a cross-national analysis of 12 European countries, including data from three countries with compulsory voting (Belgium, Italy, and Greece - as of 1989).

Gordon & Segura (1997) measure political sophistication as respondents' ability to place political parties on the left-right ideological continuum. In addition to compulsory voting, they also look at other contextual characteristics' effect on political sophistication, including party systems, electoral systems regarding national competitiveness, and vote/seats disparities. With regards to compulsory voting, Gordon & Segura (1997:140) found that the presence of CV has a statistically significant and positive impact on political sophistication. When controlling for the socio-economic status variables most commonly associated with political sophistication, these did not change the results. These individual level controls include income, education, and TV and newspaper usage. They also control for occupational impingement, which denotes whether the respondent has an occupation suggesting that political information is an advantage or not (cf. Luskin 1990). However, Gordon & Segura's (1997) method is criticized by Selb & Lachat (2009:592), as they combine characteristics of countries and individuals in a unilevel analysis. Selb & Lachat (2009) replicate Gordon & Segura's (1997) model (using only the contextual variables) with countries as units of observation, and find that the effect of CV on aggregate levels of sophistication is non-significant (Selb & Lachat 2009:592).

Shineman's (2012) indicators of political sophistication include knowledge of political parties' placement on the left-right ideological continuum, knowledge on party platforms regarding EU-integration, self-reported political interest, political attentiveness and news consumption. Shineman (2012:30) reports that exposure to CV laws in Austria is linked to higher levels of political attentiveness compared to those living in in Austrian provinces without CV laws,

meaning a higher political interest and consumption of political news - and news in general. She also finds that those who have been exposed to CV laws over more years (older people living in Austrian provinces that employ CV) have more accurate knowledge of political parties' positions on EU-integration.

Other scholars have looked at compulsory voting's effect on factual political knowledge (Birch 2009; Sheppard 2015; Loewen et al. 2008) and political discussion and media usage (Loewen et al. 2008). The results from their studies are somewhat diverging.

In order to shed light on the effects of compulsory voting, Loewen et al. (2008:656) conducted an experiment under the provincial election in Quebec in Canada in 2007. Their treatment group were told that they would receive a monetary reward for taking part in the study if they voted in the upcoming election. Loewen et al. (2008:661) compared differences in political knowledge, discussion, and media usage between this group and a control group that were not incentivised to vote. All respondents answered more political knowledge questions correctly after the election than before, which suggests that subjects learned more over the course of the election. However, when comparing those who were financially incentivised to vote with those for whom voting were voluntary, the difference was not statistically significant. They do, however, find that the treatment group spent a little more time reading and watching news than the control group.

Both Birch (2009) & Sheppard (2015) have performed a cross-national, multilevel analysis comparing individuals in CV countries with individuals in voluntary voting countries, using data from the Comparative Study of Electoral Systems (CSES). Their dependent variable is based on answers to the three factual political knowledge questions asked in the CSES surveys. Birch (2009) uses data from module two, Sheppard (2015) from module one through four. The CSES surveys include data from CV countries in Latin America, Australasia, and Europe. Birch (2009) finds that CV is positively related political knowledge, but that this effect is not statistically significant. Sheppard (2015:301) notes that Birch's finding was modelled on a binary dependent variable; in Birch's (2009:156) analysis, those with high knowledge were contrasted with those with low knowledge. Out of three factual knowledge questions, those who answered none or one question correctly were categorised as having low knowledge, and those answering two or three questions correctly were categorised as having

high knowledge. Sheppard (2015:301) suggests that a continuous dependent variable would perhaps be a better choice in order to capture small degrees of variance.

Sheppard (2015), however, finds some support for the hypothesis that citizens in compulsory voting countries demonstrate higher rates of political knowledge. Sheppard (2015) measure political knowledge in the same manner Birch (2009) did; based on correct answers to the three factual knowledge questions asked in the CSES surveys, except that her dependent variable range from 0 to 3. Her dependent variable measures how many questions the respondents answered correctly. At the aggregate level, there are few differences in political knowledge across countries that she classifies as strongly enforced CV, moderately enforced CV, weakly enforced CV, and voluntary voting countries. Weakly enforced CV demonstrates the highest mean rate of correct answers to factual knowledge questions, but the data show that turnout is lower in these countries than in voluntary voting countries. This category is therefore omitted from the multivariate analysis, as her theory suggests that compulsory voting compels engagement through the act of voting. When controlling for other factors (including party identification, age, income, gender, and education at the individual level, and proportional/plurality electoral systems, days since the election and regime type at country level), Sheppard (2015:304) reports that strongly enforced compulsory voting has a strong direct effect on political knowledge at the individual level. However, this is not the case for moderately enforced CV, which is related to lower levels of political knowledge compared to voluntary voting countries.

Sheppard's (2015) very recent study is central to this thesis as she also hypothesize that factual political knowledge is more evenly distributed across levels of educational attainment in compulsory voting systems than in voluntary voting systems. She finds that the strong and positive effect of education on political knowledge is reduced in strongly and moderately enforced compulsory voting countries. In other words, 'political knowledge is not concentrated among an educated elite' in compulsory voting countries (Sheppard 2015:305).

Another scholar, namely Berggren (2001:532), also theorizes that the effect of individual socio-economic status-related factors on political sophistication are dependent on the institutional context, as the 'political context [...] offset the effect of individual-level socio-economic advantages on a range of political behaviour'. Berggren (2001:532) uses Gordon & Segura's (1997) data to test whether an interactive relationship applies to a re-specification of

their model. She checks whether the effect of a resources factor, comprised of education, income, social class, occupational impingement, newspaper reading, and television viewing, are dependent on the institutional context. However, the interaction effect Berggren (2001:543) finds between resources and compulsory voting on political sophistication is not statistically significant.

Although the research on the relationship between compulsory voting and political sophistication are highly enlightening in many respects, it is lacking in others. First and foremost, Birch (2009) and Sheppard (2015) are the only ones that have looked at compulsory voting countries outside of Europe. However, they do not measure political *sophistication*, but merely political *knowledge* based on correct answers to factual political knowledge questions. There is no agreed upon measure of political sophistication, but a measure of correct answers to merely three factual knowledge questions do not necessarily capture the complicated concept of political sophistication, seeing as a measure of political sophistication should capture a wide range of knowledge, and measure whether this knowledge is organised in an ideological context.

Gordon & Segura (1997), Berggren (2001) and Shineman (2012) measure political sophistication based on respondents' ability to correctly place the parties in their respective countries on the left-right ideological continuum. In addition, Shineman (2012) employs measures of political interest and attentiveness, and objective knowledge of party platforms. However, their analyses are limited to European countries, although most compulsory voting countries are located outside of Europe. Furthermore, they do not give any information on the differences in sophistication levels between sanctioned and non-sanctioned CV-systems. Moreover, as mentioned above, Selb & Lachat (2009) argue that Gordon & Segura's (1997) study is methodologically flawed.

When it comes to Loewen et al.'s (2008) experiment, it is constructed to reproduce an environment of compulsory voting. Although, as the authors are aware of, one can question to what extent it is similar to an actual legal and sanctioned obligation to vote. How similar is missing an opportunity to receive an amount of money, i.e. forgoing money, compared the possibility of losing an amount of money, i.e. paying a fine? Moreover, setting up an experiment with financial incentives to vote in a voluntary voting country means that the

information environment will theoretically be different from the information environment in an actual compulsory voting country.

This thesis will attempt to fill the gaps outlined above firstly by using several measures of political sophistication, including the respondents' ability to place parties in the ideological continuum, factual knowledge questions, and an indicator of political interest. These measures will be discussed in more detail in the next chapter. Secondly, data from actual compulsory voting countries will be used, including countries from Latin America, Australasia, and Europe. Thirdly, in order to shed light on whether the implications of sanctioned CV systems are different from non-sanctioned CV countries, a distinction between these two different types of CV systems will be applied in the analysis. Moreover, as Sheppard (2015) found that the effect of education on political knowledge is weaker in CV countries, this thesis will also look at education's dependency on the presence of CV for political sophistication. Lastly, in order to account for the fact that an investigation of CV's impact on individuals implies that we are confronted with variables at different hierarchical levels, multilevel analyses will be conducted. This will be discussed more in detail in chapter 3.

2.5 CV and political sophistication

The theoretical and empirical framework previously accounted for, calls for a specification of the questions underlying the main research question of this thesis. As a reminder, the objectives of this thesis is 1) to assess if different types of compulsory voting directly affects political sophistication, and 2) to investigate whether this institutional arrangement offsets the effect of education on political sophistication.

2.5.1 Motivation and opportunity

The first underlying question is concerned with the *degree* to which compulsory voting affects political sophistication. Are there any differences in sophistication levels among individuals in sanctioned compulsory voting countries, non-sanctioned compulsory voting countries, and voluntary voting countries? As noted above, compulsory voting can affect the motivation and opportunity to become political sophisticated through 1) offsetting the cost of voting, 2) increase motivation, 3) shifting the information environment, and 4) changing the social

environment (Shineman 2012). All in all, these mechanisms suggest that citizens obliged to participate in elections will pay more attention to politics when the option to stay at home is more costly. Moreover, they are believed to feel more proud of gathering and processing political information, and be exposed to more and higher-quality information that they discuss with their friends and family, than individuals in voluntary voting countries. Furthermore, a higher percentage of citizens participate in elections where compulsory voting is sanctioned than in non-sanctioned compulsory voting countries and voluntary voting countries (Gratschew 2002:110; Singh 2011). The effect of *sanctioned* compulsory voting on political sophistication might therefore be stronger than in both non-sanctioned compulsory voting countries and voluntary voting countries. Concerning to which degree compulsory voting affects political sophistication, I ask the following question:

Are individuals in compulsory voting countries more politically sophisticated than individuals in voluntary voting countries? Are there any differences in political sophistication between sanctioned and non-sanctioned CV countries?

Political sophistication is here defined as a concept that is composed of three aspects; namely interest, understanding, and knowledge. As will be accounted for in detail in the next chapter, the dependent variable will be operationalised in three different ways that correspond with sophistication's three aspects. Thus, it is interesting to look at whether there are differences in how CV affects these different components. I ask the following question:

Will CV affect the components of political sophistication similarly?

2.5.2 Ability x motivation and opportunity

The second part of the main research question is about *how* compulsory voting can affect political sophistication. Both Sheppard (2015) and Berggren (2001) theorize that the resource bias in political sophistication will be reduced under compulsory voting. As argued in the theoretical section, ability is a condition for political sophistication. But what indicates that one has the ability to understand such abstract information that often characterizes political information? It is argued that education can serve as a proxy for ability (Barabas et al. 2014;

Gordon & Segura 1997) as it 'develops the cognitive ability necessary for effective learning' (Delli Carpini & Keeter 1997:190).

Individual resources such as education are generally unevenly distributed among the public. However, the institutional context can offset the effect of individual-level socio-economic advantages on behaviour; the information provided by compulsory voting may 'weigh more heavily in the affirmative decision to become sophisticated among those with fewer resources than among those with more' (Berggren 2001:535). The theoretical differences in the information environment in voluntary voting countries versus compulsory voting countries leads to the proposition that education has a stronger effect on political sophistication in voluntary voting countries, than in compulsory voting countries. This entails that the distribution of political sophistication can differ between CV countries and voluntary voting countries, as the opportunities and motivations for becoming sophisticated that are created by compulsory voting should dampen the effect of individual resources. Thus, I ask the following question:

Is education a weaker predictor of political sophistication in compulsory voting countries than in voluntary voting countries?

2.6 Hypotheses

This section is dedicated to specifying the research questions into hypotheses that state the expectations I have to the relationships between compulsory voting and political sophistication.

As we have seen, the results of the studies on the relationship between CV and political sophistication are somewhat ambiguous. Birch (2009) and Loewen et al. (2008) report no statistically significant effect of CV on political knowledge. However, Gordon & Segura (1997), Sheppard (2015) and Shineman (2012) find that the institution of compulsory voting influences aspects of political sophistication in a positive direction. I expect a positive relationship between compulsory voting and political sophistication, and the following hypothesis is formed:

H1: Compulsory voting corresponds with higher individual levels of political sophistication.

We know that CV laws differ with regards to the sanctions applied to non-voters. Birch (2009:156) found that the effect of compulsory voting on political knowledge were stronger in sanctioned CV systems, but that this effect was not statistically significant. Moreover, studies have demonstrated that sanctioned compulsory voting has a stronger effect than non-sanctioned compulsory voting on turnout and other measures of engagement (Birch 2009; Singh 2011). Sheppard (2015) has shown that the presence of strongly enforced compulsory voting has a positive relationship with political knowledge, while the relationship between moderately enforced compulsory voting and political knowledge is a negative one. Altogether, this leads to the following hypothesis:

H2a: Sanctioned compulsory voting has a stronger effect on political sophistication than non-sanctioned compulsory voting and voluntary voting.

However, one shall consider the possibility that non-sanctioned compulsory voting has a stronger effect on political sophistication than both sanctioned compulsory voting systems and voluntary voting countries. Non-sanctioned compulsory voting laws convey that the act of voting is important, but that the public should not be punished for failing to turn out. One can argue that the public may have a more positive perception of the act of voting when the feeling of force is removed. It is possible that sanctioning non-voting leads to some voters wanting to demonstrate their opposition towards this law by casting a random or uninformed vote. When non-voting is not sanctioned, this type of voting behaviour should not be present. If the general perception in non-sanctioned compulsory voting countries is that voting in elections is an important duty, there is a possibility that people are *more* concerned with making an informed choice than individuals in both voluntary voting countries and sanctioned compulsory voting countries. The following hypothesis is formulated:

H2b: Non-sanctioned compulsory voting has a stronger effect on political sophistication than sanctioned compulsory voting and voluntary voting.

The above hypotheses are related to which *degree* compulsory voting influences political sophistication.

As noted earlier, education is considered as the proxy for the *ability* to become politically sophisticated. Previous research has demonstrated that higher education corresponds to higher levels of political sophistication (Barabas et al. 2014; Converse 1964; Gordon & Segura 1997). Thus, one can expect that education has a direct effect on political sophistication and the following hypothesis is made:

H3: Individuals with higher education are more politically sophisticated than individuals with lower education.

However, it is argued that the impact of individual resources, such as education, depends on the institutional context (cf. Sheppard 2015; Berggren 2001). If compulsory voting laws enhance the motivation and opportunities to become politically sophisticated, education should predict political sophistication to a lesser degree in compulsory voting countries than in voluntary voting countries. Sheppard (2015) has demonstrated that the effect of education on political knowledge is weaker in countries with CV laws than in voluntary voting countries. The following hypothesis, which concerns *how* CV affects political sophistication, is formulated:

H4: The effect of education on political sophistication is weaker when voting is compulsory compared to when voting is voluntary.

Lastly, as will be accounted for in the next chapter, the analyses in this thesis are divided into three separate analyses for each aspect of political sophistication. This gives the opportunity to look at to which degree and how compulsory voting influences these three aspects separately. As the theoretical sectioned argued that political sophistication is a concept that denotes both interest and understanding, in addition to knowledge, I expect the institution of compulsory voting to influence these aspect in a similar manner. This leads to the following hypothesis:

H5: Compulsory voting will demonstrate the same pattern of influence on all three aspects of political sophistication.

Before turning to the empirical analyses, the next chapter will outline and give an account for all the methodological choices and the data that these analyses are grounded on.

3 Data and method

To answer the research question of this thesis, a quantitative comparative analysis of individuals in countries with compulsory voting laws and individuals in countries where voting is voluntary will be conducted. A limitation to a cross-country comparison is of course international heterogeneity (Shineman 2012:9), but this hinges on the operationalisations of variables. Furthermore, research into how contextual factors influence individuals entails that the data are hierarchical. Thus, multilevel analyses will be performed. The purpose of this chapter is to give an account of the data, operationalisations of variables, the statistical techniques, and the considerations surrounding the choices made.

3.1 Data

The data that will be used for the analyses are the survey data from module 3 of the Comparative Study of Electoral Systems (CSES). This is the most recent of the completed rounds of the CSES. This set of data is to prefer over others, as it gives information on political topics at the individual level, and information on electoral institutions at the macro level. The design of the CSES study thus easily allows for multilevel analyses, and is suitable for examining the research question of this thesis. The CSES include a common module of survey questions that are implemented in the post-election studies in each collaborating country. These questions are intended to be administered as an uninterrupted single block of questions. Most surveys are conducted as face-to-face interviews[4]. The data were collected between 2006 and 2011, and cover 50 elections. The total number of respondents is 80.163. The response rate differs between countries, and is under 50 %[5] in approximately a third of the countries included. If the dropout is systematic and not random, it will lead to a sample that is different from the universe (Skog 2004:100). However, the election surveys that the CSES is comprised of are conducted by experienced personnel in a way that generally should make them reliable. One way in which one could correct the sample is by using weights. Dahlberg et al. (2015:28) state that the only weights that should be included in multilevel models are weights for unequal selection probabilities within countries. However, sample

[4] Exceptions are: Australia, Canada, Germany, France, Greece, Hong Kong, Iceland, Israel, and New Zealand.
[5] Cf. the individual design reports at: http://www.cses.org/datacenter/module3/module3.htm

weights are included only for a minority of all countries in the CSES module 3 data[6]. Thus, the data will be unweighted in the analyses.

3.2 Cases

To answer the research question of this thesis, the units of analysis will be individuals in countries *with* and *without* CV laws. Regarding the cases *with* CV laws, both sanctioned and non-sanctioned CV countries will be included in the analysis, in order to assess if there is any difference in individual levels of political sophistication between different types of CV systems. The CSES module 3 includes data on 41 countries, where ten countries employed compulsory voting when the surveys were conducted, and had done so for many years[7] [8]. To my knowledge, there are no other data sets than the CSES that include more compulsory voting countries, while also containing the variables needed for this study.

Previous research on political sophistication has mainly focussed on one country or European countries (Shineman 2012; Gordon & Segura 1997; Berggren 2001; Loewen et al. 2008), which argues for a worldwide study of compulsory voting. The analysis of this thesis will not be limited to a geographical region. There is of course a threat of limited comparability to such a design, which can affect the internal validity of the study (i.e. is A affecting B, or is another factor affecting B?) (Skog 2004:44,107). Confounded correlations are always a threat to cross-sectional designs. Ways of limiting this threat include controlling for relevant factors and take steps to ensure that the cases are comparable. (Skog 2004:74).

The 41 countries included in the CSES module 3 differ with regards to democratic characteristics of elections. A precondition for comparability could therefore be a certain degree of democratic elections. Moreover, in order to become politically sophisticated, a person must have access to information. One can thus argue that a free press is a precondition. The CSES module 3 macro data includes information on the countries' degree of democracy

[6] 13 of 50 election studies did not deposit weights with their data. Among the election studies that included weights, only 13 of 50 contain sample weights (cf. CSES Module 3 Codebook – available at http://www.cses.org/datacenter/module3/data/cses3_codebook_part2_variables.txt)
[7] Note that one of these countries is Switzerland where only the canton Schaffhausen employs CV.
[8] Chile is not listed in table 1.1 as compulsory voting was abolished in 2012, but is included in the analysis as the survey-data from Chile is from 2009, when compulsory voting was still in place.

according to the Freedom House ranking, and this could therefore serve as a guide for the selection of cases in order to ensure a certain degree of comparability. However, only including those countries that are ranked as 'free' by the Freedom House excludes Thailand, which is a sanctioned compulsory voting country. Already having a small number of compulsory voting countries argues for not excluding any of them, but rather including all available data. Instead, the Freedom House ranking will serve as a control variable. This is presented more in detail in section 3.6.2. The countries included in the analysis are listed in table 3.1 below[9], and constitute all CSES module 3's collaborating countries.

Table 3.1 Classification of countries included in the CSES module 3

VV countries	Non-sanctioned CV countries	Sanctioned CV countries
Austria	Brazil	Australia
Belarus	Greece	Chile
Canada	Mexico	Peru
Croatia		Switzerland (Schaffhausen)
Czech Republic		Thailand
Denmark		Turkey
Estonia		Uruguay
Finland		
France		
Germany		
Hong Kong		
Iceland		
Ireland		
Israel		
Japan		
Latvia		
Netherlands		
New Zealand		
Norway		
Philippines		
Poland		
Portugal		
Romania		
Slovakia		
Slovenia		
South Africa		
South Korea		
Spain		
Sweden		
Switzerland (all cantons except Schaffhausen)		
Taiwan		
United States		
32	**3**	**7**

[9] Switzerland is listed twice, as only the canton of Schaffhausen applies compulsory voting laws.

Table 3.1 shows that the countries included in the CSES module 3 cover a fairly large part of the world. This sample also is comprised of countries from all parts of the world, although with few Asian and African countries.

The data include 50 elections, where nine countries are represented with two election studies[10]. Regarding these nine countries, only one of the election studies will be included in the analyses, in order to level the number of observations from each country. I have made the choice to include the most recent election studies[11], because these have the overall lowest number of missing values on the three dependent variables. It shall, however, be noted that there are small differences between the pairs of election studies for those countries represented with two, both in terms of number of respondents and missing values. Excluding these nine election studies reduces the number of observations at the individual level from 80,163 to 63,901. In the subsequent analyses, though, the number of countries and respondents are reduced further due to missing data. This is accounted for in section 3.8 and chapter 4.

3.3 Dependent variable: political sophistication

Researchers of political sophistication have operationalised this concept by using measures of education, political participation, political interest, media exposure to politics, and political information, or a combination of these (Zaller 1990:131). In other words, there seems to be no clear agreement on how to measure political sophistication (Delli Carpini & Keeter 1993). Political sophistication is a complex concept, and thus hard to operationalize. In this thesis, it is defined as including both an interest in and knowledge and ideological understanding of politics, and the operationalization must therefore capture these aspects.

The studies presented in section 2.4 illustrate the diversity of measures used to capture political sophistication and related concepts. Gordon & Segura (1997) and Shineman (2012) measure political sophistication by giving respondents a score that reflect the absolute distance between the respondent's placement of political parties in his/hers country on the left-

[10] These countries are: Brazil, Czech Republic, Finland, Germany, Iceland, Mexico, Netherlands, Norway and Poland.
[11] This excludes Brazil (2006), Czech Republic (2006), Germany (2005), Finland (2007), Iceland (2007), Mexico (2006), Netherlands (2006), Norway (2005), and Poland (2007).

right ideological scale and the mean placement of those parties by all other respondents in that country. In addition, Shineman (2012) measure political sophistication by respondents' knowledge about political parties' position on the issue of EU integration, and measures of political interest and attentiveness. Selb and Lachat (2009:580) apply a measure of political sophistication that is based on respondents assigning 14 politicians to their respective parties, and a measure of their self-reported political interest. Birch (2009) and Sheppard (2015) measure political knowledge based on the three factual knowledge questions asked in the CSES surveys. Loewen et al. (2008) apply indicators of factual political knowledge, together with political discussion, interest and media usage.

The lack of agreement on a measure of political sophistication, and this thesis definition of political sophistication, serves as arguments for several measures of political sophistication. Although not all of the studies cited above intend to measure political *sophistication* per se, they give useful insights as to how aspects of political sophistication can be measured. To capture this complex concept, political sophistication will be operationalized by using measures that taps each aspect of political sophistication; factual knowledge, political interest and ideological understanding. Moreover, these three aspects will be operationalized and analysed separately; as it gives the possibility to assess whether compulsory voting influences aspects of sophistication differently.

The three different operationalisations of the dependent variable, and a discussion about the validity threats tied to each operationalisation, are accounted for below. Specifically, it is the *content validity* of these measures of political sophistication that will be given attention. Content validity is about why we measure what we do (Delli Carpini & Keeter 1993), and the content validity of the operationalisations hinge on their accordance with the theoretical definition of political sophistication (Hellevik 2002:52). One should know that one measures what one wants to measure with a satisfactory degree of preciseness (Skog 2004:89). Do the variables outlined below capture the complex concept of political sophistication? The goal here is to measure the political interest, knowledge, and ideological understanding that constitute sophistication.

I. Political interest: degree of engagement in the election campaign

The standard five-point self-reported political interest indicator is widely used in research, and is generally the best measure of political interest that is available in surveys. Unfortunately, this variable is not included in the CSES module 3, so the following question in the CSES module 3 will be used to indicate the respondent's political interest instead:

How closely did you follow the election campaign? Very closely (=1), fairly closely (=2), not very closely (=3), or not closely at all (=4)? (C3018)

The variable is inverted so that high scores reflect higher political interest. The distribution of respondents on this variable is as follows:

Table 3.2 Frequency table of political interest

	Not at all	Not very	Fairly	Very	Total
N	7,170	19,104	22,169	8,939	57,382
%	12.5	33.3	38.6	15.6	100

When considering the content validity of this measure, one must be aware of some potential fallacies of using subjective measures of phenomena. Respondents may answer in a socially desirable way, and the standards for self-description might vary between individuals (Zaller 1990). One must also consider that to which degree a respondent followed the election campaign may indicate the respondent's media usage as much as a political interest. However, Guo & Moy (1998) argue that media use is related to political interest, and particularly during election campaigns (Guo & Moy 1998).

If one takes for granted that self-reported interest in the election campaign will measure the respondent's actual *political* interest, there are still matters to keep in mind. Political interest does not necessarily indicate sophistication as a less sophisticated individual can think that politics is fascinating, without correctly understanding the information s/he encounters (Zaller 1990:131). Although keeping this in mind, Luskin (1990:333) argues that more politically sophisticated individuals are generally apt to be more interested in politics. It seems plausible that an interested person will become more knowledgeable due to an increased motivation to

consume more information, and that being knowledgeable about a topic will increase one's interest in that topic.

Lastly, one might also argue that how closely respondents followed the campaign can also be a result of characteristics of the election in question. People can follow the campaign more or less closely due to the salience of issues, and not necessarily because of their general political interest, which means that we are confronted with potential systematic measurement errors (Skog 2004:91). Still, it is the most suitable way to capture respondents' degree of political interest with the available data.

II. Political knowledge: share of correct answers to three factual knowledge questions

Secondly, the CSES module 3 includes three political knowledge questions that are designed to indicate the respondent's general (local) political knowledge. Generally, these questions are about the political process, institutions, parties and politicians[12]. The collaborating countries are asked to make these three questions in a way that result in two thirds of the respondents getting the 'easy' question correct, while the harder one is to be answered correctly by half of the respondents, and the hardest question should be answered correctly by one third. Theoretically one should therefore not observe any variation between countries at all. However, the bivariate analysis in chapter 4 will show that there is indeed variation between countries, which indicates that the difficulty of these questions varies between countries. This is perhaps exemplified by the fact that in Thailand, respondents were asked how many MPs are required under the new Constitution, how many electoral districts there are, and which number identify the electoral district the respondent belongs to, while in South Korea; respondents were asked which party is currently in government, how many years the president stays in office, and what the name of the current prime minister is[13]. Intuitively, the levels of difficulty of the questions for these two countries seem quite different; knowing the exact number of MPs in your country requires more detailed knowledge than knowing which party is governing your country.

[12] Cf. CSES Module 3 Codebook – available at
[13] http://www.cses.org/datacenter/module3/data/cses3_codebook_part2_variables.txt

This measure can be somewhat problematic because of the differences in the difficulty of questions (Elff 2009). The fact that questions differ between countries means that respondents from two different countries can have the same score that is the result of answers to two different questions that are meant to have the same level of difficulty. These two different questions can theoretically reflect different knowledge levels. This means that the comparability of this measure is somewhat restricted. Grönlund & Milner (2006:389-390) argues that it cannot shed much light on the difference of political sophistication between countries. Ideally, one would want a measure of political knowledge that is based on the same questions for all countries, or at least questions that are proven to be on the same level of difficulty. Although this measure is argued to have some limitations, this is the best available measure of political knowledge.

The political knowledge variable is operationalised so that correct answers to the three questions (C3036_1, C3036_2, C3036_3) are combined to form a four-point (0 to 3) scale, which reflects the share of correct answers, in the same manner Sheppard (2015) has done. The distribution of respondents on the political knowledge variable is as follows:

Table 3.3 Frequency table of political knowledge

No. of correct answers	0	1	2	3	Total
N	9,303	14,684	18,554	11,291	53,832
%	17.3	27.3	34.4	21	100

Regarding the construction of surveys, Mondak and Jefferson (2004:496) writes that the possible outcomes for these types of knowledge items are not fully captured. Consider that respondents can be fully informed, partially informed, misinformed, or uninformed. The factual political knowledge items in the Comparative Study of Electoral systems separates between correct, incorrect, or 'don't know' answers. These 'don't know' answers can conceal some degree of knowledge. In other words, it does not capture fine-grained differences in knowledge levels. The question is what to do with the 'don't know' answers. One possibility is to classify them as incorrect answers. However, one should consider that respondents could differ in their propensities to guess (Mondak 2001:225). This means that a respondent who guesses the right answer can have the same knowledge level as a respondent who answers 'don't know' due to uncertainty and a lesser inclination to guess. Guessing the right answer is

much easier when questions are close-ended (Luskin & Bullock 2011), which is the case in many of the surveys included in the CSES module 3. However, it impossible to know which answers are true 'don't know' answers. Another option is to randomly assign substantive response categories (Mondak 2001:228). However, Luskin & Bullock (2011:554) argues that, by and large, those who reply 'don't know' on political information items really don't know the answer and should be classified as incorrect. To code 'don't know' answers as incorrect is conventional (Birch 2009:156) and this is the choice made here.

When it comes to the content validity of this measure of factual political knowledge, Delli Carpini & Keeter (1993:1182) holds that questions formed to tap factual political knowledge should be about what government is and what it does. In general, the factual knowledge questions in the CSES module 3 are typically about the institutions of government in each country, as well as leading politicians or national parties[14]. The question though, is whether this measure indicates that a person is sophisticated or not? Theoretically, a politically sophisticated person has more detailed knowledge about politics, and this knowledge should cover a wide range (Luskin 1990). Although it is hard to evaluate the exact accordance between the theoretical concept and the operationalisation of political sophistication based on the share of correct answers to merely three political knowledge questions, it can be argued that this measure does not fully capture the theoretical concept seeing as it is a relatively coarse measure. However, Zaller (1990:125) argues that what he terms political awareness is 'best measured by simple tests of factual information about politics'. It is believed that using the share of correct answers to the three political information items in the CSES module 3 (C3036_1, C3036_2, and C3036_3) is the best available way to operationalize political knowledge.

III. Political understanding: placing parties on the ideological continuum

The third measure of political sophistication is based on the following question in the CSES module 3 survey, which is asked for each party in every country:

[14] Cf. CSES Module 3 Codebook – available at http://www.cses.org/datacenter/module3/data/cses3_codebook_part2_variables.txt

In politics people sometimes talk of left and right. Where would you place [PARTY A] on a scale from 0 to 10 where 0 means the left and 10 means the right?
Using the same scale, where would you place [PARTY B]?
Where would you place [PARTY C]? (C3011)
…

This variable is operationalised so that the respondents' scores reflect the distance between his/hers placement and an expert's placement of parties on this scale. The expert placements are also provided by the CSES module 3 data. The scale range from 0 to 10, where 10 reflects the same placement as the expert placement, and 0 reflects the farthest distance between the respondent's placement and the expert placement. As with political knowledge, those who respond that they 'don't know where to place', 'haven't heard of party' or 'haven't heard of left-right' should be coded in a way that reflects what people know and understand about the political parties in their country. Giving these respondents the lowest score possible seems like a hard punishment for not knowing, especially when considering that some people might be less inclined to guess when they are not completely sure (Mondak 2001:225). We must assume that the respondents who answered that they 'don't know...' or 'haven't heard of…' know very little about the party in question in terms of the left-right continuum. I choose the same approach as Shineman (2012:19), and code these respondents' distance as the maximum distance of other respondents in the same country. The distribution of respondents on this variable is:

Table 3.4 Descriptive statistics of political understanding

	Mean	Std. Dev.	Min	Max	N
Political understanding	7.24	2.10	0	10	58,450

The number of parties differs greatly between countries. This means that those respondents who live in countries with a higher number of parties are disadvantaged; it is more difficult to place seven parties on the ideological continuum than three. Therefore, measures must be taken for these scores to reflect respondents' actual ideological understanding as closely as possible. Thus, I have made the choice to let the score reflect the average distance from respondents' placement of each of the three biggest parties (C3011_A, C3011_B, and

C3011_C)[15] [16] in their respective countries compared to the expert placement (C5017_A, C5017_B and C5017_C). Placing the three biggest parties along the continuum intuitively seems as an equally difficult exercise no matter how many parties exist in that country. The biggest parties would be those who receive the most media attention, and the parties that the public potentially would have the opportunity to know the most about. I will also control for the number of parliamentary parties in the multivariate analyses, which also should enhance the comparability of this measure.

Converse (1964) ties political sophistication to ideological thinking, and research suggest that voters with a high level of political sophistication will be better at placing parties on an ideological scale than voters with a low level of sophistication (Alvarez & Franklin 1994:676). Knowing parties' placement on the ideological continuum requires that fairly large amounts of information are combined into the abstractions that are 'left' and 'right', and Luskin (1990:332) thus holds that the extent to which an individual thinks in terms of the left-right continuum can be characterized as the degree to which an individual is politically sophisticated. The above-mentioned measure is believed to indicate the degree to which the respondent understand and organize abstract political information ideologically.

However, a study by Andersen et al. (2002) gives an alternative operationalization of ideological understanding, which also shall be considered.

Andersen et al. (2002:14) measure respondents' ability to place British political parties' positions on policy issues *relative* to one another along an ideological continuum. These policy issues include taxation and spending, nationalization and privatization, and the European Union. One might consider that knowing accurate positions on the left-right continuum is less relevant for political sophistication than the ability to know where parties are relative to one another, seeing as party positions can change. Andersen et al. (2002:16) have given respondents who manage to place all parties' positions, in this case it is *three*

[15] On question 11 (variable C3011_), collaborating countries are instructed to ask about the six parties [party a through f] that received the most votes (cf. Module 3 Questionnaire – available at http://www.cses.org/datacenter/module3/cses3_Questionnaire.pdf).

[16] There are no observations for Belarus on the placement of party B (C3011_B), so the score for individuals in Belarus are based on party A, C, and D. Likewise, in Taiwan and USA, there are only observations for party A and B, as there are only two big parties in both countries, and the score given to respondents reflect the mean distance between the respondents' placement and the expert placement for two parties only.

parties, in the correct positions relative to each other a score of 1, and the rest a score of 0. They compared their measure to respondents' scores on factual political knowledge questions, and found that those who placed parties correctly relative to one another have higher average scores on these knowledge questions.

I will also test a similar operationalization by giving respondents who place the *two* biggest parties' overall position on the left-right continuum correctly relative to each other a score of 1, and the rest a score of 0. The reason for testing this measure based on the relative placement of only two parties, and not three parties as Andersen et al. (2002) have done, is that in 12 out of 41 countries, the second and third biggest parties are, by the country experts, placed merely one scale unit apart on the ideological continuum. When two of three parties are that close to each other ideologically, placing parties relative to each other is a more difficult exercise in these countries. This entails that measuring the public's knowledge of the relative positions of three parties is somewhat problematic in a cross-country analysis, as the distance between parties on the left-right continuum varies greatly. Thus, using only two parties for this relative-positions measure seems like the better choice, as the data show that the distances between the two biggest parties are more similar than the distances between three parties.

Lastly, we should consider some validity threats to these measures of political understanding. This will mostly focus on the operationalization of political understanding as accurate placement of political parties, as this is the main measure of this aspect of political sophistication.

One problem with using the ten-point ideological continuum is the vagueness of it. Powell (1989:273) points out that 'a three to one respondent may mean the same as a four to another respondent'. If the expert placement of the party then is at point two, and the respondent places the party in question at point four, his/hers score will be lower than the respondent placing that party at point three. This lack of uniformity of what each point on the continuum stands for means that this measure can be argued to be somewhat coarse.

Moreover, one should consider the possibility that respondents fail to identify parties on the left-right continuum because they range parties according to other dimensions. This does not necessarily mean that they are less politically sophisticated. Instead, it can mean that some

other dimension is more relevant. In the CSES module 3 survey, collaborating countries have the option to ask respondents to place parties on an appropriate alternative continuum. The reason for using this option may be that there is another ideological continuum that has the same relevance as the left-right continuum, or it may have been used because the left-right continuum is less relevant and familiar in some countries. Respondents in six out of 41 countries have placed parties on an alternative continuum, in addition to placing parties on the left-right continuum[17]. The fact that a relatively large majority have not used the option of an alternative scale suggests that the left-right continuum is a fairly relevant concept in most countries.

Lastly, what measures ideological understanding best? A measure based on accurate placement of political parties, or a measure based on relative placement of parties? Andersen et al. (2005:289) argue that accurate placement 'assumes a much more precise measure of knowledge than is reasonable'. As the distances of parties' positions vary greatly between countries, I argue that the between-country comparability of the relative positions measure is more restricted than measuring the distance between where the individual and the expert places a party. Moreover, separating only between those who manage to get the relative position of parties correctly and those who do not, can be argued to conceal a good deal of knowledge when parties are located closely together on the left-right continuum.

Although keeping all the threats to the content validity of the dependent variables in mind, the operationalisations outlined above seems to be the best available measures of political sophistication. These three measures of political sophistication will be analysed separately, which gives the possibility to assess whether compulsory voting affects different aspects of political sophistication differently or similarly.

[17] Alternative dimensions: **Chile** (liberal – conservative), **Estonia** (Russia is a security threat – Russia is a trustworthy partner), **Latvia** (advocates interests of Russophone residents – advocates interests of Latvians), **Mexico** (liberal - conservative), **Philippines** (only eradicating graft and corruption in government is important for party - only helping the poor is important for party), **Taiwan** (independence - unification with mainland China), cf. CSES Module 3 Codebook, available at: http://www.cses.org/datacenter/module3/data/cses3_codebook_part2_variables.txt.

3.4 Independent variable: compulsory voting

Compulsory voting laws differ between countries. As mentioned earlier, half of the countries with CV enforce this law while the other half does not. Research suggest that CV systems with strong sanctions are more effective than those with softer or no penalties on both turnout and political knowledge (Singh 2015:549; Sheppard 2015). One can infer that sanctioning compulsory voting might create stronger incentives for processing information when the cost of non-voting is higher, a greater feeling of the importance of being informed, and an information environment that is even more plentiful of high quality information. However, non-sanctioned CV systems are still regarded as having an effect on voting behaviour, and cannot be juxtaposed with voluntary systems (Lijphart 1997). It is therefore valuable to operationalize this independent variable by making a threefold distinction between countries with regards to the degree of compulsion: voluntary voting, non-sanctioned compulsory voting, and sanctioned compulsory voting. The countries included in this analysis falls into these three categories as presented in table 3.1 in section 3.2 above. In addition to a dummy variable that separates between VV and CV, two dummy variables for non-sanctioned and sanctioned compulsory voting are created, where voluntary voting constitute the reference category (Skog 2004:314).

3.4.1 Exemptions from the compulsion to participate

It is also important to note that there are exemptions from the legal obligation to participate in elections in compulsory voting countries, as there are exemptions from the right to participate in elections in voluntary voting countries. Some are excluded from the obligation to participate in elections based on *age*. In all modern states, children are excluded from the voting population. In Brazil and Peru, compulsory voting excludes those over the age of 70. Moreover, sanctions do not apply to 16 and 17 year old non-voters in Brazil. In the Swiss canton Schaffhausen, those over 65 are not required to vote (Birch 2009:12). Respondents over and under these age limits are categorised as living in a voluntary voting environment. The number and percentages of respondents in each category are thus as follows:

Table 3.5 Frequency table of type of voting laws

	Voluntary voting	Non-sanctioned CV	Sanctioned CV	Total
N	49,835	5,331	8,735	63,901
%	78	8.3	13.7	100

3.5 Independent variable: education

One of the aims of this thesis is to look at ability's dependence on the motivation and opportunity believed to be created by the institution of compulsory voting. Ability is measured by level of education, as this is the best indicator of cognitive skills that is available in the data used here (Popa 2015:441). Education is a categorical variable at the ordinal level (C2003) that range from one to eight, where higher numbers indicate a higher level of education[18]. Variables at the ordinal measurement level must be transformed into dummy variables before using them in a regression analysis (Christophersen 2009:86). One possibility is to create a dummy variable for each category of the original variable. Here, however, the education variable is dichotomised. The rationale for this is that the original categories are somewhat ambiguous. The loss of information that comes with creating a dichotomy thus seems bearable. The hypothesis is that higher education is associated with higher levels of political sophistication, and separating between university-level education and education at lower levels seems like a good cut-off point. Dichotomising the education variable eases interpretation; it enables us to say how much more or less of the outcome variable individuals with higher education has in contrast to those with lower education (Skog 2004:313). Those with education at the university level (categories 7 and 8) are assigned the value 1, while everyone else (category 1 through 6) is assigned the value 0. The distribution of respondents on this variable is:

Table 3.6 Frequency table of education

	Lower education	Higher education	Total
N	47,431	14,430	61,861
%	76.7	23.3	100

[18] The categories are: 1 = none, 2 = incomplete primary, 3 = primary completed, 4 = incomplete secondary, 5 = secondary completed, 6 = post-secondary trade / vocational school, 7 = university undergraduate degree uncomplete, 8 = university undergraduate degree completed.

3.5.1 Is there a conditional effect of education?

Interaction terms between education and sanctioned compulsory voting and non-sanctioned compulsory voting respectively, are created in order to assess whether there is a cross-level interaction at work. Is education dependent on the value on the CV variables? The expectation is that political sophistication is more evenly distributed in compulsory voting countries than in voluntary voting countries. In other words, education should have a weaker effect on political sophistication when compulsory voting is present. There is an interaction if X_1 yields more or less of Y when X_2 has a certain value (Skog 2004:300).

Brambor et al. (2006:64) provides a checklist for using multiplicative interaction models. Firstly, the hypothesis that is to be tested shall be conditional. This is the case in this thesis as within hypothesis 4 is an expectation that the effect of education is conditioned on the presence or absence of compulsory voting. Secondly, the variables that are included in the interaction must also be included in the interaction model as excluding one of them can lead to biased estimates in the interaction model. Thirdly, they are not to be interpreted as being unconditional marginal effects, meaning that the constitutive terms have a different meaning in the interaction model. In the models that include the interaction terms, the coefficients for education and compulsory voting will show the estimate for the groups that are assigned the value zero on the other variable included in the interaction term (Hox 2008:63). Fourthly, one should 'calculate substantively meaningful marginal effects and standard errors' (Brambor et al. 2006:64). This means that the effect of the interaction variables and the direct effects of the explanatory variables that make up the interaction, i.e. education and compulsory voting, must be interpreted together (Hox 2008:63). If the interaction terms show positive coefficients, the effect of education will be stronger for those living in compulsory voting countries, while a negative coefficient will mean that the effect of education is weaker. The above account guides the usage and interpretation of the interaction between education and CV in the subsequent analyses.

3.6 Control variables

3.6.1 Individual-level control variables

In order to isolate the effect of compulsory voting laws, there is a need to control for other variables believed to affect political sophistication. In addition to education, previous studies have demonstrated that individual factors such as age, gender, and party identification are predictors of political sophistication (e.g. Gordon & Segura 1997:130; Barabas et al. 2014).

Age is thought to enhance political sophistication as individuals gather and process information over time. When people gain more political experience, they become more practiced in handling new information (Leighley 1991:201). Furthermore, studies have also shown that there is a tendency for women to know less than men, and that men's political interest and attentiveness are higher than women's (Barabas et al. 2014; Mondak & Jefferson 2004). Some attribute this to the explanation that women are less inclined to guess than men, and thus score lower on indicators measuring political knowledge (Mondak & Jefferson 2004). In any case, one can expect men to be more politically sophisticated than women. Lastly, previous studies have highlighted that partisanship is related to higher sophistication levels (Delli Carpini & Keeter 1997; Grönlund and Milner 2006; Birch 2009). For instance, being a member of a party can indicate that one has a greater interest in politics, and through their partisanship has gained more knowledge about parties, politicians and institutions. Delli Carpini & Keeter (1993:1185, 1997) find that strong partisanship increases the likelihood of knowing to which party political figures belong, and Grönlund & Milner (2006:394) find that party identification is positively related to political knowledge.

Based on the above account, age, gender, and party identification will serve as control variables in the analyses.

The variable *age* (C2001) gives information on the respondent's age in years, and ranges from 17 to 106. *Gender* (C2002) is a dummy variable that is coded so that women have the value 0, while men are assigned the value 1. *Party identification* is based on the question that asks respondents if they are close to any political party (C3020_1). Respondents answering 'yes'

are assigned the value 1, and those answering 'no' are assigned the value 0. It should be noted that this variable does not reflect the strength of party identification, only the direction.

Concerning individual level controls, it is important to note that income also is a theoretically relevant control variable. Gordon & Segura (1997:141), for instance, argue that wealthier persons should have more opportunities to be exposed to information, and perhaps a greater interest in political outcomes. However, income is excluded from the analyses, as the data contains a high share of missing values[19]. In addition, only household income is measured, which means that single households are punished. And more importantly, a preliminary analysis showed that including income did not change the results.

3.6.2 Country-level controls

In order to enhance the comparability of the countries included in the analysis, there is also a need for controls at the macro level. Gordon and Segura (1997) argue that the party system with regards to number of parties can affect the information environment and thus the opportunities to become sophisticated. As the number of parties differs between the countries included in the analysis, this will be controlled for in the multivariate analyses. In her study of compulsory voting's impact on political knowledge, Sheppard (2015:303) uses the variable in the CSES data that indicates the average district magnitude as a measure of party system. This variable divides the total number of seats on the total number of electoral districts in each country. However, in the CSES module 3 data, there is a more accurate measure of party system that should and will be used instead, namely *the effective number of parliamentary parties* (C5095). This variable is based on the definition by Laakso & Taagepera (1979) [20]. Arguably, the effective number of parliamentary parties is a variable that better serves the purpose of measuring party system than a variable that indicates district magnitude, as it is a more direct measure of how many parties actually is in parliament. This variable ranges from 1.16 to 10.36.

Moreover, as the countries included in the analysis are somewhat diverse with regards to the degree of 'democraticness' and thus the availability of information in terms of freedom of the

[19] Approximately 20 %.
[20] See CSES Module 3 Codebook, available at http://www.cses.org/datacenter/module3/data/cses3_codebook_part2_variables.txt.

press, the scores at the time of the election from the *Freedom House ranking*[21] will serve as another macro level control. This variable gives countries a score on a scale that ranges from 1 to 7, where 1 is the highest degree of freedom. For ease of interpretation, this variable is inverted.[22]

3.7 Multilevel analysis

Selb & Lachat's (2009) critique of Gordon & Segura's method poses an argument for not using OLS regression. According to Hox (2008), there are two problems with analysing variables from different levels at one level, as Gordon & Segura (1997) have done. Firstly, a statistical problem: when the data is disaggregated, 'ordinary statistical tests treat all these disaggregated data values as independent information from the much larger sample of sub-units', when the proper sample size is the number of countries (Hox 2008:3). If one uses OLS regression on structured data, the assumption of independent observations is probably violated, and this can result in estimates of standard errors that too small. This means that researchers will get significant results that in fact are spurious. The second problem is a conceptual one, in that it is easier to commit an ecological fallacy, which is when one makes inferences about individuals based on information about groups (Townsend et al. 2013). In order to avoid these fallacies, multilevel analyses will be conducted. This is a suitable method as the research question is about how systems affect individuals. It is characterized as a multilevel question as it concerns the relationship between variables that are measured at different hierarchical levels. Multilevel models are appropriate for the investigation of the effects of country-level characteristics on outcomes at the individual level.

Observed data of both individuals and countries entails that this data can be conceptualized as being hierarchically structured. Individuals and countries are defined at separate levels of this hierarchical system, where individuals (level 1) are nested in countries (level 2) (Hox 2008:1). This implicates that observations within each country are not necessarily independent of each other, as it is reasonable to assume that individuals from the same country are share many of the same influences. The intraclass correlation coefficient (ICC) tells us the degree of dependency in the data. 'Class' refers to the macro units (which in this case are countries). It

[21] See www.freedomhouse.org for details.
[22] Descriptive statistics for the control variables are found in the appendix.

is termed 'correlation coefficient' because it is the same as the correlation between the values of two randomly drawn individuals in the same randomly drawn countries (Snijders & Bosker 1999:16-17). Although it is difficult to set a general threshold, the hierarchical data structure should not be ignored if the ICC is 0.05 or more (Ringdal 2013b). The ICCs for the three analyses are approximately 0.10, 0.13 and 0.30 respectively, which suggest that multilevel analysis is the right choice for these data.

3.7.1 Multilevel models

In general, multilevel regression models can be seen as an extension of ordinary least squares (OLS) regression that allows for more complex error structures, and multilevel models can be conceptualized as a hierarchical system of regression equations (Hox 2008:11). Thus, regression equations can be set up for each country to predict the dependent variable (Y) by an independent variable (X) and written as follows:

$$Y_{ij} = \beta_{0j} + \beta_{1j} X_{ij} + e_{ij}$$

In the equation above, β_{0j} is the intercept of the dependent variable in country $_j$, β_{1j} is the regression coefficient for the explanatory variable, and e_{ij} is the residual term. The subscripts $_i$ and $_j$ denote the individual level and the country level respectively. The model assumes that each country has different intercept coefficients and slope coefficients, i.e. they are random (Hox 2008:12). The variation of these can be explained by introducing explanatory variables at the country level as follows:

$$\beta_0 j = \gamma_{00} + \gamma_{01}(Z_j) + u_{0j}$$
$$\beta_1 j = \gamma_{10} + u_{1j}$$

The first equation expresses each group's average value on the dependent variable (the intercept by β_{0j} by the independent variable). In the second equation, γ_{10} refers to the overall regression coefficient between the dependent variable and the explanatory variable at the individual level. The u_{0j} and u_{1j} are the (random) residual error terms at the country level (Hox 2008:13). The regression coefficients have no subscript to indicate to which country they belong because in this model, they are not assumed to vary across countries, i.e. they are fixed.

These equations with two explanatory variables, one at the individual level and one at country level, can be combined and written as a single complex regression equation as follows:

$$Y_{ij} = \gamma_{00} + \gamma_{10}(x_{1ij}) + \gamma_{01}(z_j) + u_{1j}(x_{1ij}) + u_{oj} + e_{ij}$$

Before conducting a multilevel analysis, one must decide which parameters should be fixed, and which should be random. In the *random intercepts model*, intercepts are allowed to vary between groups. This model assumes that slopes are fixed, which means that they are the same across different contexts. In the *random slopes model*, the slopes are also allowed to vary, meaning that the regression coefficients and intercepts become group dependent (Snijders & Bosker 1999). A *mixed model* includes both random intercepts and random slopes. These choices depend on the theoretical framework and the amount of variance that exists across countries (Heck & Thomas 2000). A fixed effect is the average effect in the entire population of countries included in the analysis (Snijders 2005). As this thesis do not assume that any of the independent variables' relationship with political sophistication will differ between countries, all independent variables are modelled as fixed effects, while countries constitute the random effect, in all three multivariate analyses.

Moreover, which statistical technique one uses usually depends on the measurement levels of the dependent variables. The operationalisation of political interest is at the ordinal level, which is also true for the operationalisation of factual political knowledge. Political understanding is scale from one to ten, and it is assumed that this can safely be treated as a continuous variable. I use the same operationalization of political knowledge as Sheppard (2015) has done, and she analyses her data using multilevel linear regression analysis. Data with dependent variables at the ordinal measurement level can be analysed using a cumulative logit model (Hedeker 2008), but I choose to follow Sheppard (2015) and employ a linear multilevel model in all three analyses. This model is based on many of the same assumptions as linear OLS-regression. Residuals are assumed to follow normal distributions, be mutually independent and have a zero mean at both levels (Courgeau 2007:94,109; Snijders & Bosker 1999).

To avoid multicollinearity in multilevel models, continuous variables should be centred. The choice is between grand-mean-centring and group-centring, and should be guided by the research question. Age, effective number of parliamentary parties, and the Freedom House

variable constitute the continuous variables in the subsequent analyses, and as neither of these are expected to demonstrate relative differences within countries (Hox 2008:62), they are grand-mean-centred. The intercept is then interpreted 'as the value of the response variable at the mean value of the predictor variable' (Wu & Woolridge 2005:212-213).

Lastly, it shall be mentioned that the parameters in the analysis are estimated using maximum likelihood (ML). As opposed to restricted maximum likelihood, this method does not take into account the loss of degrees of freedom that comes from the estimation of the regression parameters. This results in a downward bias for the ML estimates. However, the choice between these two estimation methods has inessential consequences when the number of groups is large (Snijders & Bosker 1999:56). According to Snijders & Bosker (1999), the rule of thumb is that 30 is a large number of groups. In the analyses of this thesis, the number of groups varies between 35 and 41.

3.8 Missing values

As with most quantitative data, there are missing values on the variables included in the analyses of this thesis, and one must make a choice as what to do with these. In the data used for the analyses of political interest, knowledge and understanding; 17%, 25%, and 15% of respondents respectively, have missing values on one or more of the variables included in the analyses. The relatively high number of missing values for the analysis of political knowledge is due to the fact that five of the election studies in the CSES module 3 do not include the three political knowledge items the dependent variable is based on. In other words, these are missing by design.

One option is to replace missing values on a variable with some substantial value of that variable. If one were to use some imputation method on missing values, the downside is that it will underestimate standard errors, which in turn makes it easier to get significant coefficients (Soley-Bori 2013). Moreover, this should not be done with categorical variables, and all individual-level variables in the analyses of this thesis, except age, are categorical variables (Christophersen 2009). Another option is to delete missing values listwise, meaning that all observations that have missing values on one or more variables included in the analysis are excluded (Graham 2012:48). The results are then consistent, but the downside is that the

statistical power is reduced as the N is reduced, and that it can make the selection non-representative (Christophersen 2009). I have compared the sample of those who have missing values on one or more of the variables included in the analyses with those who do not have missing values, in order to check whether there are some differences in the samples socio-demographic characteristics (age, gender and education), as recommended by Williams (2015). This comparison shows that there are no significant socio-demographic differences between the sample with missing values and the sample without missing values, which indicates that the representativeness is not compromised. Thus, missing values are deleted listwise.

3.9 Methodological challenges

One of the critical problems I face under the analyses is tied to the dependent variables political interest and political knowledge. Correct usage of linear multilevel analysis entails that the dependent variable shall be continuous. An option would be to combine the categories so that one gets a binary variable that can be analysed using multilevel logistic regression (as Birch (2009) has done in her analysis of CV's impact on political knowledge), but the downside with this is that it wastes information (Sheppard 2015). Analysing ordinal variables by using linear regression is fairly common, although the homoscedasticity assumption might be violated when doing so (Snijders & Bosker 1999:230). However, I have checked the residuals, and heteroscedasticity does not seem to constitute a problem in the analyses of political interest and knowledge. When it comes to the assumption of normality of residuals, the residuals show some non-normality in all three analyses. However, Maas & Hox' study (2004:417), show that 'non-normal residuals have little or no effect on the parameter estimates', and that the ML-based standard errors for the fixed effects are accurate.

There is also a challenge tied to the small number of groups at level 2, which is always a problem when countries are units of analysis. This can restrict the possibilities for inferences as statistical analysis based on few cases are vulnerable (Ringdal 2013:184). One could merge all rounds (one through four) of the CSES surveys in order to maximize the number of countries. This would include 12 more countries: eleven voluntary voting countries and one sanctioned compulsory voting country. As this thesis is concerned with the effect of compulsory voting on political sophistication, adding these 12 countries does not yield

anything. Module 3 of the CSES is the round that includes the most countries with either sanctioned or non-sanctioned compulsory voting countries.

4 Empirical analyses

This chapter is dedicated to presenting the results from the multilevel analyses for each of the three operationalisations of the dependent variable; interest, knowledge, and understanding respectively. The point of departure for the present chapter is to which extent compulsory voting affects political sophistication, and how important the individual resource that is education is in predicting political sophistication in voluntary voting countries versus compulsory voting countries. In order to assess these relationships as fully as possible, multivariate analyses with age, gender, party identification, party system and Freedom House ranking as control variables, will be conducted for all three operationalisations of the dependent variable. This gives the opportunity to control for the above-mentioned factors that could be a source for spuriousity (cf. section 3.6) (Skog 2004:259).

4.1 Outline of analyses

Section 4.2 looks at the political interest aspect of political sophistication, section 4.3 takes on the knowledge aspect of political sophistication, and section 4.4 deals with the aspect of political sophistication that is about having an ideological understanding of political information. All sections follow the same layout. We start with looking at how countries are distributed on the dependent variable in question, which enables us to see the bivariate relationships between type of voting law and political sophistication. Then, the independent variables are added to the multilevel model in order to look at the direct effect of CV laws on political sophistication when controlling for the other factors believed to affect sophistication. Lastly, the interaction terms are added to the models in order to assess whether the effect of education is weaker in sanctioned and non-sanctioned compulsory voting countries than in voluntary voting countries.

After looking at the relationships between compulsory voting and these three different aspects of political sophistication, it will also become clear whether we see the same patterns of influence of compulsory voting for interest, understanding, and knowledge of political matters. This will be discussed at the end of this chapter.

4.2 Multivariate analysis: Political interest

The present section is dedicated to looking at the degree to which compulsory voting affect the interest aspect of sophistication and what role education has is within this relationship. Before turning to the results from the multivariate analysis, we will take a closer look at the distribution of countries on the political interest variable in order to check for any immediate patterns. Below is a table that shows the average level of political interest, which is measured as the degree of attention to the election campaign. The political interest scale ranges from one (low interest) to four (high interest). Table 4.1 also shows the standard deviation for each country. The column to the right shows the type of voting law, and VV is here an abbreviation for voluntary voting.

Table 4.1 Political interest, mean and standard deviation by country.

Countries	Mean	Std. dev.	Type of voting law
Australia	3.17	0.82	**Sanctioned CV**
USA	3.08	0.88	VV (voluntary voting)
Canada	3.03	0.81	VV
Philippines	2.92	0.91	VV
Hong Kong	2.89	0.72	VV
France	2.89	0.93	VV
Ireland	2.87	0.88	VV
Peru	2.83	0.92	**Sanctioned CV**
Japan	2.78	0.81	VV
Romania	2.75	0.88	VV
New Zealand	2.75	0.86	VV
Denmark	2.72	0.75	VV
Iceland	2.71	0.85	VV
Uruguay	2.68	0.93	**Sanctioned CV**
Norway	2.67	0.75	VV
Finland	2.67	0.80	VV
Switzerland	2.66	0.84	VV/**Sanctioned CV**
Portugal	2.61	0.98	VV
Mexico	2.57	0.82	**Non-sanctioned CV**
Sweden	2.57	0.71	VV
OVERALL AVERAGE	2.57	0.90	
Turkey	2.53	0.90	**Sanctioned CV**
Greece	2.52	0.97	**Non-sanctioned CV**
Chile	2.49	0.85	**Sanctioned CV**
South Africa	2.48	1.01	VV
Austria	2.46	0.87	VV
Spain	2.44	0.92	VV
Brazil	2.42	0.86	**Non-sanctioned CV**
Poland	2.41	0.85	VV
Estonia	2.40	0.78	VV
Germany	2.40	0.79	VV
South Korea	2.36	0.77	VV
Netherlands	2.30	0.68	VV
Croatia	2.27	0.87	VV
Slovenia	2.26	0.84	VV
Latvia	2.23	0.72	VV
Slovakia	2.19	.93	VV
Israel	2.16	1.01	VV
Thailand	2.08	.87	**Sanctioned CV**
Czech Republic	2.08	.79	VV
Belarus	1.96	.84	VV

One can see from table 4.1 that the overall average lies at 2.57 on the four-point scale that ranges from one to four. When it comes to the distribution of compulsory voting countries, we see that of the ten compulsory voting countries that are included here, half of them have an average that is above the overall average and the other half have an average that is below the overall average. Moreover, 70 % of CV countries are situated within approximately +0.11 and -0.15 scale units from the overall average. The lowest average is found in Belarus (1.96), while USA displays the highest average (3.08) among voluntary voting countries. Australia, in

which sanctions apply to non-voters, has the absolute highest average level of political interest (3.17). However, as with all other countries, one can see from the standard deviation that there is considerable variation within Australia. Moreover, table 4.1 shows that there is a similar degree of variation within countries with both high and low averages of political interest. The largest within-country variation is found in South Africa and Israel (the standard deviation is 1.01).

Overall, table 4.1 shows that there is variation both between and within countries. When it comes to the differences between sanctioned compulsory voting countries, non-sanctioned compulsory voting countries and voluntary voting countries, it is demanding to spot these from table 4.1 above. Thus, to illustrate the differences with regards to this distinction in voting laws, a bar chart that shows the mean level of political interest between types of voting laws is produced and presented below.

Figure 4.1 Bar chart of mean political interest by type of voting law

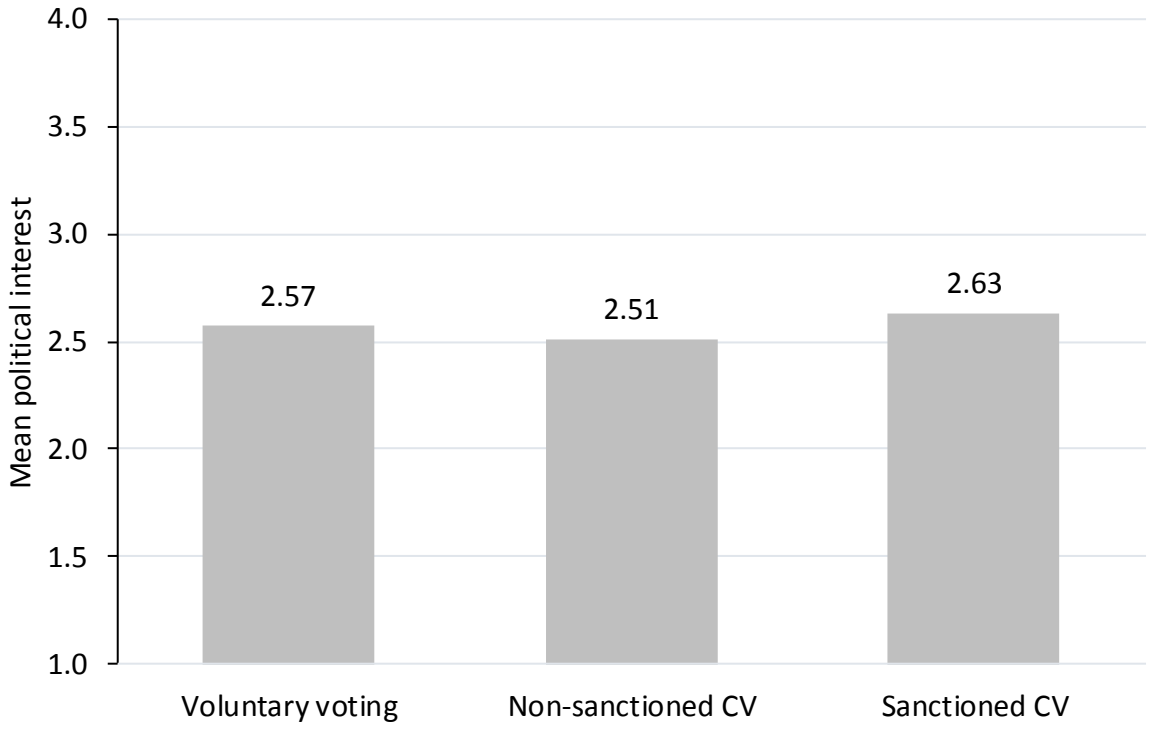


Figure 4.1 above shows that there are miniscule differences in the average political interest among individuals in voluntary voting countries, non-sanctioned CV countries, and sanctioned CV countries. Although the difference is small, the highest average level of political interest is found in sanctioned CV countries, while the lowest is found among

individuals in non-sanctioned CV countries. In order to see the effect of compulsory voting on political interest when relevant parameters are controlled for, we shall now turn our attention to the results from the multivariate analyses.

Table 4.2 below presents the results of the multivariate analyses with political interest as the dependent variable. Taiwan and Latvia are excluded from the analysis due to missing data. In the full model, the total number of respondents is thus reduced to 53,152, and the number of countries is reduced to 39. Observations within each country range from 719 to 2,324.

Model 0 is the random intercept model that allows us to check the variation between countries, and this will indicate whether a multilevel model is justified. Model 1 adds a compulsory voting dummy in order to test hypothesis 1, and thus shows the effect of CV on political interest regardless of whether it is sanctioned or not. The inclusion of the other independent variables in model 1 also allows us to see whether there is a positive effect of education on interest (cf. hypothesis 3). In model 2, dummy variables for sanctioned CV and non-sanctioned CV are added, so that one can assess whether there is any difference in the effect of these two types of CV (cf. hypothesis 2). Lastly, model 3 and 4 add the interactions between education and sanctioned CV and non-sanctioned CV respectively, in order to test hypothesis 4. Table 4.2 presents the coefficients with standard errors in parentheses for all models. All three analyses will follow this layout in presenting the results.

Table 4.2 Parameter estimates for multilevel models on political interest (range from 1=min to 4=max).

Model	0	1	2	3	4
Constant	2.570***(0.046)	2.216***(0.043)	2.217***(0.044)	2.220***(0.044)	2.217***(0.044)
Macro level					
CV (both types)		0.090*(0.049)			
Sanctioned CV			0.036 (0.062)	0.017 (0.062)	0.036 (0.062)
Non-sanctioned CV			0.176**(0.078)	0.177**(0.078)	0.179**(0.078)
Effective no. of parliamentary parties (centred)		-0.017 (0.023)	-0.021 (0.024)	-0.021 (0.024)	-0.021 (0.024)
Freedom House (centred)		0.042 (0.034)	0.041 (0.035)	0.041 (0.034)	0.041 (0.035)
Individual level					
Education		0.232***(0.009)	0.232***(0.009)	0.216***(0.009)	0.234***(0.009)
Age (centred)		0.005***(0.000)	0.005***(0.000)	0.005***(0.000)	0.005***(0.000)
Gender (male)		0.161***(0.007)	0.161***(0.007)	0.161***(0.007)	0.161***(0.007)
Party identification		0.435***(0.008)	0.435***(0.008)	0.435***(0.008)	0.435***(0.008)
Cross-level interaction					
Education X sanctioned CV				0.119***(0.025)	
Education X non-sanctioned CV					-0.021 (0.032)
Variance					
Residual (level 1)	0.722	0.655	0.655	0.655	0.655
R2 (level 1)		0.093	0.093	0.094	0.093
Constant (level 2)	0.081	0.065	0.067	0.067	0.067
R2 (level 2)		0.203	0.173	0.178	0.174
-2LL	-133774	-128575	-128573	-128551	-128573
Reduction		5199***	5201***	22***	0
N	53,152	53,152	53,152	53,152	53,152

*** Significant at 1%-level, ** Significant at 5%-level, *Significant at 10 %-level. ML estimation. Missing values are excluded listwise.

In the random intercept model in table 4.2 (model 0), the intraclass correlation coefficient (ICC) is 0.101[23], which entails that approximately 10% of the variance in political interest is attributed to countries. The conclusion must be that one should be confident that a multilevel model is the right choice for these data, as one should generally not ignore the hierarchical structure of the data when the ICC is over 0.05 (Ringdal 2013).

[23] ICC = 0.081/(0.722+0.081)=0,101

4.2.1 Does compulsory voting influence political interest?

Firstly, one can read from model 1 that compulsory voting laws in general have a positive effect on political interest, and this effect is significant at the 10 %-level (p=0.07). Significance at the 10 %-level is reported because of the relatively small number of countries with compulsory voting laws (ten in total). However, one should be cautious with drawing conclusions based on results at this level of statistical significance. This means that the analysis demonstrates partial support for hypothesis 1 regarding the interest aspect of political sophistication.

When looking at the parameter estimates and the standard errors for the two different types of compulsory voting in model 2 in table 4.2, one can read that the effect of sanctioned CV is positive, but far from reaching statistical significance (p=0.56). This means that there is no statistically significant difference between the strength of political interest for individuals in sanctioned compulsory voting systems compared to the political interest of individuals in voluntary voting countries. More people vote when non-voting is sanctioned (Singh 2011; Birch 2009), and the theoretical expectation was therefore that one could assume that more people have reason to follow the election campaign, and ultimately do so. However, the analysis does not support this argument.

The coefficient for non-sanctioned compulsory voting, however, reads approximately 0.18 and is statistically significant at the 5 %-level. This means that when all other parameters are equal, this analysis shows that one can expect an increase of 0.18 scale units in political interest when voting is compulsory, but non-sanctioned. We saw in model 1 that there was a positive and statistically significant effect of compulsory voting laws as a whole, and we see from model 2 that it is the institution of non-sanctioned compulsory voting that drives this effect.

Concerning the bivariate relationship between compulsory voting and political interest, we saw in figure 4.1 that among the three types of voting laws, sanctioned CV had the highest average level of political interest. When controlling for other factors at the individual level and country level, the relationship changes; non-sanctioned CV has a stronger effect on political interest than sanctioned CV.

The fact that non-sanctioned compulsory voting has a statistically significant positive effect on political interest, but that sanctioned compulsory voting does not, is a particularly interesting finding. If these results can be argued to be valid for all compulsory voting countries, what can be the reason for this difference in political interest between sanctioned and non-sanctioned CV? Perhaps the absence of sanctions might remove the public's feeling of being forced to vote, which in turn may result in a more positive view of the value of voting and voting informed. To put it in other words, sanctioning non-voting can create disgust with all things political, as suggested by Abraham (1955:8), which perhaps is not so prominent when non-voting is not sanctioned.

In relation to which degree one can generalize on the basis of these results, it should be noted that the non-sanctioned CV category only consists of three countries; Brazil, Greece, and Mexico. Intuitively, these three non-sanctioned compulsory voting countries seem very different. At least Greece is geographically and culturally very distant from Brazil and Mexico. But, one must consider the possibility that these three countries might have some common factors *other* than the presence of non-sanctioned compulsory voting that have contributed to the positive result in this analysis. One possible explanation for these countries' greater political interest may also lie in the characteristics of the elections that data are based on. It may be that all three elections have resulted in an increased attention by the public because of some special importance of these elections. Factors to consider in relation to external validity will be discussed more in detail in chapter 5.

Furthermore, one should note that model 1 and 2 in table 4.2 show that all socio-demographic variables have a positive and significant effect on political sophistication, which is in line with the findings of previous studies (c.f. Sheppard 2015; Gordon & Segura 1997; Barabas et al. 2014). Party identification has the strongest effect; those who identify themselves with a party are on average approximately 0.44 scale units higher on the political interest scale than those who state that they do not identify with a party. Moreover, we see that age has a small positive effect on political interest. And - as expected - education has a positive effect on political interest. The political interest of those with higher education is on average 0.23 scale units higher than the political interest of lower educated individuals. This supports hypothesis 3. Being older, male, having higher education, and identifying oneself with a party all correspond with having a stronger political interest.

When looking at the country-level controls in model 1 in table 4.2, the parameter estimate for the effective number of parliamentary parties tells us that a higher number of parliamentary parties is associated with individuals being, on average, less politically interested. However, this negative effect is far from reaching statistical significance (p=0.47). Neither the positive effect of a country having a higher score on the Freedom House ranking (i.e. being more democratic) reaches statistical significance (p=0.22).

The residual variance parameters for level 2 show that the between-country variance is reduced from 0.081 in model 0 to 0.065 in model 1. The proportional reduction in residual variance at each level is by Bryk & Raudenbush (1992:90,114) proposed as an analogue measure to the R^2 that is commonly used in ordinary regression models. The R^2 for each level is calculated by dividing the reduction in the variance components into the unexplained variance from the random intercept model (model 0). The R^2 displayed in table 4.2 shows that the independent variables reduce the unexplained variance that is attributed to countries with approximately 20 %. When separating between sanctioned and non-sanctioned CV, the variance parameters in table 4.2 show that the between-country variation increases slightly, and this model explains approximately 17 % of the variation in political interest between countries. When it comes to the within-country variance, the R^2 shows that the inclusion of the independent variables has reduced the unexplained variance with approximately 9 %.

Table 4.2 also reports the -2 log likelihood (-2LL) value of each model, which is also called the *deviance*, and the reduction in this value. Model 1 and 2 are compared with model 0, and model 3 and 4 are compared with model 2. The reduction, also called the deviance difference, has a chi-squared distribution with degrees of freedom equal to the difference of the number of parameters in the two models that are compared, and can be used to check whether the model fits the data (Bickel 2007:94; Snijders & Bosker 1999:89). We see from table 4.2 that model 1 and 2 constitute statistically significant improvements from model 0, which entails that these models fit the data well.

4.2.2 Is the effect of education on interest dependent on CV?

In model 3 and 4 in table 4, the interaction terms are added in order to investigate whether the effect of education is dependent on the existence of compulsory voting laws. As this means

that we are looking at whether an individual-level variable is dependent on a country-level variable, it is called a cross-level interaction (Snijders & Bosker 1999:74). The hypothesis with regards to education's dependency on compulsory voting is that the effect of education will be weaker for individuals in compulsory voting countries (H4). If this is the case, we expect to see negative coefficients for the interaction terms.

One can read from the results, which are presented in model 3 and 4 in table 4.2, that the parameter estimates for education are approximately 0.22 and 0.23 respectively. These parameter estimates are not unconditional; they tell us the average effect of having higher education for those with the value zero on the other variable included in the interaction term. This means that there is a difference of 0.22 scale units in political interest between those with higher and lower education for those living in a voluntary voting country or non-sanctioned compulsory voting country. Moreover, in model 4 the parameter estimate for education shows that the average effect of higher education is 0.23 scale units for individuals in voluntary voting countries and sanctioned compulsory voting countries.

When turning to the point of interest in model 3 and 4 in table 4.2, one can read that the parameter estimate for the interaction between education and sanctioned compulsory voting is approximately 0.12 and statistically significant at the 1%-level. That the coefficient is positive means that the effect of education is actually *stronger* for individuals in sanctioned compulsory voting countries; the average effect of higher education amounts to approximately 0.34 scale units (0.22 + 0.12). Figure 4.2 below depicts the difference in education's effect on political interest between sanctioned CV countries and all other countries.

Figure 4.2 The effect of education on interest in sanctioned CV and all others.

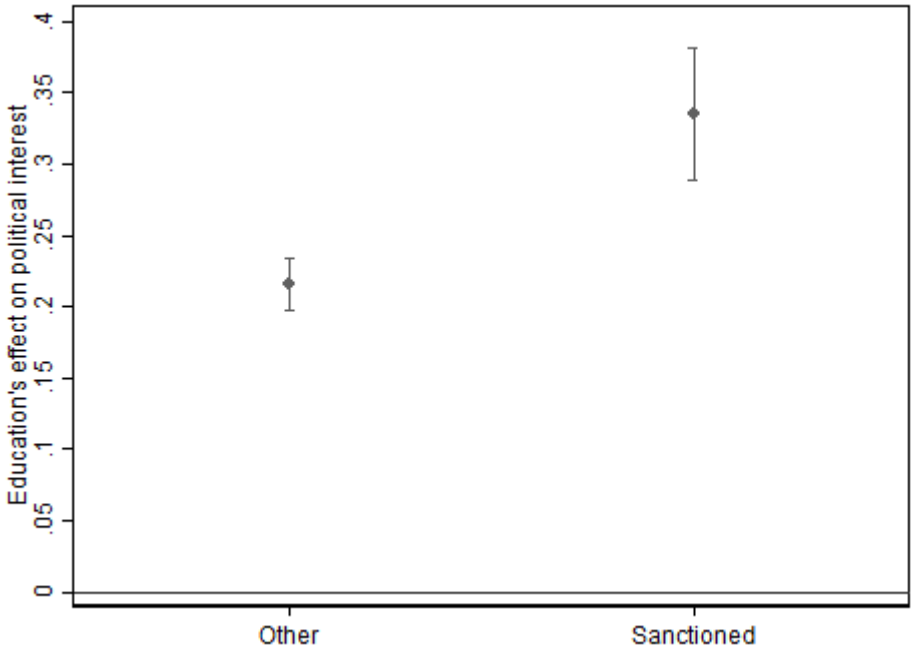


Figure 4.2 above shows the effect of education on political interest (y-axis) for sanctioned CV countries and all other countries (x-axis). The estimates are shown with 95 % confidence intervals. This figure visualizes the relatively big difference between the effect of education for individuals in sanctioned CV countries and individuals in other countries. The larger confidence interval for sanctioned CV countries is due to the relatively small sample. The confidence intervals in figure 4.2 show that there is a 95 % chance that the effect of education for individuals in sanctioned compulsory voting countries lies within the range of approximately 0.29 and 0.38, while there is a 95 % chance that the effect of education for all other countries lies within the range of approximately 0.20 and 0.23. That these confidence intervals do not overlap strengthens the certainty of there being a stronger effect of education in sanctioned CV countries than all others.

This enhanced effect of education for individuals in sanctioned CV countries is striking, and contrary to the expectation that compulsory voting will offset the resource bias in political sophistication. At least regarding the interest aspect of political sophistication, this analysis indicates that political interest seems to be more concentrated among those with higher education in sanctioned compulsory voting countries than in other countries. In other words, this suggests that those with higher education are more affected by the institution of sanctioned mandatory voting than those with lower education.

When turning to the parameter estimate for the interaction between education and non-sanctioned compulsory voting, model 4 in table 4.2 shows that this is – 0.02. This means that the effect of education is slightly weaker in non-sanctioned compulsory voting countries compared to all others, as depicted in figure 4.3 below.

Figure 4.3 The effect of education on interest in non-sanctioned CV and all others.

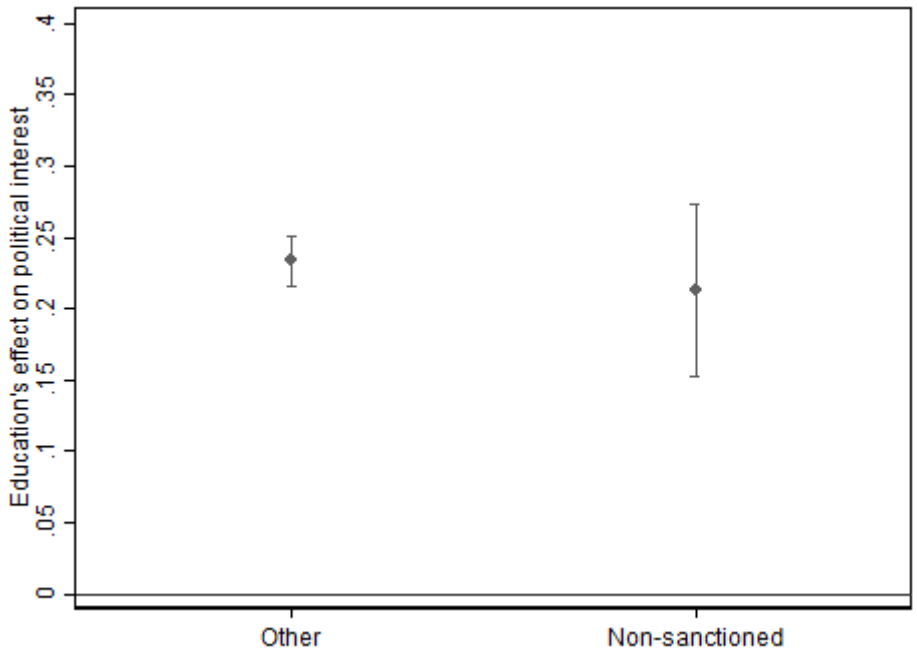


Figure 4.3 above shows the estimated effect of education on political interest (y-axis) for non-sanctioned CV countries and all others (x-axis), with 95 % confidence intervals. The figure above shows that the confidence interval for the estimated effect of education in non-sanctioned CV countries covers the whole confidence interval for the effect of education in all other countries. This is not surprising as we see in model 4 in table 4.2 that the negative interaction of education and non-sanctioned CV countries does not reach statistical significance (p=0.52). In other words, this tells us that there is no statistically significant difference in the effect of education between individuals in non-sanctioned compulsory voting compared to all others.

Lastly one shall note that the reduction in the deviance value from model 2 to model 3 corresponds with a statistically significant improvement. The reduction from model 2 to model 4 does not reach statistical significance, which tells us that model 4 is not an

improvement from model 2. However, as we have seen, including the interaction term between education and non-sanctioned CV did not yield a statistically significant interaction.

4.2.3 Summary

What is the overall impression as to which degree and how compulsory voting influences the interest aspect of political sophistication?

The results from the analysis suggest that compulsory voting corresponds with a stronger political interest. This yields support for hypothesis 1 regarding the interest aspect of political sophistication. However, as we have seen this effect is confined to non-sanctioned compulsory voting systems. The effect of sanctioned compulsory voting does not reach statistical significance. The positive and statistically significant effect of non-sanctioned compulsory voting gives support to hypothesis 2b. It remains to be seen whether we can observe the same difference between sanctioned and non-sanctioned compulsory voting on the two other aspects of political sophistication.

Hypothesis 3 is also supported as the analysis shows that education has a relatively strong and positive effect on political interest. However, despite expectations, compulsory voting does not offset the effect of education on political interest. On the contrary, the effect of education is actually stronger in sanctioned compulsory voting countries. Regarding the interest aspect of political sophistication, hypothesis 4 is not supported.

4.3 Multivariate analysis: Political knowledge

This section will deal with the knowledge aspect of political sophistication, which is about having factual knowledge of political matters. Political knowledge is operationalised as the share of correct answers to the three political knowledge questions asked in the CSES module 3 survey, which means that the variable range from zero (low knowledge) to three (high knowledge). In this analysis, Chile, Turkey and Uruguay, all sanctioned CV countries, are excluded due to lack of data on the political knowledge variable. Belarus and Slovenia are also excluded due to lack of data. As a starting point, we will look at the variation in political knowledge between and within countries, which is presented in table 4.3 below.

Table 4.3 Political knowledge, mean and standard deviation by country.

Country	Mean	Std. Dev.	Type of voting law
South Korea	2.38	0.73	VV (voluntary voting)
Poland	2.16	0.96	VV
Portugal	2.10	0.90	VV
Mexico	2.00	1.03	**Non-sanctioned CV**
France	1.98	0.86	VV
Finland	1.95	0.79	VV
New Zealand	1.91	0.79	VV
Romania	1.89	0.86	VV
Philippines	1.87	0.82	VV
Norway	1.86	0.99	VV
Iceland	1.84	0.92	VV
Austria	1.80	1.02	VV
Estonia	1.79	0.96	VV
Croatia	1.73	1.00	VV
Latvia	1.68	0.71	VV
Switzerland	1.68	0.99	VV/**Sanctioned CV**
Israel	1.68	0.97	VV
Australia	1.65	0.85	**Sanctioned CV**
Spain	1.63	0.83	VV
Slovakia	1.60	1.07	VV
OVERALL AVERAGE	1.59	1.00	
Germany	1.58	0.98	VV
Ireland	1.57	0.85	VV
Greece	1.56	1.11	**Non-sanctioned CV**
Taiwan	1.55	1.09	VV
Sweden	1.52	0.86	VV
Canada	1.44	0.90	VV
Brazil	1.43	0.74	**Non-sanctioned CV**
Czech Republic	1.40	0.81	VV
Hong Kong	1.33	0.95	VV
Denmark	1.30	0.97	VV
USA	1.22	0.98	VV
Peru	1.21	1.12	**Sanctioned CV**
South Africa	1.20	1.03	VV
Japan	1.04	0.87	VV
Netherlands	0.95	1.00	VV
Thailand	0.52	1.01	**Sanctioned CV**

Table 4.3 shows that there is variation between countries; the highest average lies at 2.38 at the four-point scale (South Korea) while the lowest average is at 0.52 (Thailand), which is a sanctioned compulsory voting country. Of all compulsory voting countries, Mexico scores the highest with an average of 2.00 on the political knowledge scale. In addition to there being variations between countries, one can note that there is also considerable variation *within* countries. This goes for countries with both high and low mean values of political knowledge, although the variations are somewhat greater in those countries with averages below the overall average, which is at 1.59 on the four-point scale.

Compulsory voting countries are found at both the lower and higher end of the political knowledge scale. In order to get a clearer image of the differences between voluntary voting countries, non-sanctioned CV countries, and sanctioned CV countries, the overall mean political knowledge in these three groups respectively is visualized in figure 4.4 below.

Figure 4.4 Bar chart of mean political knowledge by type of voting law

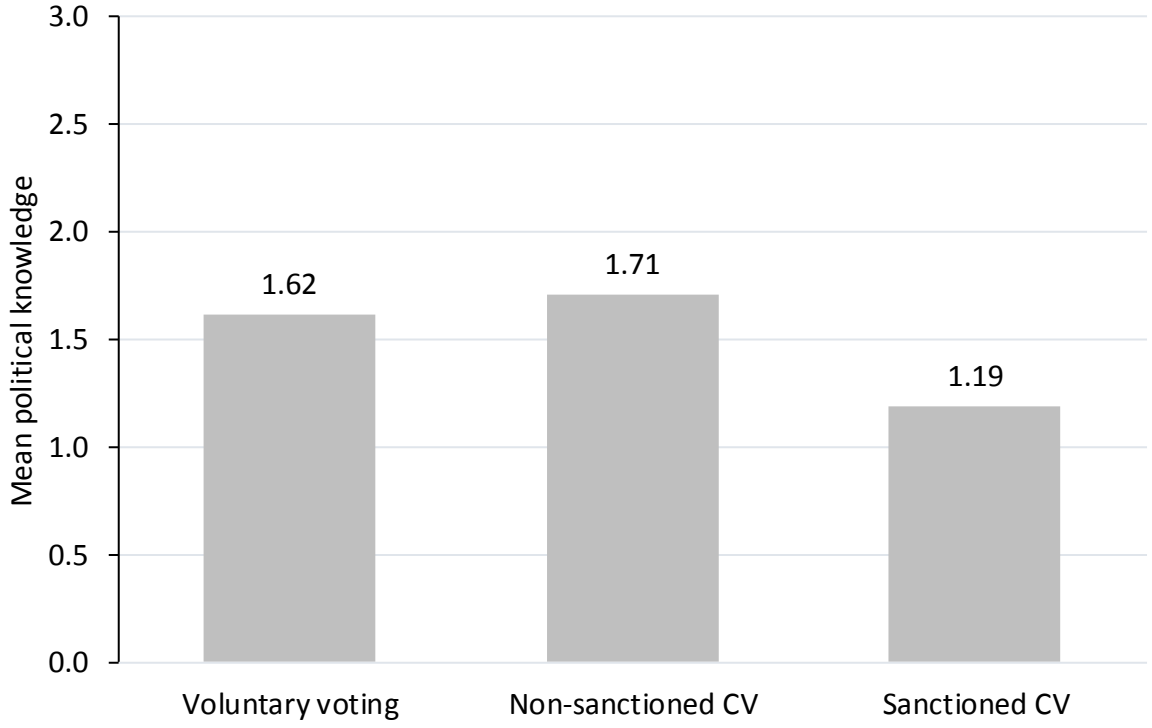


Figure 4.4 above shows that the average level of political knowledge is highest in non-sanctioned CV countries, as it lies at 1.71 on the four-point scale, compared to 1.62 in voluntary voting countries and 1.19 in sanctioned CV countries. This comes as no surprise as there are only three non-sanctioned CV countries, and Mexico ranks number four of all countries. There is a bigger difference in the mean political knowledge levels among individuals in these three groups of countries compared to the difference in political interest. Individuals in sanctioned CV countries displayed the highest average levels of political interest, but have the lowest average levels of political knowledge. The difference between sanctioned CV and non-sanctioned CV is approximately half a scale unit on the political knowledge scale.

We will now turn away from the bivariate relationship between voting laws and political knowledge, and turn our attention to the results from the multivariate analyses. Table 4.4

below shows the results from the multivariate analysis of political knowledge, where parameter estimates are presented with standard errors in parentheses. The presentation of the results in table 4.4 follows the same outline as the previous analysis of political interest: model 0 is the random intercept model. In model 1, all the independent variables are added, although only one dummy variable for compulsory voting (i.e. it does not separate between the two types of compulsory voting). Model 2 adds a dummy variable for sanctioned CV and non-sanctioned CV respectively, while in model 3 and 4 the interaction terms between education and the two types of compulsory voting are added.

In the full model, the number of respondents is reduced to 48,230, and the number of countries is reduced to 35 (as Latvia is also excluded from this analysis due to lack of data). The number of observations per country ranges from 708 to 3,106. The exclusion of Chile, Turkey, and Uruguay due to lack of data entails that the number of sanctioned compulsory voting countries is reduced from seven to four. The non-sanctioned CV category includes three countries; Brazil, Greece, and Mexico.

Table 4.4 Parameter estimates for multilevel models on political knowledge (range from 0=min to 3=max).

Model	0	1	2	3	4
Constant	1.621***(0.062)	1.263***(0.058)	1.259***(0.057)	1.260***(0.060)	1.203***(0.059)
Macro level					
CV (both types)		0.127**(0.057)			
Sanctioned CV			0.046 (0.072)	0.026 (0.072)	0.047 (0.072)
Non-sanctioned CV			0.248***(0.089)	0.249***(0.089)	0.233**(0.089)
Effective no. of parliamentary parties (centred)		-0.018 (0.032)	-0.025 (0.031)	-0.024 (0.031)	-0.024 (0.031)
Freedom House (centred)		0.149**(0.060)	0.143**(0.059)	0.144**(0.059)	0.143**(0.059)
Individual level					
Education		0.453***(0.010)	0.453***(0.010)	0.440***(0.011)	0.444***(0.011)
Age (centred)		0.002***(0.000)	0.002***(0.000)	0.002***(0.000)	0.002***(0.000)
Gender (male)		0.281***(0.008)	0.281***(0.008)	0.281***(0.008)	0.281***(0.008)
Party identification		0.198***(0.009)	0.198***(0.009)	0.199***(0.009)	0.199***(0.009)
Cross-level interaction					
Education X sanctioned CV				0.135***(0.035)	
Education X non-sanctioned CV					0.106***(0.036)
Variance					
Residual (level 1)	0.882	0.816	0.816	0.815	0.815
R^2 (level 1)		0.075	0.075	0.075	0.075
Constant (level 2)	0.135	0.112	0.107	0.108	0.108
R^2 (level 2)		0.170	0.206	0.200	0.201
-2LL	-130979	-127221	-127217	-127202	-127209
Reduction		3758***	3762***	15***	8***
N	48,230	48,230	48,230	48,230	48,230

*** Significant at 1%-level, ** Significant at 5%-level, *Significant at 10 %-level. ML estimation. Missing values are excluded listwise.

The intraclass correlation coefficient in the random intercept model is 0.13[24], which entails that 13 % of the variance is attributed to countries, and that multilevel analysis is suitable for the data. The constant parameter in model 0 in table 4.4 above shows that the average political knowledge level is at 1.62 on the four-point scale that ranges from zero to three, before the independent variables are added, but when the number of observations is the same as in the full model.

[24] ICC = 0.135/(0.882+0.135)=0.133

4.3.1 Does compulsory voting influence political knowledge?

Model 1 and 2 in table 4.4 show the results that test hypothesis 1 and 2 with regards to the knowledge aspect of political sophistication. The parameter estimate for compulsory voting as a whole in model 1 shows that individuals in these countries are more political knowledgeable than those in voluntary voting countries, and this positive effect is statistically significant at the 5%-level. The difference in political knowledge between those individuals subject to compulsory voting laws compared to those individuals living in a voluntary voting country is approximately 0.13 scale units on the four-point political knowledge scale, when controlling for both individual-level and country-level factors.

When looking at the parameter estimates for the two types of CV laws in model 2, the results show that non-sanctioned compulsory voting has a positive effect on political knowledge. On average, individuals in non-sanctioned compulsory voting countries are approximately a quarter of a scale unit higher on the four-point political knowledge scale than individuals in other countries. This effect reaches the 1% significance level. When it comes to sanctioned compulsory voting, its effect on political knowledge is positive, but does not reach statistical significance (p=0.52). This echoes the results from the analysis of political interest, and shows again that it is non-sanctioned compulsory voting that drives the positive effect of the compulsory voting variable in model 1.

We saw from the examination of the bivariate relationship between voting laws and political knowledge in figure 4.4 that non-sanctioned CV had the highest average levels of political knowledge. This was not changed by controlling for socio-demographic factors in addition to party system and the Freedom House ranking at the macro level.

According to Birch (2009:36), there are 13 non-sanctioned compulsory voting countries and 14 sanctioned compulsory voting countries in the world today. The group of sanctioned CV countries in this analysis consists of Australia, Peru, Thailand, and the canton of Schaffhausen in Switzerland, while Brazil, Greece, and Mexico make up the group of non-sanctioned compulsory voting countries. Although they represent different continents of the world, a reoccurring question is whether the tree non-sanctioned compulsory voting countries and the four sanctioned compulsory voting countries are representative of the universe of compulsory voting countries. The analyses of political interest and knowledge at least suggest that it is

possible that the institution of *non-sanctioned* compulsory voting creates greater opportunities to become politically interested and knowledgeable than the institution of sanctioned compulsory voting.

One should also note from model 1 and 2 in table 4.4 that the effects of the individual level variables on political knowledge are all positive and statistically significant, and that the results are similar to the results from the analysis of political interest. Age is measured in years, and the parameter estimate shows that age has a positive, but very weak, effect on political knowledge. Males are on average 0.28 scale units higher on the political knowledge scale than women are. The effect of party identification is also positive, although not as strong as its effect on political interest: the difference between those who identify themselves with a party and those who do not is approximately 0.20 scale units on the political knowledge scale compared to approximately 0.44 on the political interest scale.

The variable that has the strongest effect on political knowledge is education. The difference in political knowledge between those with higher and lower education is as much as 0.45 scale units on average. This result is as expected, and yields support for hypothesis 3.

The two country-level control variables, the effective number of parliamentary parties and the Freedom House ranking, show that party system measured as the effective number of parliamentary parties has no statistically significant effect on political knowledge, but that there is a positive and statistically significant relationship between degree of democracy measured by the Freedom House ranking and political knowledge.

Lastly, one shall note that the reductions in the deviance value that are presented in table 4.4 for model 1 and 2 constitute statistically significant model improvements from model 0. The R^2 shown for both levels in table 4.4 reveals how much of the variance in political knowledge the inclusion of the independent variables explains. The unexplained between-country variance is reduced with approximately 17 % (from 0.135 to 0.112) after accounting for the all the independent variables in model 1. In model 2, the unexplained between-country variance is reduced with approximately 20 % compared to model 0 (from 0.135 to 0.107). This means that separating between the two types of CV yields a model that explains more than model 1. The within-country variation is reduced with approximately 7.5 % by the inclusion of the independent variables (from 0.882 in model 0 to 0.816 in model 1 and 2).

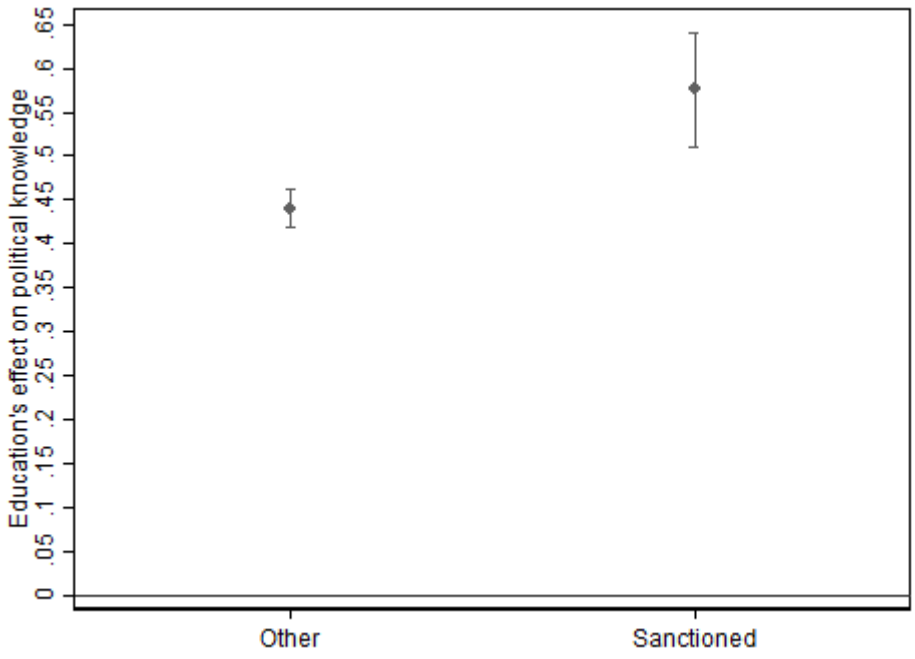
This is similar to the analysis of political interest.

4.3.2 Is the effect of education on knowledge dependent on CV?

To test hypothesis 4, namely that the effect of education on political knowledge is weaker in compulsory voting countries than in voluntary voting countries, interaction terms are included in model 3 and model 4 in table 4.4. In these two models, the main effect of education is still strong, positive and statistically significant; it amounts to approximately 0.44 scale units in both model 3 and model 4. As we know, these parameter estimates show the effect of education for those with the value zero on the other variable included in the interaction terms. This means that they show the average effect of education for individuals in voluntary voting countries and non-sanctioned CV countries in model 3, and for those in voluntary voting countries and sanctioned CV countries in model 4.

When turning to the parameter estimates for the interaction terms in model 3 and 4, one can see that the interactions between both education and sanctioned CV, and education and non-sanctioned CV, are positive and statistically significant. Figure 4.5 below illustrates the difference between the effect of education for sanctioned CV and other countries.

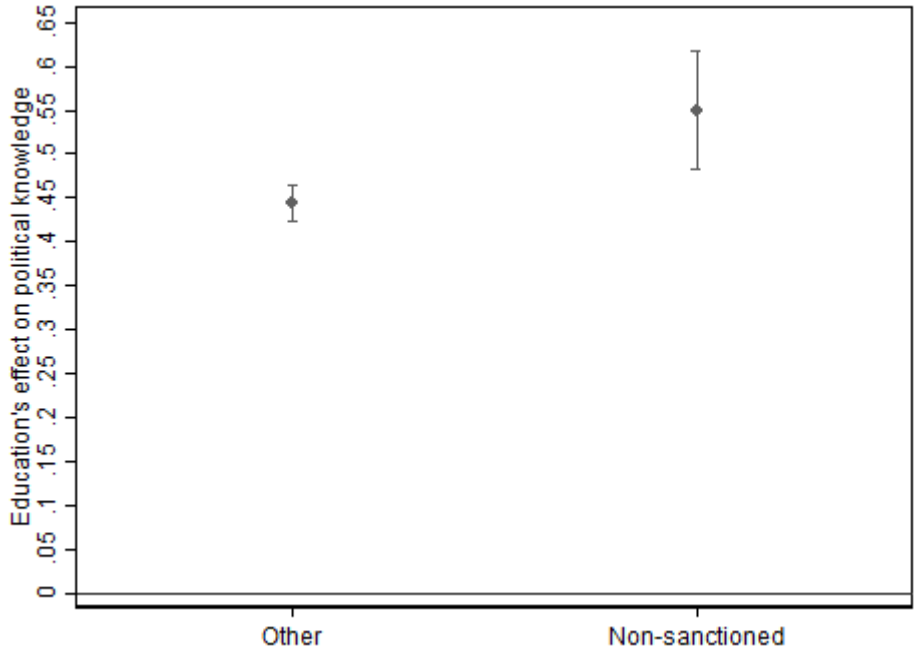
Figure 4.5 The effect of education on knowledge for sanctioned CV and all others.



The dots in figure 4.5 above show the estimated effect of education for sanctioned CV countries and all other countries, and the line represents the 95 % confidence intervals for these estimates. The parameter estimate for education's interaction with sanctioned CV tells us that there is a difference of approximately 0.14 scale units in the effect of education on political knowledge between individuals in sanctioned CV countries and individuals in other countries. When adding the interaction effect to the main effect of education, the result of having higher education amounts to an increase of approximately 0.58 scale units on the political knowledge scale for individuals in sanctioned CV countries, while the effect of education for individuals in all other countries amounts to an increase of 0.44 scale units, as shown in figure 4.5 above. The fact that the confidence intervals for the two estimates do not overlap (they range from 0.51 to 0.64 for sanctioned CV countries and from 0.42 to 0.46 for other countries), strengthens the certainty of a difference in the effect of education between these two groups.

Now we will turn to the effect of education in non-sanctioned mandatory voting countries. Figure 4.6 below illustrates the estimated effect of education (y-axis) with 95 % confidence intervals for non-sanctioned CV and all others (x-axis).

Figure 4.6 The effect of education on knowledge for non-sanctioned CV and all others.



We saw in table 4.4 that the parameter estimate for the interaction between non-sanctioned CV and education is also positive, but somewhat weaker than for sanctioned CV; the coefficient reads approximately 0.11. When adding this effect to the main effect of education, it amounts to 0.55 scale units. The confidence interval for non-sanctioned CV countries shows a greater uncertainty of the estimated effect of education compared to the estimated effect of education in other countries that is due to the small sample of non-sanctioned CV countries. The confidence intervals do not overlap, but they come close to each other on the y-axis; the confidence interval for the estimated effect of education in non-sanctioned CV countries ranges from approximately 0.48 to 0.62, while the confidence interval for all other countries ranges from 0.42 to 0.46. This entails that there is a chance that the difference in the effect of education on political knowledge is close to zero.

Figure 4.5 and 4.6 display an effect of education for individuals in compulsory voting countries that contradicts expectations. They tell us that political knowledge is not more equally distributed among educational groups in CV countries; the effect of education on political knowledge is actually stronger for individuals in compulsory voting countries than in voluntary voting countries. Moreover, it differs somewhat from the results from the analysis of political interest, where education had a slightly weaker, although not statistically significant, effect.

Lastly, a quick note on the variance parameters and the model fits are necessary. The reductions in the deviance value from model 2 to model 3 and 4 that are reported in table 4.4 correspond with statistically significant improvements, and tell us that the models fit the data well. The variance parameters stay very close to what they were in model 2, which is not that strange, knowing that no new variables are added to these models.

4.3.3 Summary

What have we learned from this analysis of political knowledge? As with the interest aspect of sophistication, support is given to hypothesis 1 and hypothesis 2b. Hypothesis 3 is also supported as the analysis demonstrates a rather strong and positive effect of education on political knowledge. When it comes to education's dependency on CV, the analysis shows that the presence of compulsory voting laws *strengthens* the already strong effect that education

has on the aspect of political sophistication that is factual knowledge. This is true for both sanctioned and non-sanctioned compulsory voting countries, although the interaction effect is stronger for sanctioned CV countries. Again, no support is given to hypothesis 4.

With regards to the findings of previous studies, the lack of effect of sanctioned compulsory voting echoes what Birch (2009:67) finds; namely that there is no statistically significant effect. Sheppard (2015:304), however, finds that sanctioned compulsory voting systems have a positive effect on individual political knowledge. Moreover, the unexpected interaction effect between education and compulsory voting also differs from the results of Sheppard's (2015:305) study, which found that moderately and strongly enforced compulsory voting reduces the strong and positive effect of education on political knowledge. It is of course possible that these diverging findings are due to different classifications of compulsory voting laws and a different sample of CV countries. In Sheppard's (2015) study, Brazil, Chile, Italy and Thailand are defined as moderately enforced compulsory voting countries, while Australia, Uruguay, Belgium, Switzerland and Peru are classified as strongly enforced compulsory voting countries.

4.4 Multivariate analysis: Political understanding

This section will investigate CV's effect on political understanding, and what role education plays in this relationship. As elaborated in chapter 2, the aspect of political sophistication that is having an understanding of politics is about being able to put information into an ideological context. It is operationalized as the degree to which the respondents can accurately place the three biggest parties in their respective countries along the left-right continuum. We will again start with looking at the variation in the dependent variable among and within countries. Table 4.5 below shows the average level of political understanding on the eleven-point scale that ranges from zero (low understanding) to ten (high understanding), and the standard deviation, for each country.

Table 4.5 Political understanding, mean and standard deviation by country.

Country	Mean	Std. dev	Type of voting law
Denmark	8.38	1.41	VV (voluntary voting)
France	8.32	1.13	VV
Sweden	8.30	1.66	VV
Germany	8.25	1.37	VV
Norway	8.24	1.42	VV
Canada	8.18	1.04	VV
Chile	8.13	1.99	**Sanctioned CV**
Switzerland	8.12	1.40	VV/**Sanctioned CV**
Greece	8.12	1.41	**Non-sanctioned CV**
Finland	8.04	1.18	VV
Turkey	8.04	1.37	**Sanctioned CV**
Iceland	8.03	1.95	VV
Portugal	8.01	1.31	VV
Australia	7.81	1.45	**Sanctioned CV**
Spain	7.74	1.61	VV
Czech Rep	7.66	2.24	VV
Uruguay	7.66	1.50	**Sanctioned CV**
Japan	7.51	1.95	VV
Poland	7.51	1.74	VV
Slovakia	7.50	1.61	VV
Netherlands	7.50	1.43	VV
Israel	7.50	1.69	VV
Croatia	7.43	1.87	VV
Latvia	7.43	1.81	VV
Austria	7.34	2.17	VV
South Korea	7.33	1.89	VV
Thailand	7.26	2.03	**Sanctioned CV**
OVERALL MEAN	7.25		
Ireland	7.19	2.16	VV
Slovenia	6.95	2.43	VV
New Zealand	6.94	2.34	VV
Hong Kong	6.67	1.95	VV
South Africa	6.54	1.60	VV
Mexico	6.37	1.78	**Non-sanctioned CV**
Taiwan	6.28	2.08	VV
Romania	6.22	1.55	VV
USA	6.18	2.70	VV
Peru	6.18	2.17	**Sanctioned CV**
Philippines	5.81	1.99	VV
Brazil	5.63	1.70	**Non-sanctioned CV**
Estonia	4.73	1.64	VV
Belarus	2.30	2.83	VV

First of all, we see from table 4.5 that the overall average is at 7.25 on the eleven point political understanding scale. This is approximately the same as the overall average in Gordon & Segura's (1997) study. A score of ten equals the same placement as the expert placement, so it seems that the public at least have a fairly accurate understanding of the left-right continuum and where to place the political parties in their respective countries on this continuum.

The highest average (8.38) is found in Denmark, while Belarus has the lowest mean score (2.30). In other words, table 4.5 shows that there are considerable variations among countries. When it comes to the within-country variation, one can spot from the standard deviations presented in table 4.5 above that there is less variation within the countries with the highest average levels of political understanding compared to the countries with the lowest averages. In some ways, this coincides with Converse's (1964:213) belief that as one moves lower down on the political sophistication scale, the less consistency there is in 'belief systems'. Moreover, table 4.5 shows that there are mostly established western democracies at the higher end of the scale, which might be because individuals in these democracies are more familiar with the left-right continuum.

When it comes to compulsory voting countries, seven out of ten CV countries lie above the overall average, which means that compulsory voting countries generally rank a little higher on the political understanding scale than on interest and knowledge. Six out of the seven sanctioned compulsory voting countries have an average that is above the overall average. Among non-sanctioned CV countries, Greece ranks the highest with an average of 8.12. However, non-sanctioned CV countries are found at the other end of the scale as well: Brazil's average political understanding is at 5.63 on the eleven-point scale.

It is difficult to see any clear differences between sanctioned CV, non-sanctioned CV and voluntary voting countries as a whole from table 4.5. Therefore, it is useful to once again depict this difference with a bar chart that shows the average levels of political understanding for these three types of voting laws.

Figure 4.7 Bar chart of mean political understanding by type of voting law

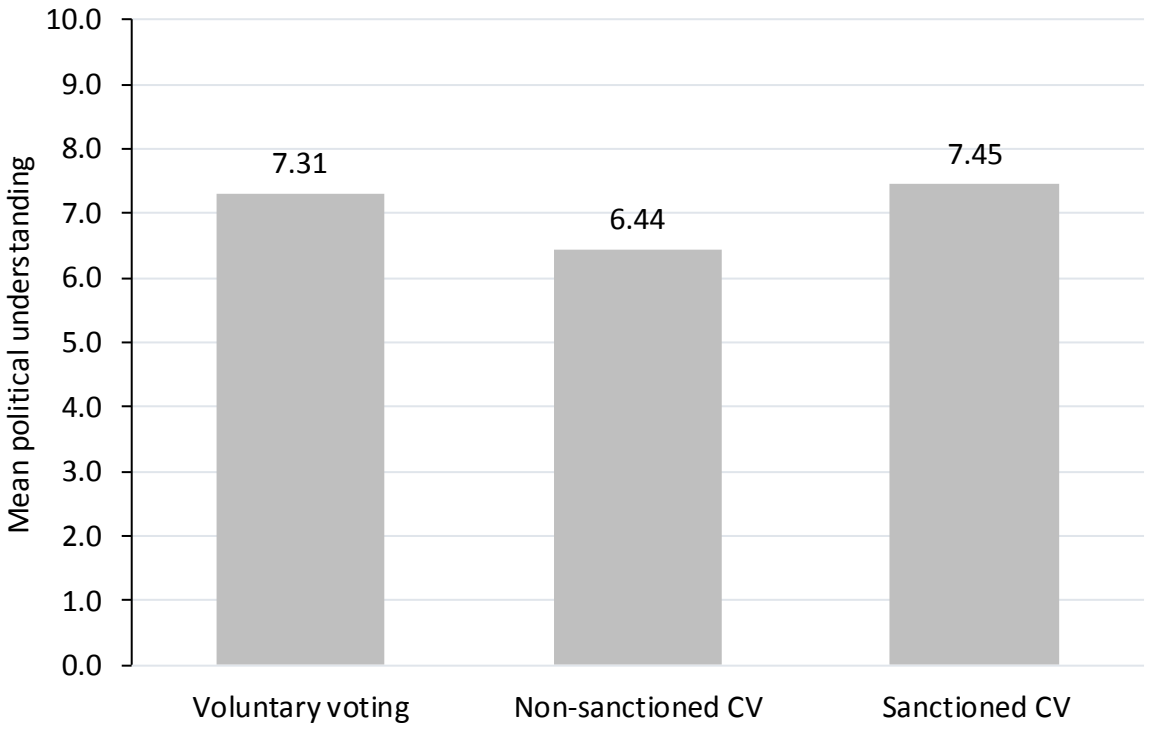


Figure 4.7 above shows that there are relatively small differences in the average levels of political understanding between individuals in voluntary voting countries and compulsory voting countries. The average level of political understanding among individuals in non-sanctioned CV countries is close to one scale unit lower than in both sanctioned CV countries and voluntary voting countries. This bar chart is similar to that of political interest, where there were generally small differences and where individuals in non-sanctioned CV countries had the lowest average. Sanctioned CV countries have the highest average, but the difference between sanctioned CV and voluntary voting is miniscule.

In order to draw a clearer picture of CV's influence on political understanding, we turn to the results from the multivariate analysis, which are presented in table 4.6 below. The dependent variable ranges from zero to ten, and the score respondents are given on this scale is based on the mean distance between the respondent's placement of the three biggest parties in his/hers country on the left-right continuum, and an expert's placement of the same parties.[25] Latvia is

[25] An analysis where political understanding was operationalized as the mean score based on the placement of the *five* biggest parties in the respondents' respective countries compared to the expert placement was also performed. However, there were only observations for four parties in the data from Australia, Hong Kong, Poland, Romania, and Turkey, so the score for individuals in these countries reflects the average distance

again excluded from the analysis due to lack of data. The number of respondents is thus reduced to 54,405, and the number of groups is reduced to 40. Observations within each country range from 715 to 2,923. The outline of table 4.6 below follows the same logic as the two previous analyses: model 0 is the random intercept model, model 1 and 2 includes all independent variables, while the interaction terms are added in model 3 and 4. Table 4.6 shows parameter estimates with standard errors in parentheses.

Table 4.6 Parameter estimates for multilevel models on understanding (range from 0=min to 10=max).

Model	0	1	2	3	4
Constant	7.217*** (0.182)	6.799***(0.139)	6.799***(0.138)	6.800***(0.138)	6.798***(0.177)
Macro level					
CV (both types)		0.246**(0.110)			
Sanctioned CV			0.280**(0.137)	0.273**(0.138)	0.280**(0.137)
Non-sanctioned CV			0.190 (0.177)	0.191 (0.177)	0.198 (0.178)
Effective no. of parliamentary parties (centred)		0.035 (0.077)	0.037 (0.077)	0.037 (0.077)	0.037 (0.077)
Freedom House (centred)		0.598***(0.115)	0.599***(0.112)	0.599***(0.112)	0.599***(0.112)
Individual level					
Education		0.666***(0.019)	0.666***(0.019)	0.660***(0.020)	0.671***(0.019)
Age (centred)		-0.001***(0.000)	-0.001***(0.000)	-0.001***(0.000)	-0.001***(0.000)
Gender (male)		0.370***(0.015)	0.370***(0.015)	0.369***(0.015)	0.370***(0.015)
Party identification		0.286***(0.016)	0.286***(0.016)	0.286***(0.016)	0.286***(0.016)
Cross-level interaction					
Education X sanctioned CV				0. 049 (0.055)	
Education X non-sanctioned CV					-0.058 (0.069)
Variance					
Residual (level 1)	3.153	3.019	3.019	3.019	3.019
R^2 (level 1)		0.042	0.042	0.042	0.042
Constant (level 2)	1.322	0.726	0.716	0.716	0.717
R^2 (level 2)		0.451	0.458	0.458	0.458
-2LL	-217118	-214746	-214746	-214745	-214745
Reduction		2372***	2372***	1	1
N	54,405	54,405	54,405	54,405	54,405

*** Significant at 1%-level, ** Significant at 5%-level, *Significant at 10 %-level. ML estimation. Missing values are excluded listwise.

between the respondent and the expert placement of four parties. The overall results remained the same as with three parties.

The intraclass correlation coefficient for the random intercept model, model 0, tells us that as much as 29.5 % of the variation in political understanding is attributed to countries [26]. This is much higher than the ICCs in the two previous analyses, and the multilevel model is justified.

4.4.1 Does compulsory voting influence political understanding?

With regards to hypotheses 1 and 2 in relation to political understanding, model 1 demonstrates that compulsory voting as a whole has a positive effect on political understanding, and that this relationship is statistically significant at the 5%-level. The difference in political understanding between individuals in compulsory voting countries compared to individuals in voluntary voting countries amounts to approximately a quarter of a scale unit. This indicates support for hypothesis 1.

When it comes to the assessment of hypothesis 2, the coefficients in model 2 show that both sanctioned CV and non-sanctioned CV correspond with higher political understanding. However, the effect of non-sanctioned CV does not reach statistical significance (p=0.28), while the effect of sanctioned CV reaches statistical significance at the 5%-level (p=0.04). The previous analyses of interest and knowledge showed that non-sanctioned compulsory voting affects these two aspects of political sophistication, but that sanctioned CV does not. The present analysis of political understanding shows the opposite; namely that sanctioned CV has a statistically significant and positive effect on political understanding, but that non-sanctioned CV does not demonstrate any statistically significant effect. This shows that the overall pattern from the bivariate relationship we observed in figure 4.7 has not changed; political understanding is still higher in sanctioned compulsory voting countries than in all other countries. Moreover, this finding yields support for hypothesis 2a concerning political understanding.

Moving on to the individual level variable that is education, the coefficient shows that higher education has a relatively strong and positive effect on political understanding. The difference in political understanding between those with higher and lower education is approximately 0.67 scale units. Education has a similar effect on ideological understanding as it has on political interest and knowledge. Again, this yields support for hypothesis 3. Model 1 and 2 in

[26] ICC = 1.322/(3.153+1.322) = 0.295

table 4.6 also show that gender has a positive and statistically significant effect: males' political understandings are on average 0.37 scale units higher than women's. This is also the case for party identification; the difference in political understanding between those who identify themselves with a party and those who do not is approximately 0.29 scale units. It is perhaps somewhat surprising that the effect of party identification is not stronger; both education and gender have stronger effects on understanding. However, one must keep in mind that this variable does not measure the strength of the party identification, and one must also consider that party identification has different meanings in different countries. Age's effect on political understanding differs somewhat from its effect on interest and knowledge, as age has a negative effect on political understanding. However, this negative effect is extremely weak and will therefore not be given much more thought: being ten years older corresponds with a political understanding that, on average, is 0.01 scale units lower.

Concerning the country-level controls, we see that the coefficient for the variable that identifies the Freedom House ranking is positive and statistically significant. This indicates that individuals in countries that are more democratic have a more accurate political understanding. The parameter estimate for the variable that indicates party system, the effective number of parliamentary parties, shows no statistically significant effect on political understanding.

Lastly, a brief comment on the deviance difference and the models' explained variance is useful. The R^2 for each level in table 4.6, tells us that the unexplained between-country variance is reduced with approximately 45 % by the inclusion of the independent variables (from 1.322 in model 0 to 0.726 in model 1, and 0.716 in model 2). This means that more of the variation in political understanding is explained by the independent variables, than what the same independent variables explained of the variation in political interest and knowledge. The unexplained within-country variation in political understanding is reduced with 4.2 % (from 3.153 to 3.019). Moreover, the reductions in the deviance values show that model 1 and 2 both constitute statistically significant improvements compared to model 0.

4.4.2 Is the effect of education on understanding dependent on CV?

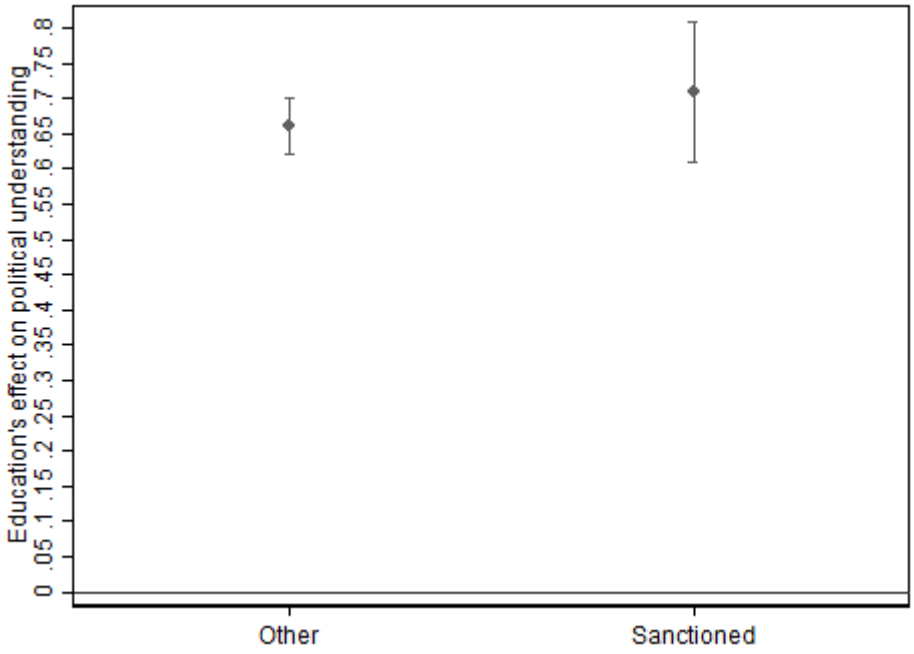
As with the analyses of political interest and knowledge, model 3 and 4 include interaction terms that allow us to investigate educations' dependency on the presence of compulsory voting laws.

Firstly, model 3 and 4 in table 4.6 show that the main effect of education is still positive and statistically significant. The effect amounts to 0.66 scale units in model 3 and 0.67 scale units in model 4. We know that in these models the effect is not unconditional. They apply to those with the value zero on the compulsory voting variables. This means that in model 3 and 4, it shows the average effect of having higher education for those living in voluntary voting countries and non-sanctioned CV countries, and voluntary voting countries and sanctioned CV countries respectively.

One can see in model 3 and 4 that the coefficient for the interaction term between education and sanctioned CV is positive, and that the coefficient for the interaction between education and non-sanctioned CV is negative.

Figure 4.8 below illustrates the effect of education on political understanding (y-axis) for sanctioned compulsory voting countries compared to other countries (x-axis), with 95 % confidence intervals for the estimates.

Figure 4.8 The effect of education on understanding for sanctioned CV and all others.



The effect of education for individuals in sanctioned CV countries is shown to the right in figure 4.8, and the effect of education for individuals in other countries to the left. This figure indicates that the effect of education is stronger in sanctioned compulsory voting countries than in all others. When adding the parameter estimate for the interaction effect between education and sanctioned CV, which is 0.05, to the main effect of education, we can see in figure 4.8 that the effect of education on political understanding amounts to 0.71 scale units for individuals in sanctioned CV countries. However, this interaction effect is not statistically significant at any accepted level (p=0.37). This is also shown by the confidence interval for the effect of education among individuals in sanctioned CV countries; it covers the whole confidence interval for the effect of education in all other countries.

Figure 4.9 below depicts the effect of education (with 95 % confidence intervals) on political understanding for non-sanctioned CV compared to all others.

Figure 4.9 The effect of education on understanding for non-sanctioned CV and all others.

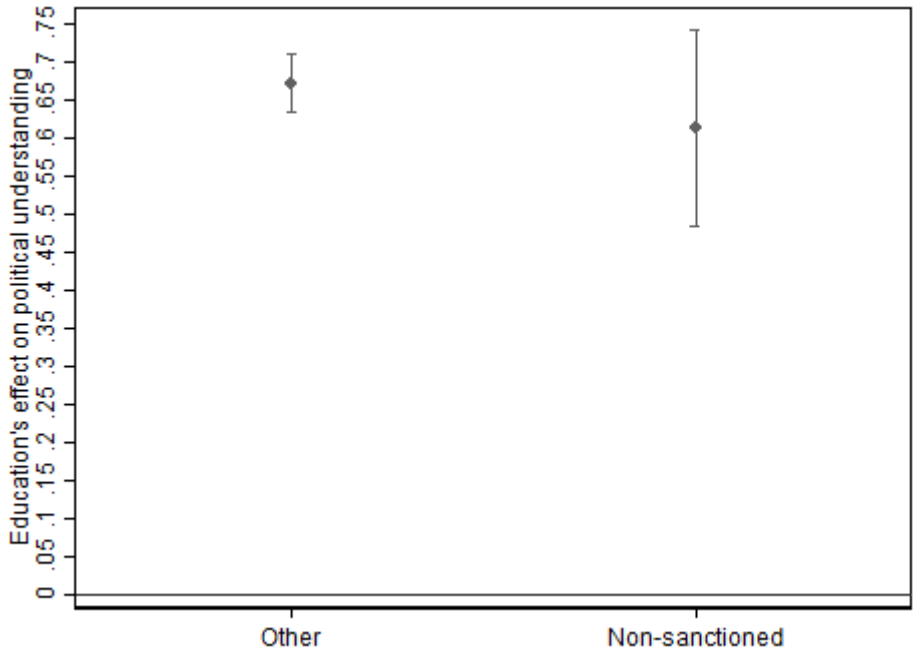


Figure 4.9 above indicates that the effect of education for individuals in non-sanctioned compulsory voting countries is weaker than for all others. The confidence intervals tell us that there is a 95 % change that the effect of education, for non-sanctioned CV countries and all others respectively, lays within the estimated intervals. The figure above shows that the confidence interval for the estimated effect of education in non-sanctioned CV countries covers the whole confidence interval for all other countries. This is not surprising: we saw in table 4.6 that the interaction effect in model 4 did not reach statistical significance (p=0.40).

All in all, these results show that education's dependency on CV for political understanding is not in line with what was hypothesized. There is no statistically significant difference in the effect of education on political understanding between compulsory voting countries and voluntary voting countries. These results differ somewhat from the previous analyses, where it was found that education had a stronger effect on political knowledge in both types of CV countries, and that education had a stronger effect on political interest in sanctioned CV countries.

Lastly, I shall make a brief note on the reductions in the deviance value. In both model 3 and 4, the deviance value is hardly reduced from model 2 and consequently it does not correspond

with statistically significant improvements, which is probably due to the non-significant results from the interaction terms in both models.

4.4.3 An alternative measure of political understanding: knowing political parties' relative positions

As mentioned in chapter 3, an alternative measure of political understanding based on Andersen et al.'s (2002) study is also tested. This is a measure of respondents' ability to place the political parties in their respective countries *relative* to each other on the left-right continuum. Those respondents who placed the two biggest parties in their respective countries correctly relative to each other were given a score of 1, and the rest a score of 0. Approximately 58 % of respondents were able to place the two biggest parties in their correct relative placements. As this dependent variable is a dichotomous variable, multilevel logistic regression was conducted in order to look at compulsory voting's effect on political understanding operationalized as outlined above. The results are similar to the initial analysis of political understanding: there is a positive and statistically significant effect of sanctioned CV on political understanding, while there is no statistically significant effect of non-sanctioned CV. However, in this analysis, the effect of education is also weaker for individuals in non-sanctioned CV countries, and this negative interaction reaches statistical significance at the 1%-level (the results of this analysis are found in the appendix).

4.4.4 Summary

What impression has the analysis of political understanding left us with? These results differ somewhat from the analyses of political interest and knowledge. There is a direct effect of compulsory voting as a whole on political understanding, but in model 2 in table 4.6, we saw that it is actually *sanctioned* compulsory voting that drives the effect of compulsory voting in model 1. At this point, the results differ from the analyses of interest and knowledge where it was demonstrated that it is *non-sanctioned* CV that influences these two aspects of political sophistication. The conclusion must be that support is given to hypothesis 1 and 2a.

The positive and significant direct effect of education yields support for hypothesis 3 concerning ideological understanding, and resembles the effect education had on political

interest and knowledge. There is little doubt that education predicts political sophistication, as have also been reported in previous research on sophistication (cf. Gordon & Segura 1997; Barabas et al. 2014).

Moreover, the results demonstrated no statistically significant interaction effects between education and neither type of CV laws on political understanding. However, when considering the alternative measure of political understanding; namely respondents' ability to know the relative position of the two biggest parties in their respective countries on the left-right continuum, the effect of education proved to be weakened for individuals in non-sanctioned compulsory voting countries (see appendix). Although there are some indications that the effect of education is weaker in non-sanctioned CV countries when it comes to ideological understanding, the overall results from all three analyses do not yield much support for hypothesis 4.

4.5 Are all three aspects of political sophistication influenced similarly?

The results from the analyses of all three aspects of political sophistication are now presented, and we shall thus assess hypothesis 5, which is whether *compulsory voting will demonstrate the same pattern of influence on all three aspects of political sophistication*.

The overall impression from the results of the three analyses presented in this chapter resembles one another in many ways. We have seen that the institution of compulsory voting as whole, contribute to explaining the differences in political sophistication. However, the effect of compulsory voting on interest and knowledge is confined to non-sanctioned compulsory voting, while only sanctioned CV influences political understanding.

When it comes to education, all three analyses show that education has a strong, positive, and statistically significant effect. But, the belief that the institution of compulsory voting would neutralize the resource bias in political sophistication is questionable. Despite the fact that the effect of education for individuals in compulsory voting countries does not go in the hypothesized direction, there are similarities among education's effect on political interest and knowledge. Individuals in *sanctioned* compulsory voting countries with education at university level seem to have an even stronger political interest and seem to be more

politically knowledgeable. Moreover, higher educated individuals in *non-sanctioned* compulsory voting countries are more politically knowledgeable than higher-educated individuals in other countries. When it comes to the interaction between education and compulsory voting on political understanding, however, there is no statistically significant difference in the effect of education between compulsory voting countries and voluntary voting countries.

Overall, the three analyses show that there is a similar pattern of influence of compulsory voting on all three aspects of political sophistication, although education's dependency on compulsory voting differs somewhat between the three analyses. This yields partial support for hypothesis 5.

The next and last chapter will conclude this thesis by discussing the findings laid out above, and the implications of these.

5 Three analyses: explanations and implications

This thesis set out to examine the relationship between compulsory voting and political sophistication, and thus attempted to make a contribution to the research on the effects of compulsory voting beyond electoral outcomes. The belief was that compulsory voting could enhance political sophistication by giving an amplified opportunity to become sophisticated through creating an information environment that is more plentiful than the information environments in voluntary voting countries. If compulsory voting could enhance the opportunity to become sophisticated, the assumption was also that the effect of the strongest predictor of political sophistication, namely education, would be weaker in compulsory voting countries. In other words, the intention of this thesis has been to answer *to what degree, and how, compulsory voting explains differences in individual levels of political sophistication.*

A reminder of why this is important is warranted. A representative democracy requires that people make choices about who should represent their interests, and effective self-government is more likely if the choices of the people are reasoned choices. Although highly politically sophisticated citizens are not necessarily sine qua non of a well-functioning democracy, it is argued that the *more informed* the choices of the people are, the closer democracy will be to what some would consider its ideal form (Lupia & McCubbins 1998). It is therefore worth investigating whether an institutional instrument such as compulsory voting can have a positive effect on political sophistication. Moreover, the proposed link between compulsory voting and political sophistication is not extensively studied empirically, which served as an additional argument for investigating this relationship. Furthermore, having knowledge about the implications of compulsory voting laws beyond increased turnout is also valuable as it is not a completely irrelevant and outdated instrument to increase electoral participation; its introduction has rather recently been debated in countries like the UK, Canada and France (Birch 2009:1).

As a starting point for this chapter, an overview of this thesis' main findings in relation to the hypotheses is given in table 4.7 below. The plus sign indicate that the analyses have shown support for the hypothesis in question.

Table 5.1 Summary of findings

	Political sophistication		
Hypotheses	**Interest**	**Knowledge**	**Understanding**
1: *Compulsory voting corresponds with higher individual levels of political sophistication.*	+	+	+
2a: *Sanctioned compulsory voting has a stronger effect on political sophistication than non-sanctioned compulsory voting and voluntary voting.*	-	-	+
2b: *Non-sanctioned compulsory voting has a stronger effect on political sophistication than sanctioned compulsory voting and voluntary voting.*	+	+	-
3: *Individuals with higher education are more politically sophisticated than individuals with lower education.*	+	+	+
4: *The effect of education on political sophistication is weaker when voting is compulsory compared to when voting is voluntary.*	-	-	-

These findings can be summarized with these few words:

- Compulsory voting is related to higher levels of political sophistication.

- The intrinsic value of a compulsory voting law without sanctions is more important for the aspects of political interest and knowledge, while mandating voting through applying sanctions to non-voters is consequential for the aspect of ideological understanding.

- Compulsory voting does not balance out the inequality in political sophistication among educational groups.

There are of course some concerns in terms of both the internal and external validity when making these inferences. One of these is that the analyses may have failed to control for an unmeasured covariate. This thesis has attempted to improve the comparability of countries by including controls at the country level. However, we must keep in mind that the demonstrated effect of non-sanctioned compulsory voting on political interest and knowledge could be due to some other common, but unmeasured, factor than the institution of non-sanctioned CV. If Brazil, Greece, and Mexico have an unmeasured factor in common that is not present in other non-sanctioned compulsory voting countries, these three countries that are analysed here will

not be representative of the whole universe of non-sanctioned compulsory voting countries. The same goes for the group of the seven sanctioned compulsory voting countries. There are also some potential fallacies concerning the operationalisations of variables and the number of countries included in the analyses, which will be discussed later in this chapter.

Although one cannot be entirely sure that the findings of this thesis are valid for other compulsory voting countries, it is still valuable to try to give more elaborate explanations and reflections around the implications of these findings. This is the purpose of this concluding chapter, in addition to discussing theoretical and methodological implications in relation to the concept of political sophistication.

5.1 The effect of norms versus sanctions

We have seen that compulsory voting as a whole is associated with somewhat higher individual levels of political interest, factual political knowledge and ideological understanding. This indicates that compulsory voting can be an institutional instrument that facilitates an opportunity for citizens to become more politically sophisticated. Furthermore, a distinction between sanctioned and non-sanctioned compulsory voting was made in the analyses, in order to get a fuller understanding of the effects of different types of compulsory voting systems on political sophistication. This showed that there are some differences between the effects of sanctioned compulsory voting and non-sanctioned compulsory voting.

Studies of the implications of compulsory voting laws have demonstrated that it is a very effective remedy for low turnout, and that placing sanctions on non-voters are more effective in raising turnout than simply stating that voting is mandatory but without consequences for those who choose not to vote (cf. Birch 2009). However, sanctioned CV does not have the same effect on political interest and knowledge as it has on turnout. What can be the reason for there being no statistically significant effect of sanctioned CV laws on political interest and knowledge, when non-sanctioned CV has a positive and statistically significant effect on these two aspects of political sophistication?

One reason can be that receiving punishment for non-voting - something that citizens in most parts of the world do not - can feel unjust and create disengagement with politics among a

proportion of citizens (Abraham 1955:8; Birch 2009:63). Although it might seem farfetched, this feeling of injustice can lead to people getting a distaste for all things political, and that some proportion of the public do not take steps to inform themselves. It is plausible that the non-existence of a punishment for non-voting removes this negative feeling towards political matters, and that this law does not become a source for opposition. Non-sanctioned CV might have the effect that it leads individuals to accept that the act of voting is important, which again might lead people to wanting to cast an informed vote, and thus seek to become more knowledgeable and aware of political matters. In other words, the reason for non-sanctioned compulsory voting having an effect on these two aspects of sophistication can be that it creates a certain political culture that stresses the importance of being politically interested and knowledgeable that is not present in sanctioned compulsory voting states.

However, sanctioned compulsory voting is in this thesis demonstrated to have an effect on the aspect of political sophistication that is ideological understanding. This suggest that an institutional arrangement where non-voting is punished in some form can create incentives for citizens to become informed about the political parties in their respective countries.

Overall, this indicates that for some aspects of sophistication, the importance of voting created by a law that does little but stating that the act of voting is an obligation, is consequential, while for the aspect of ideological understanding it is the incentives created by sanctions that seems to be more important. Consequently, this shows that a system of compulsory voting does not have to impose sanctions on those who do not comply with the law in order for it to have an effect on political sophistication.

5.1.1 CV's impact on political sophistication: is it important?

At this point we should discuss the implications of compulsory voting's influence on political sophistication. This implies that the findings will be discussed in light of the normative views on the importance of political sophistication in a democratic society.
This thesis has demonstrated empirically that individuals in compulsory voting countries are, on average, more politically sophisticated than individuals in voluntary voting countries. However, does it really matter that compulsory voting increases political sophistication?

As discussed in section 2.1.1, some argue that a well-functioning democracy requires that citizens possess political information and knowledge. The fact that compulsory voting raises the overall levels of political sophistication will then be 'good' in the sense that it can be argued that the public in compulsory voting countries are more likely to be able to make voting choices that corresponds with their policy preferences (cf. Selb & Lachat 2009; Lau et al. 2014). If the vote choices of citizens in compulsory voting countries reflect their preferences more accurately than the vote choices of citizens in voluntary voting countries, it enhances the representativeness of elected officials in these countries. A truer and more accurate representation of the public can also enhance democratic legitimacy (Birch 2009:45). When citizens are more politically sophisticated, it can be argued that they also will have a better chance of holding their representatives accountable for their actions due to their greater understanding and knowledge of how the system works (Grönlund & Milner 2006).

In any case, if one takes for granted that political sophistication plays an important part in fulfilling modern democratic principles such as representativeness and accountability, finding that individuals in compulsory voting countries have a higher level of political sophistication still does not mean that voters in voluntary voting countries are not politically sophisticated at all. This thesis has merely demonstrated that individuals in compulsory voting countries are *more* politically sophisticated than individuals in voluntary voting countries. In a way, the question becomes whether a *more* politically sophisticated public corresponds with a 'better' democracy. Some scholars (e.g. Delli Carpini 2000:133) argue that the more informed the citizenry is, the more responsive and responsible democracy becomes.

Additionally, one should keep in mind that it is possible that some countries can benefit more from this institution in terms of political sophistication than other countries. Countries that employ compulsory voting laws are at quite different stages of political and socio-economic development (Birch 2009:27). Many Latin American countries apply CV laws, and consequently half of the CV countries included in the analysis of this thesis are located in Latin America. Thus, one can speculate that the demonstrated effect CV has on political sophistication might be a 'Latin American effect'. If so, this can suggest that the institution of compulsory voting is more effective in states with a weaker democratic tradition.

Finding that individuals in compulsory voting countries are more interested, knowledgeable and have a greater ideological understanding does not necessarily mean that it, on its own, is a

convincing argument for introducing compulsory voting laws. It can, however, be viewed as a positive by-product of these laws.

5.2 Political inequality

In the introduction of this thesis, Lijphart's (1997) argument that compulsory voting enhances political equality was introduced. Lijphart (1997:1) argues that low turnout is a problem because it leads to an unequal turnout that is 'systematically biased against less well-to-do citizens'. In turn, this unequal turnout means unequal political influence, and unequal political influence translates into political inequality. In Lijphart's (1997) opinion, compulsory voting will enhance political equality, because CV laws iron out the demographic and socio-economic differences in the voting population by inducing the groups that are less well-off to come to the polls. Lijphart (1997) argues that equal electoral participation give people equal political influence.

However, equal participation does not necessarily translate into equal influence. Selb & Lachat (2009:591) argue that equal influence requires both 'socioeconomically unbiased participation and voters who vote in accordance with their wants and needs'. Selb & Lachat (2009:573) found that less interested and knowledgeable voters cast votes that are 'clearly less consistent with their own political preferences' than voters with higher levels of political sophistication. This suggests that in addition to equal participation, a more equal distribution of political sophistication is perhaps needed in order to be sure that voters have equal influence.

This thesis' findings are therefore interesting in relation to Lijphart's (1997) argument, as the analyses showed that compulsory voting does not offset the strong effect of education on political sophistication. The analyses of political interest and knowledge showed that the effect of education is *stronger* when some form of compulsory voting is present. This indicates that compulsory voting creates greater inequalities in political sophistication among lower educated individuals and university educated individuals. Although the institution of compulsory voting irons out the socio-economic differences among those who participate in elections, it does little for the socio-economic differences in the public's political sophistication.

Delli Carpini (2000:142) writes that '[t]he political significance of […] knowledge gaps depends […] on whether or not knowledge matters to effective citizenship'. He argues that more knowledgeable citizens have opinions that are different and more consistent with his/hers socio-economic group than less knowledgeable people within the same socio-economic group. The bigger socio-economic gap in political sophistication in compulsory voting countries compared to voluntary voting countries can be argued to be problematic in terms of political equality if more politically sophisticated individuals will be even better at achieving political influence in one way or another.

On the other hand, one can argue that the inequality in political sophistication is less important because the citizenry as a whole will be able to hold government accountable as long as there are some individuals who retain enough political sophistication to keep a tally of representatives' actions, and sound the alarm when necessary. However, the inequality in political sophistication can still be problematic if these individuals do not represent all socio-economic groups (Delli Carpini 2000:150).

5.3 Theoretical and methodological implications

Political sophistication is a complex concept. In this thesis, political sophistication is defined as a concept that is composed of three aspects; political interest, political knowledge and ideological understanding. This thesis has applied three operationalisations of political sophistication; one for each aspect. Interest was operationalised as attention to the election campaign. The operationalisation of knowledge was based on answers to three political information questions, and ideological understanding was operationalised as the ability to place political parties along the ideological continuum. Is sophistication merely the level of constraint of ideological thinking (cf. Converse 1964) or is it a broader concept?

The measures employed in this thesis combine integration-based measures, meaning ideological understanding, with differentiation-measures, the extent of political knowledge, as recommended by Luskin (1987:885), because political sophistication is a concept consisting of both integration and differentiation of political information. But what about political interest? Is that a factor that *affects* political sophistication, or is being politically interested part of being politically sophisticated? The question is whether political interest is

endogenous or exogenous to political sophistication. People who are interested in politics are likely to consume more political information, which should increase the amount of political knowledge they retain. And the more one knows about a politics, the more likely one is to become interested in the subject matter (Luskin 1990). On the other hand, Zaller (1990:131) holds that interest is not an adequate measure of what he calls political awareness as people can be interested in politics and still not understand the information they encounter. However, interest and knowledge are closely linked. Arguably, using political interest as a single measure of political sophistication would not be sufficient to capture this complex concept, but when combined with other measures and analysed separately, there seems to be no good reason to exclude it. It then depends on whether factual knowledge and ideological understanding are sufficient measures of political sophistication.

Another question is whether this thesis has been able to tap the three aspects of political sophistication through the operationalisations applied here. Perhaps it would be preferable to have another measure of political interest, such as self-reported general political interest, as there would be a somewhat greater accordance between the theoretical concept and the operationalisation. When it comes to the operationalization of political knowledge, it should be noted that Elff (2009) gives a fairly harsh critique of the political knowledge items in the CSES data because the questions' level of difficulty varies greatly between countries, in addition to the fact that these questions vary in format (some are open-ended, others are true or false questions). We saw in chapter 4 that there was considerable variation in political knowledge between countries. However, the political knowledge variable performs quite well in the multivariate analysis; it produces similar results to those of the two other analyses. The political knowledge questions in the CSES Module 3 are concrete factual knowledge questions, and both Zaller (1990) & Luskin (1987:890) argue that factual political knowledge measures are overall very good measures of political sophistication. However, three factual knowledge questions are perhaps too few to capture the range of political knowledge an individual has. Data with more political knowledge questions may be preferable. Lastly, one may speculate whether placing parties on the left-right continuum is a valid measure in comparative research, as the left-right continuum can be less relevant in some countries. As mentioned in chapter 3, six of the collaborating countries in the CSES module 3 have used the option to ask respondents to place parties on an alternative continuum, which might suggest that the left-right continuum is less relevant in these countries. However, the data for these six countries show that the share of respondents who have placed parties on the left-right

continuum and the alternative continuum is almost the same. Only in Taiwan, where voting is voluntary, is there a significantly larger share that has placed parties on the alternative continuum than the left-right continuum; 908 respondents have placed parties on the left-right continuum, while 1,597 respondents have placed parties on the alternative continuum. Overall, it seems like the left-right continuum is a fairly equally relevant concept among the countries included in the analyses of this thesis.

The reason for creating three different measures of political sophistication was to look at whether compulsory voting would influence these three aspects in the same manner, or if one or more aspects were impacted differently. The empirical analyses showed that all three aspects were influenced by the independent variables rather similarly. This indicates that political sophistication could be a unidimensional concept consisting of interest, knowledge, and understanding, and that the operationalisations employed here are adequate measures of this concept.

5.4 Further research

This thesis has discussed the mechanisms outlined by Shineman (2012) that can lead to an increase in individual levels of political sophistication among people subject to compulsory voting laws as. These mechanisms have not been investigated empirically, and a research effort into *why* compulsory voting leads to a higher degree of political sophistication among individuals would be interesting to see. Is there a difference in the information environments between compulsory voting countries and voluntary voting countries? Perhaps one could analyse the information conveyed from political parties to voters in order to investigate whether there is a greater focus on informing potential voters of policy issues in compulsory voting countries, rather than mainly trying to mobilize people to vote? And perhaps one could try to find out how people subject to compulsory voting laws perceive these laws and whether they view voting informedly as something important through some qualitative approach? Per now, one does not know much about what these mechanisms actually are, and whether there are some confounding factors in the positive relationship between compulsory voting and political sophistication.

The analyses of this thesis have used data that include ten compulsory voting countries, where three of them (Brazil, Greece and Mexico) were non-sanctioned CV systems and seven were sanctioned CV systems (Australia, Turkey, Peru, Uruguay, Schaffhausen Canton in Switzerland, Thailand, and Chile). This is more than Birch (2009) has in most of the data she uses in her extensive study of the implications of CV. Moreover, the countries included in this thesis' analyses account for more than a third of all compulsory voting countries worldwide, as 27 countries apply mandatory voting laws today[27]. These countries are at least geographically distant, as they represent almost all continents. Moreover, it is safe to say that they are culturally diverse. It is at least plausible that the findings could be generalized to other compulsory voting countries. However, ten countries with CV laws is a relatively small sample, but the problem of a small sample will always be the case when the units of analysis are countries. Still, further cross-country research on the effects of compulsory voting laws should try to use data with as many compulsory voting countries as possible.

5.5 Final remarks

A proponent of compulsory voting in the Australian House of Representatives is reported to have said that 'by compelling people to vote we are likely to arouse in them an intelligent interest and to give them a political knowledge that they do not at present possess' (Morris Jones 1954:32). This thesis has demonstrated empirically that compulsory voting corresponds with higher individual levels of political sophistication. However, there is no support for the notion that political sophistication is more equally distributed among different educational groups in compulsory voting countries than in voluntary voting countries. Although Lijphart (1997) holds that compulsory voting makes participation more equal, it does not leave the public with more equal levels of political sophistication. Rather it seems to create a greater inequality in the distribution of political interest and knowledge.

Although the list of reasons for introducing compulsory voting is long, these laws are mainly used as an instrument to increase turnout. However, if a wish to raise the public's political sophistication is taken into account when discussing the introduction of compulsory voting, one question is of course how much the institution of compulsory voting matters in enabling

[27] According to Birch's (2009) definition.

an increased political sophistication among individuals. Additionally, one must also consider the possibility that political sophistication is exogenous to the institution of compulsory voting (Birch 2009:50).

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Appendix

A: Descriptive statistics of control variables
B: Multilevel analysis of the alternative measure of ideological understanding

A

Variable	Mean	Std. dev.	Min	Max	N
Age	47,4	17,2	17	106	63.451
Freedom House ranking	5,9	1,1	1	6,5	63.901
Effective no. of parliamentary parties	3,9	1,8	1,2	10,3	63.901

Gender:	Male	Female	Total
N	29.811	34.002	57.982
%	46,7	53,3	100

Party identification	Yes	No	Total
N	27.930	30.052	57.982
%	48,2	51,8	100

B

Parameter estimates from multilevel logistic models on relative placement of the two biggest political parties on the left-right continuum (0=incorrect placement, 1=correct placement).

Model	0	1	2	3	4
Constant	0.567 (0.188)	-0.098 (0.199)	-0.098 (0.198)	-0.097 (0.198)	-0.104 (0.199)
Macro level					
CV (both types)		0.379**(0.179)			
Sanctioned CV			0.454** (0.190)	0.451** (0.190)	0.453** (0.190)
Non-sanctioned CV			0.260 (0.233)	0.261 (0.233)	0.313 (0.233)
Effective no. of parliamentary parties (centred)		-0.019 (0.110)	-0.014 (0.110)	-0.014 (0.110)	-0.014 (0.110)
Freedom House (centred)		-0.059 (0.186)	-0.062 (0.185)	-0.062 (0.185)	-0.062 (0.186)
Individual level					
Education		0.802*** (0.027)	0.802*** (0.027)	0.799** (0.029)	0.841*** (0.029)
Age (centred)		0.002*** (0.001)	0.002*** (0.001)	0.002*** (0.001)	0.002*** (0.001)
Gender (male)		0.353*** (0.021)	0.353*** (0.021)	0.353*** (0.021)	0.354*** (0.021)
Party identification		0.515***(0.021)	0.515*** (0.021)	0.515*** (0.021)	0.513*** (0.021)
Cross-level interaction					
Education X sanctioned CV				0.027 (0.083)	
Education X non-sanctioned CV					-0.365*** (0.087)
N	54,512	54,512	54,512	54,512	54,512

*** Significant at 1%-level, ** Significant at 5%-level. *Significant at 10%-level. Missing values are excluded listwise.