'Get Out to Vote!'

A Comparative Multilevel Analysis of Youth Voting Turnout in the European Union in 2015

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Abstract

Previous research on youth political participation largely neglects the question why there are large differences across European countries regarding their youth voting turnout. Therefore is the main goal of this thesis to open the 'black box' of youth political participation and to explain differences across European countries. This research uses a rational choice approach to combine three theoretical explanations: resource mobilization theory, social capital theory and party identification theory. The use of the rational choice approach allows me to compare the three different theories into one multi-level model. These three theories and their corresponding hypotheses were tested by using multi-level logistic regression analyses. The final results of the analyses were mixed, which means that for all three theories I found significant results for at least one hypothesis. Recommendations for further research are to use longitudinal datasets, as well to conduct a more in-depth analysis of survey data which has been collected just after a national election.

Keywords: Youth political participation, resources, social capital, party identification, multi-level regression analysis.

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1. Introduction

"Young people on the EU referendum: 'It is the end of one world, of the world as we know it" (Graham-Harrison, 2016).

After voting overwhelmingly 'remain in the European Union', many young British people felt betrayed by an older generation who turned their backs on Europe and voted 'leave the EU'. About three-quarters of 18- to 24-year-olds voted for remain, while three in five over-60s voted to leave the EU. There were however also many young people who did not vote at all. This reflects a decade-long decline in youth participation in British elections, where turnout of young voters has been decreased from an average of about 60 percent two decades ago to just 40 percent at the last general election. My research focusses on differences of youth political participation across EU member states and on differences between young people in those EU countries. The main aim is to open the 'black box' of youth political participation. Differences across countries can be explained by further analysis of possible explaining factors within and between those countries.

Regarding to the societal relevance of my thesis, the EU referendum of the United Kingdom illustrates the reason why the decreasing youth participation forms a problem. A decreasing voter turnout among the young people forms a potential danger for legitimate decision-making and can create divisions in society between the old and the young generation. It is very important to pay more attention to youth participation, because these problems also rise in other countries. Political participation is essential for a democracy, because democracy would not work without voluntary and legal political participation of its citizens: without involvement of its citizens there can be no 'rule of the people'. Active involvement of citizens is often a key part of the definition of democracies (Kitschelt & Rehm, 2008).

Regarding to the scientific relevance, there are three main reasons that support my focus on youth voting turnout. First of all, most literature on political participation assumes that young people are less interested in politics than adults (Henn et al., 2002). Most academic literature on youth participation therefore especially focus on explanations of youth disengagement. Most academic literature however neglect the question why in some countries levels of formal youth political participation, such as voting, are still very high, while in other countries a majority of the young population does not vote. The most recent Eurobarometer survey (2015) which is especially focussing on European youth, demonstrates that there exists large differences regarding youth voter turnout among different European countries. In the United Kingdom less than half of the youth population did vote between 2013 and 2015, while during this same period in Sweden more than 80 percent of the youth population voted at least one time. Figure 1.1 shows on the one hand the countries with the highest youth voter turnout, and on the other hand the countries with the lowest youth voter turnout.

Figure 1.1: Youth participation in political elections Eurobarometer Survey

% of European youth who voted in any political election at local, regional, national or EU level between 2013-2015
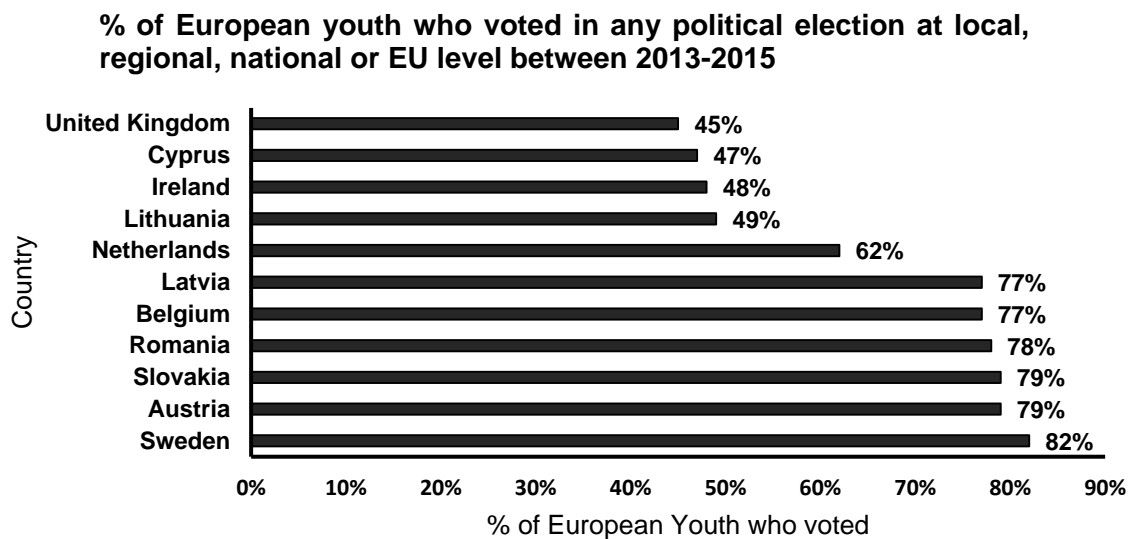
Source: Flash Eurobarometer 408 European Youth (2015)

It is interesting to compare different countries, because countries with low youth participation rates can learn from the countries with higher youth participation rates, by for example investing time and money in youth participation stimulation programs at schools and universities. This research will try to explain the large differences among countries and differences among young citizens within countries. I will therefore test if the existing theories of the political participation field of research can explain those differences.

A second reason of scientific relevance is that, while there is a large amount of information about political behaviour of adults, political scientists have largely neglected political behaviour of youth (Furlong & Carmel, 2007). Research on political participation underlines the importance of 'political activation' during the period of youth, however only a few studies of political participation focus on this political activation during the period of youth (McFarland & Thomas, 2006). Delli Carpini (2000) summarized some previous studies on youth- and civic engagement, however, all this research have been done before the 2000s. The main focus of this research is therefore on youth political participation, to test if the main existing theories of political participation, such as rational choice theory, resource mobilization theory, social capital theory and party identification theory, can also explain differences in youth political participation.

Finally a third reason of scientific relevance related to a theoretical puzzle. The main existing theories of political participation, such as rational choice theory, resource mobilization theory, social capital theory and party identification theory, differ regarding their theoretical explanations of youth participation. Those theories are however not yet tested together in one comparative research related to youth participation. Therefore I am going to test if those main theories are all able to explain differences in youth political participation.

This thesis consists two different types of research questions. The first research question is descriptive and has as the main aim to analyse the main differences across European Union countries regarding their youth voter turnout. The first research question is as follows:

> *To what extent are there differences in youth voter turnout across European Union countries in 2015?*

The second research question is an explanatory research question which tries to explain the main differences in youth voter turnout among European Union countries. To answer this research question, I will use a traditional rational choice approach as the starting point of my research. Traditional rational choice theory is based on the assumption that all actors make economical cost-benefit calculations before making rational decisions. In the theoretical part, I will analyse three different theories of political participation which all criticised traditional rational choice theory, namely: resource-mobilization theory, social capital theory and party-identification theory.

Resource-mobilization theory is of all three theories used in this research, most similar to traditional rational choice theory. Similarly to traditional rational choice theory, resource-mobilization theory uses an economical perspective on how actors make their decisions: by making cost-benefit calculations. However, resource-mobilization theory differs from traditional rational choice theory regarding the focus on resources, such as time and money a citizen has (Brady et al., 1995). Beside motivations, also resources play an important role within the cost-benefit calculus a citizen makes before he or she is going to vote. When young citizens are allowed to vote for the first time, they are confronted with several 'costs' of voting, which are specific for first-time voting. Young citizens have for example never gone through a process of registration, may not know the location of their polling place. Beside, most young citizens have not yet developed an understanding of how elections work, and which political party best represents their interests (Plutzer, 2002). Young citizens also lack resources, such as time and money, and political knowledge to be able to participate in politics (Brady et al., 1995). Generally speaking, resource-mobilization theory can be seen as a theory which further develops and improves the rational choice perspective (McCartlhy & Zald, 2001).

Social capital theory is also closely related to both rational choice- and resource-mobilization theory, however contrary to the rational choice- and resource-mobilization perspective, social capital theory argues that beside physical capital, such as income, also social capital resources, such as membership of voluntary organizations, play an important role during the cost-benefit calculation of citizens. Young citizens who are member of a voluntary organization or participate in voluntary activities are better embedded in society, than young citizens who do not participate in any voluntary activity (Putnam, 1993). As earlier mentioned, young citizens have higher costs of voting than older citizens because they have less knowledge about the electoral procedure, and political parties. According to social capital theory, voluntary organizations provide young citizens knowledge about

the community and besides voluntary organizations provide an opportunity to discuss political issues with other members (McFarland & Thomas, 2006).

Finally, party identification theory argues that besides having (social) resources, citizens also must be able to identify themselves with the established political elites. Especially young citizens have difficulties in identifying themselves with the established political parties, which possibly do not longer represent the interests of young citizens. The established political elite represents in most countries the interests of an older generation. For this generation other political issues are relevant, such as elderly care and pensions. Young citizens are more interested in 'new political issues', such as environment (Inglehart & Flanagan, 1987). In countries were the established political elite does not represents the interests of youth well, and in countries with bad opportunities for new political parties to enter parliament, are young citizens less likely to vote (Norris, 2004). The three theories will be tested with the following research question:

To what extent can we explain differences in youth voter turnout across European Union countries in 2015, by using resource-mobilization- , social capital- and party-identification theory?

To answer the two research questions, I will use a multilevel analysis including 28 European Union countries in 2015. Both individual level and country level characteristics will be addressed. The following chapter will first introduce the concept of political participation. Thereafter I will give an overview of previous research on political participation and participation of youth. In the following part of chapter two, I will outline the four main theories and discuss all hypotheses which belong to these theories. Rational choice theory will in this theoretical framework be used as a starting point of my research to structure my total theoretical framework. After the theoretical chapter follows the methodological chapter. This chapter describes the case selection, the data, the research method, and operationalises the main variables of this research. Chapter four demonstrates the main results of the analyses and finally chapter five is the conclusion of this thesis, which tries to answer the two research questions and discusses the main findings.

2. Theoretical Framework

In this part, I will give an overview of the most important literature on political participation of youth. To better understand youth participation, I will first look at political participation in general. I will structure this literature overview by ordering the main literature into different schools of thought, namely: (1) rational choice theory, (2) resource mobilization theory, (3) social capital theory and (4) party identification theory. However, to start this overview I will first define the dependent variable of my research: political participation.

2.1.   Definition of Political Participation

The concept 'political participation' is often used in political science literature, and is also often mentioned by media and political parties. However, the problem that rises is that the concept is often used in a different meaning (Kitschelt & Rehm, 2008). According to Verba and Nie (1972: 2) "*Political participation refers to those activities by private citizens that are more or less directly aimed at influencing the selection of governmental personnel and/or the actions they take*".

This is still a quite broad definition. However according to Kitschelt & Rehm (2008) it is possible to order political participation according four levels of intensity of involvement. The lowest level of involvement only includes voting and contacting elected or administrative officials. The second level requires more participation in collective events, such as becoming a member of a party and attending party member meetings. The third level of involvement includes volunteer activism and unpaid campaigning. Finally, the fourth and highest level of involvement requires that a citizen becomes a politician of a party and get involved in the selection process.

Barnes & Kaase et al. (1979) argue that political participation is more than '*conventional activities*'. With conventional activities they mean actions of citizens which are 'elite-directed', and take place within the context of party politics. Examples of conventional activities are voting and contacting politicians (Marsh, 1990). According to Barnes & Kaase et al. (1979) political participation includes also '*unconventional activity*' which is mostly operationalized as political protest, such as boycotts and demonstrations. This form of political participation is seen as more 'elite-challenging' (ibid., 1979).

In this research I define political participation of youth in terms of voter-turnout, because turning out to vote is the most common and important form of political participation citizens can do. Turning out to vote is one of the most important political behaviours which scholars of political science try to understand. And especially for young citizens, this type of behaviour is still not well understood (Aldrich, 1993). I am especially interested in understanding youth voter turnout during elections. Voting is still the most important form of participation in a democracy, because voting is the core element of democracies. Besides, other forms of political participation, such as contacting

politicians, and unconventional activities, such as protesting, are more difficult to measure and compare among a large group of many different countries.

2.2.   Overview of Previous Research

In this part I will present a short overview of the main schools of thought which are relevant for my research. I will shortly present the main authors of these schools of thought and besides I will show their main findings. Further explanation of the theories can be found in the theoretical overview (part 2.3). To start this overview, I will begin with rational choice theory, which can be seen as one of the most influential but also controversial theories used to study politics (Hindmoor, 2006).

Rational Choice Theory

Rational choice theory has an economical view on politics. The historical basis of rational choice theory can be found in economics (Hindmoor, 2006). Rational choice theory emerged in the immediate post-war years. During this early stage of development, the rational choice school of thought was formed by the so-called 'behaviourists' who collected and analysed data about, for example, the possible outbreak of a new war, but also voting behaviour. These scholars had a more scientific approach to the study of politics than classical political economists such as Smith (1776) Mill (1863) or Marx (1867), however they did not constitute an economic approach to politics (ibid., 2006). This changed in the late 1950s and the early 1960s, when a small group of economists and one political scientist, started to apply an economic view on the study of politics. This resulted in the now classical works of Downs' *Economic Theory of Democracy* (1957), Riker's *Theory of Political Coalitions* (1962) and Olson's (1965) *Logic of Collective Action.* These classical works, and especially Downs' Economic Theory of Democracy, are according to Barry (1978) and Hindmoor (2006) the best starting point to make a review of rational choice theory.

The core idea behind the rational choice model is that a citizen in a democracy decides to vote by making a cost-benefit calculus, and will therefore only vote when the benefits are higher than the costs of voting. At this point there arises a problem, because according to Downs the chances of actually making 'the decisive vote' during elections are so marginally low, that the costs of voting will always be higher than the benefits of voting. Therefore Downs concludes that it is simply irrational to vote. This idea is supported by Olson (1965) who argues that even in the case that all individuals in a large group are rational and self-interested, and would gain if, as a group, they acted to achieve their common interest or objective, they would still not voluntary act to achieve that common or group interest, because they cannot be completely sure that they can trust the other citizens within the group. An important reason why citizens cannot trust each other is because there is always an opportunity for free-riding (Olson, 1965). This means that especially within large groups, many individual citizens can enjoy the benefits of group action, without paying the costs of the group action. When members of a

large group rationally try to maximize their personal welfare, they will not act to advance their common or group objectives unless there is coercion to force them to do so.

However, in reality many people do vote, especially during large scale national elections. This is called the 'paradox of not voting' (Feddersen, 2004; Hindmoor, 2006; Blais, 2000). Riker and Ordeshook (1968) tried to solve this paradox with an amendment of Downs' calculus model. To solve the 'paradox of not-voting', Riker and Ordeshook added an extra variable: *sense of civic duty* what they operationalized as for example your satisfaction from voting or your desire to affirm your partisanship. They tested their model by using survey data from American presidential elections of 1952, 1956, and 1960. They concluded that citizens do make a rational calculus when they decide whether or not to vote. This rational calculus does however not only depends on the costs and benefits of voting, also civic duty plays an important role.

In the following two decades (1970-1990), rational choice theory became the most dominant theory in the political science literature. In the begin of the 1990s, more than 40 percent of all political science articles published in world's most important political science journals, used a rational choice perspective (Hindmoor, 2006). Rational choice theory had 'fundamentally changed the study of politics' (ibid., 2006: 10). During these two decades, rational choice theorists argued that states could be expected to fail for many same reasons as markets. Important rational choice theorists of this period such as Niskanen and Olson acquired more direct influence on government policy, which resulted into market reform and privatisation (ibid., 2006). From the beginning of the 1990s however, there was a rise of criticisms on traditional rational choice theory. Examples of the main critiques were the following: citizens do not always take rational decisions, they cannot always have a complete overview of all costs and benefits. Citizens are not exclusively self-interested, they are influenced by interests of other people, which Sen, (1977, 2002) called 'sympathy'. Finally, traditional rational choice theory ignores the institutional, cultural and social context in which citizens act. Traditional rational choice theory ignores the influence of class and ideology (Hindess, 1988). Between the 1900s and 2000s political scientists thus increasingly criticized rational choice theory. In the following part, I will give an overview of three theories which reacted and built further on traditional rational choice theory.

Resource Mobilization Theory

Resource mobilization theory emphasizes the rationality of participation in social movements, and stresses the importance of structural factors, such as available resources to participate and the position of individuals in social networks (Klandermans, 1984). Resource mobilization theory emerged during the 1960s. The main goal of this theory was to explain individual participation in social movements (Jenkins, 1983). This was a new phenomenon which traditional rational choice scientists could not explain, because according to them it is not rational to act to achieve a common interest or objective (Olson, 1965). During the 1960s social movements started to grow very fast. The sudden rise of social

movements during the 1960s, stimulated a shift in theoretical assumptions about political participation, which became eventually formalized in the resource mobilization theory of social movements (Jenkins, 1983; McCarthy & Zald, 1977).

While most resource mobilization theory is focussing on social movements, Brady, Verba and Schlozman (1995) focus their research on political participation and electoral turnout. They developed a resource model of political participation. In this model they focus on the role of time, money, and civic skills to explain political participation. They collected their data from a large-scale, two-stage survey of the voluntary activity of the American public (Brady et al., 1995). Brady et al. (1995) show in their article that the three resources vary in their association with socioeconomic status (SES) and other social characteristics. Money and some kinds of civic skills are closely related to SES, however time and other civic skills are less stratified. Brady et al. (1995) argue that especially education is an important resource for political activities, because education can improve political interest and civic skills of young people.

After Brady et al. (1995) introduced their resource model of political participation, many scholars tested their model. Leighley and Vedlitz (1999) tested the robustness of the resource model by applying it on specific ethnic groups in American society, such as Anglos, African-Americans, Asian-Americans, and Mexican-Americans. Leighley and Vedlitz (1999) found evidence that SES indicators are strong predictors for political participation of the four tested ethnic/racial groups. Therefore they concluded that socio-economic status of citizens is a good predictor for the probability of political participation. Bekkers (2005) argued that the resource perspective on its own does not provide a complete image of why citizens participate. In his research he combined the resource perspective with two other perspectives on civic engagement, namely: the political values perspective, which is also related to civic duties of the rational choice approach, and the personality perspective. In his research Bekkers (2005) used data from the Family Survey of the Dutch Population 2000. In order to measure the resources which facilitate civic engagement, data was collected about the highest completed educational level, the frequency of church attendance, urbanization level, personal income per year, and working hours per week (ibid., 2005). In order to measure political values, Bekkers (2005) used a post-materialism variable, an interest in politics variable, an ideological self-identification variable, and a voting preferences variable. Finally, in order to measure personality characteristics, Bekkers used a "Big Five" checklist, which poses several questions about the personality of the respondent.

Bekkers (2005) found that civic engagement increases with the level of education, religiosity, interest in politics, and post materialistic value orientation. Besides Bekkers (2005) found that civic engagement is higher among citizens living in rural areas and among citizens preferring left-wing or Christian political parties. Bekkers (2005) underlines the importance of developing and testing alternative hypotheses, which pay more attention to how social contexts may influence citizens' decisions. Social capital theory builds further on this idea that social context matters.

Social Capital Theory

Social capital theory has received much attention since Putnam (1993; 2000) reintroduced it to study differences in economic development in Italy and the decline of 'civicness' and generalized trust in developed countries. However, social capital is not a new concept. The concept of social capital is linked to a much older debate, which goes back to the classical philosophers (Ferragina, 2010). The concept of social capital has a multidimensional nature: it can be applied in several ways. Consequently, because social capital is used in many different contexts, there are many different definitions of the concept. This resulted into a long debate among scientists with different backgrounds.

The links between social capital and economic performance have received much attention (Scrivens and Smith, 2013). Putnam (1993) aims to contribute to the understanding of the performance of democratic institutions. Putnam found that there exist striking differences between the civic regions in de north and the less civic regions in the south of Italy. In the less civic south, citizens fail to cooperate for mutual benefit. Putnam calls this a 'dilemma of collective action'. Overcoming this dilemma depends on the broader social context, and here he introduces the concept of social capital.

In 2000 Putnam argued that the core idea of social capital theory is that social networks have value. Bourdieu (1986, 1992) earlier argued that being a member of a social network, such as being a member of a voluntary organization, provides valuable resources for citizens. These resources can be both material and immaterial. Additionally, Rosenstone and Hansen (1993) claim that social networks, such as family and friends, but also political parties and interest groups can pressure people to behave as members of a group rather than as individuals. For the analysis of electoral participation they used the National Election Studies (NES). Rosenstone and Hansen (1993) pooled eighteen surveys from 1952 to 1988 into a single pooled dataset of more than 30 thousand American respondents. By analysing the data, Rosenstone and Hansen found that beside political resources, political interests and political identities, also candidates, parties, campaigns, interest groups and social movements mobilize citizens. This was measured by asking if a respondent had been in contact with a political party or has followed the election campaign. Beside they measured the number of civil-rights movements-initiated events between 1948 and 1979 (ibid., 1993).

Coleman (1988) also found that within the family, especially parents play an important role by stimulating their children to perform well at school. A lack of a strong relation between children and parents can result in a worse embeddedness of young citizens in a youth community (ibid, 1988).

Coleman measured the effects of "family background" by separating the concepts into three different components: financial capital, human capital, and social capital (ibid., 1988). Financial capital is measured by the family's wealth or income. Human capital is measured by parent's education and social capital is measured by social structures and social relations within the family. The stronger the social relations within the family, the higher the level of social capital (ibid., 1988).

In *Bowling Alone* (2000) Putnam found that American people shared a sense of civic malaise: the nation suffers because of a less involved citizenry in community activities. Putnam argues that the character of American's involvement with politics and government has been transformed over the past three decades. Especially electoral turnout has dramatically decreased. Putnam based his conclusions on analyses of organizational membership among Americans. He pooled data of all General Social Surveys of post WWII America.

Delli Carpini (2000) built further on Putnam's work and focussed especially on the disengagement of youth. He discovered a decline in civic engagement among all age groups over the past 30 years. Especially the American youth appears to be disconnecting from public life. He made two conclusions. First of all, young adults are historically been less engaged in many of the more traditional aspects of public life. For example, voting during elections, knowledge of politics and reading newspapers. The extent of this disengagement gap between young and old people is much bigger today than in the past. Second, according to Delli Carpini (2000) it appears that young Americans are not increasing their participation in public life when they grow up. He based his findings on surveys and aggregate data that are representative of American young adults between 18 and 29 years old. He also included some data of younger Americans (between 15 and 17 years old). The data was provided by the Committee for the Study of the American Electorate.

According to Delli Carpini (2000) the decline in civic engagement among young adults can be traced directly to three factors, related to three theoretical perspectives. First of all, related to rational choice theory, young adults miss the belief that becoming involved in public life is likely to be effective or satisfying. Second, related to resource mobilization theory, young adults lack the ability to become involved in public life because of a lack of information. Finally, young adults do not feel themselves represented by the existing political parties and politicians. Politicians are less likely to listen to the opinions of youth and besides also traditional news media are focused on an older audience. Especially the last factor is related to the final theory of this research: party identification theory.

Party Identification Theory

While Putnam and Delli Carpini see a decline in youth participation, Inglehart and Catterberg (2002) have a different perspective. They analysed political action data together with four waves of the World Value Surveys/European Values Surveys of more than 70 countries representing more than 80 percent

of the world population. They also noticed a decreasing voter turnout in both European countries and the US. Inglehart and Catterberg (2002) found that there exists a difference between generations regarding the kind of participation. They conclude that voter turnout of youth is declining, not because they are less engaged with politics, but because they are less influenced by social class and religion and therefore cannot identify themselves with the established political parties.

By analysing a large amount of time-series data from twenty-six countries, collected between 1970 and 1988, Inglehart found already in 1990 that on the one hand, elite-directed forms of participation such as voting and party membership are declining, however on the other hand, individually-motivated and elite-challenging forms of participation are increasing. Barnes & Kaase et al. (1979) predicted a spread of 'unconventional political participation'. Their predictions were based on analyses of survey data from Britain, Holland, West-Germany, the United States, and Austria. Examples of unconventional political participation are demonstrations and boycotts, thus in other words: elite-challenging forms of participation.

Adsett (2003) examines trends in the age-specific turnout rates in Canadian federal elections between 1965 and 2000, in order to better understand the problem of declining voter turnout of young Canadian citizens (between 18 and 28 years old). She found that there exists a generational divide between the current young generation and the 'baby-boomers' generation. The young generation is decreasingly participating in the formal political process, while on the other hand, the 'baby-boomers' generation still actively participates in the formal political process. Inglehart and Flanagan (1987) also found that the interests of the older generation is better represented by the established political parties than the interests of the younger generation. They analysed Eurobarometer survey data of 11 different European countries. The younger generation is especially interested in the so-called 'New Political issues', such as the environment, migration and globalization. These issues are however not covered well by the established elites. Additionally, Sloam (2013) recently found that the young generation increasingly supports new political parties with a populist message, or with an extreme position. Sloam (2013) analysed data of the European Social Survey (ESS) and found that in Germany support of established traditional political parties, such as the Christian Democrats and the Social Democrats, has declined from a combined score of 91 percent in 1972 to only 57 percent in 2009 during federal elections.

To conclude, this was a short overview of previous research related to the four different theoretical perspectives on political participation. In the following part, I will further analyse the different theories and apply them on the political participation of youth in Europe.

2.3. Theory & Hypotheses

In rational choice theory, electoral turnout is often used as an example of a major theoretical puzzle. Turnout is one of the most studied political behaviours, however most theories can hardly explain why some people vote and others do not (Aldrich, 1993). To explain voting behaviour of young citizens, I will first introduce the rational choice model which is the starting point of my research. Thereafter, I will analyse three different theories which all criticized the rational choice theory and gave their own perspective on political participation and I will deduce my own hypotheses related to these three different theoretical perspectives on (youth) political participation.

2.3.1. Rational Choice Theory

"A citizen makes up her mind to vote or not through a simple calculus. She decides to vote if, in her view, the benefits of voting are greater than the costs; if, on the contrary, the costs are greater than the benefits, she decides not to vote"(Blais, 2000: 1).

This quote reflects the core idea behind the rational choice model. A citizen decides to vote by making a cost-benefit calculus, and will therefore only vote when the benefits are higher than the costs of voting. In this case, the benefits of voting means the probability that a citizen's vote will make a difference in electing his or her preferred candidate and the costs of voting are for example the time a citizen need to go to a poll (Downs, 1957). Downs concludes that it is irrational for most citizens to acquire political information for purposes of voting, because the probability that his or her vote will be decisive is very small. So as long as each person assumes that all other citizens will vote, it is not worthwhile for him or her to collect political information for his or her self and therefore are the costs of voting always higher than the benefits.

Rational choice theorists have translated this idea into the so-called 'paradox of not voting'. This paradox states that it is not rational for an individual citizen to vote in a large election, because the probability that his or her individual vote will be decisive for the outcome of the election, is close to zero. (Feddersen, 2004). Unfortunately for rational choice theory, many people do vote. More specifically, a clear majority vote in the most important elections, where the number of voters is extremely large and the probability of casting a decisive vote is close to zero. From this can be concluded
that the calculus of voting model, in its simplest form, does not seem to work. Therefore some amendments to the model have to be made (Blais, 2000).

A first amendment is proposed by Downs (1957). He argues that the rational individual decides to vote in order to avoid the collapse of democracy. The citizen will realize that everyone else will go through the same cost-benefit calculus and will come to the conclusion that it is rational to abstain, however when no one votes, democracy is threatened. The citizen benefits from the existence

of democracy and has a long-term interest in its maintenance. Therefore, the citizen is willing to bear the costs of voting in order to insure against the potential breakdown of democracy. In other words, citizens decide to vote because it is their *civic duty* to maintain their democratic system.

This idea is closely linked with the logic of collective action of Olson (1965). When you want to achieve a common goal, you have to work together in a group of people. In other words a group needs collective action to achieve common goals. However in the end he concludes that when members of a large group rationally try to maximize their personal welfare, they will not act to advance their common or group objectives unless there is coercion to force them to do so (Olson, 2002). According to rational choice theory, the rational citizens should calculate the benefits and costs for a given action for his- or herself, not for the whole community. So if we observe that people vote to preserve democracy, you could argue that those people do not behave conform the predictions of rational choice theory (Blais, 2000).

A second amendment is made by Riker and Ordeshook (1968). They begin where Downs (1957) left off: rational choice theory appears to predict unrealistically low levels of turnout. Riker and Ordeshook (1968) express Downs' calculus model in the following equation: $\mathbf{R = (B*P) - C}$.

In this equation R stands for the reward in utils of voting; B = the benefits of having your candidate win (compared to benefits of opponent); P = probability that your vote matters; and C = costs of voting. In a population with for example 17 million voters, Downs assumed that P would be 1/17.000.000. In that case, almost any positive C would make R negative. This leads to the conclusion that according to this equation nobody in a realistic population will ever vote. However, in reality many people do vote, especially in elections with a large participating electorate. To solve the 'paradox of not-voting', Riker and Ordeshook added an extra variable to the equation: *sense of civic duty* which represents for example your satisfaction from voting, but also your satisfaction with democracy. Riker and Ordeshook (1968) thus translate Downs' (1957) amendment into a measurable variable. Adding sense of civic duty to the equation leads to the following new equation: $\mathbf{R = B*P - C + D}$.

In this new equation is *the probability that your vote matters* (P) much larger than Downs suggested. According to Riker and Ordeshook (1968) Downs underestimated P, because when a race becomes closer to a tie, voters realize that their vote has much higher probability of affecting the outcome. This finding combined with the added *sense of civic duty* variable, Riker and Ordeshook can already better explain electoral turnout.

The fact that so many people vote does not mean that we should reject traditional rational choice theory. This suggests that traditional rational choice theory provides a partial explanation of voting and therefore opens the possibility that there are more powerful theories which can better explain electoral behaviour (Blais, 2000). The first theory I will analyse is resource mobilization theory. This theory builds further on traditional rational choice theory, by focussing on the resources of people to participate.

2.3.2. Resource Mobilization Theory

Until now, I focussed on rational choice theory which is especially focussed on motivations of citizens to participate in politics. According to resource mobilization theorists, participation is a result of a cost-benefit calculation of individuals. This idea is similar to the rational choice perspective, however where rational choice theorists only look at individuals, resource mobilization theorists also look at the interaction between individuals that generates mobilization (Klandermans, 1984). In this part I will first introduce the general resource mobilization theory and define the main related concepts. Thereafter I will present the main resources which are relevant for young citizens.

Broadly speaking, resource mobilization theory can be seen as a theory which further develops rational choice theory, with the focus on how a rational individual makes a cost-benefit analysis (McCarthy & Zald, 2001). When a citizen has a certain preference, this does not automatically lead into a certain action that realizes his or her preference. This depends on a larger social context consisting for example the life situation of the citizen, but also the costs and resources which are connected to his or her preferences (ibid., 2001). Citizens differ in the amount of available resources they have, such as time, money and civic skills. Resource mobilization theory has many similarities with rational choice theory. Both theories are based on the core assumption that in an ideal situation an individual rational citizen always wants to realize his or her preference which generates the highest amount of utility. He or she realizes this preference by doing a cost-benefit analysis. Resource mobilization theory contributes to rational choice theory by arguing that also resources play an important role during the cost-benefit analysis (Brady et al., 1995).

A large amount of political scientists who studied political participation concluded that a person's degree of political participation is largely correlated with his or her socioeconomic status (SES) (Campbell et al., 1960; Nie et al., 1969; Verba and Nie, 1972; Verba et al., 1978; Wolfinger and Rosenstone, 1980). SES is defined in several different ways, depending on research questions, the studied population, and the available measures (Baker, 2014). Although, all definitions have in common that SES is measured by looking at three general indicators: education, income, and occupation (White, 1982; Baker, 2014).

Almost all empirical studies of political participation are based on a 'standard socioeconomic status model' (Verba & Nie, 1972). In short, the standard SES model is based on the assumption that political participation 'is driven by individuals' resources and civic orientations- attitudes which individuals hold towards themselves or the political system which predispose them toward political action' (Leighley, 1995: 183). The main assumption of the standard SES model is that high-status individuals are more likely to participate in politics than low-status individuals, because high-status individuals are positively influenced by their social environment. This social environment has a positive impact on the citizens' participatory norms and civic skills (ibid., 1995).

Socioeconomic factors are important explanations of differences in participatory behaviour, because socioeconomic factors can highlight variables which are highly correlated with participatory behaviour. The socioeconomic factors education, income and occupation alone can however not provide a complete causal explanation of citizens' participatory behaviour (Jones-Correa & Leal, 2001), because there are also resources which are essential to political activity, which are not only acquired in your early life, but also developed in the non-political institutional setting of adult life. Examples of those non-political institutional settings are the workplace and non-governmental organizations, such as churches. The main resources which are developed in the non-political institutional setting of adult life are time, money and civic skills (Brady et al., 1995). In total, there are thus six different general indicators to measure political participation: education, income and occupation as the standard SES indicators, and time, money and civic skills as resources of political participation. In the following part I will further define the main indicators and hypotheses which are related to these general indicators.

First of all, education can be seen as the strongest demographical factor which enhances turnout, compared with other demographical factors such as income, age, marital status, and occupation (Leighley & Nagler, 1992; Verba & Nie, 1972). Education is the most important individual characteristic to explain variations in political participation (La Due Lake & Huckfeldt, 1998). Young citizens differ from older citizens regarding the fact that most of them are still studying and therefore have not reached their final level of education yet. It will be more relevant to test the influence of the young citizen's actual current level of education, because that will have more influence on the citizen than his or her previous completed education. For example, a high school diploma will have a lower impact on voting behaviour than the current following university study.

The expectation for the first hypothesis is that young citizens with a high level of education have acquired more skills and resources, such as information about political parties and the electoral procedure, and are therefore more likely to participate during elections. On the contrary, young citizens with a low level of education have acquired less skills and resources, and are therefore less likely to vote. The causal relation for this hypothesis is as follows: the higher the citizen's level of education, the more skills and resources the citizen acquires, that support higher levels of political participation. In other words, education provides citizens intellectual and cognitive skills which can reduce the costs of participation, and will therefore be more likely to vote (ibid, 1998; Downs, 1957). To test the influence of education on the level of political participation of young citizens, I will test the following hypothesis:

H1: The higher the (current) level of the young citizen's education, the higher the probability that he or she is going to vote

Schools thus provide young citizens intellectual and cognitive skills which reduces the costs of participation in politics. There is however a second important SES indicator which determines how many resources and skills a young citizen can collect at those schools. This SES indicator is income. Young citizens from higher socio-economic backgrounds have an advantage over young citizens from lower socio-economic backgrounds (McFarland & Thomas, 2006). Citizens from higher socio-economic backgrounds already have more experiences (*habitus)* and resources (*capital)* than citizens with a lower socio-economic background, before they enter a social setting like a classroom (ibid., 2006). The process of collecting resources within a social setting is characterized by a competition for dominance and resources. Citizens with a higher socio-economic background have an advantage in this competition, because they have more experience with such competitions, than citizens with a lower socio-economic background (ibid., 2006).

Young citizens are strongly influenced by the socio-economic environment in which they grow up. The socio-economic background of the parents (micro-level), but also the wealth status of the young citizen's country (macro-level), plays an important role in determining the socio-economic background of a young citizen. Youth which grows up in wealthy social environments are more likely to become politically active than less wealthier youth, because they have an advantage compared to less wealthier youth in collecting resources such as intellectual and cognitive skills, which reduces the costs of participation in politics (ibid., 2006).

To test a relationship between socio-economic background and voting I can look at the incomes of all individual respondents or incomes of the parents of the respondents. In practice it is however hard to find micro-level data about income. Beside individual incomes of young citizens are not useful as a measurement of wealth, because most young citizens are still studying and don't have a high income. Therefore I will look for macro-level data about income, such as the socioeconomic environment in which a young citizen lives. The level of socioeconomic development of a country can be measured by the Gross Domestic Product (GDP).

I expect for my second hypothesis that young citizens living in wealthy countries are more likely to vote than young citizens which are living in less wealthier countries. The causal relation for this hypothesis is as follows: the higher the national GDP, the more wealthier a young citizen becomes, which supports higher levels of political participation. In other words, a wealthy socio-economic background provides young citizens resources and experiences, which reduces the costs of voting. To test the possible effect of the socio-economic environment a young citizen lives, I will test the following hypothesis:

H2: The wealthier the country within a young citizen lives, the higher the probability that he or she is going to vote

It is hard to measure occupation as a third indicator of socioeconomic status, because as I already mentioned in the previous part, a large amount of young citizens are still studying and don't have a job which is representative for their level of education. Most students are for example working in bars or restaurants as a student job to earn some extra money. Therefore I will only focus on education and income as the two main indicators for socioeconomic status. In the following part, I will further operationalize the main resources of political participation.

Time and money can be seen as the two prime resources for investment in political participation (Brady et al., 1995). Time can used by citizens in many different ways, for example contacting politicians, participating in political campaign teams or becoming a member of a political party. Time can thus be used to enter several social settings. Within those social settings, resources can be collected, which reduces the costs of participation in political elections (McFarland & Thomas, 2006). The more spare time a citizen has, the more time can be used to collect resources for political participation.

Time can be measured in several ways, however when you measure the amount spare time a citizen has, this is usually measured in hours. Every citizen has an equal amount of hours to distribute, namely 24 hours a day. In countries where people spend less time working, they have more spare time which they can invest in political participation. It is interesting to test whether this also applies to young people, because most young citizens do not have already full-time jobs, and would therefore according to this causal mechanism be more likely to participate in politics. This is however in contrast with the commonly accepted view that youth participating is declining. I expect for my third hypothesis, that the amount of spare time positively influences the relationship between participating in civic life and probability of voting. The causal relation for this hypothesis is as follows: the lower the average amount of working hours per week, the more spare time a young citizen has to enter social settings, which will provide him or her more resources to vote. I will test the following hypothesis:

H3: The smaller the national average amount of working hours a young citizen has to work, the higher the probability that a young citizen is going to participate in civic society, which will increase the probability of voting.

The second factor money is closely related to the SES indicator income, because the higher the citizen's income, the more money he or she has to invest in politics and thus the higher the probability that he or she is going to participate in politics. The factor money is especially useful in measuring other forms of political participation, such as making donations to political parties, or financing campaigns of political candidates (Brady et al., 1995). Because I am only interested in voting of young citizens, I will only test the wealth hypothesis which I already mentioned. Finally, the third civic skills factor, is closely related to the education hypothesis, because young citizens learn their civic skills at schools. I will therefore test the influences of the civic skills factor by using the education hypotheses.

To sum up, after I gave an overview of the rational choice model, in this part I discussed a resource-mobilization approach for why people do or do not vote. The resource model can better explain political participation than the rational choice model in two ways. First, the model establishes mechanisms that link SES to participation, by moving to a more general level and specifying the resources derived from socioeconomic position that can be applied to politics.

Second, the resource model can better explain political participation by moving toward an understanding of the disparities in activity among politically relevant groups distinguished by characteristics in addition to SES (Brady et al., 1995). The resource model however still provides a part of the explanation why people participate, namely the reason why some people have better opportunities to vote. People who have the resources to vote do not automatically vote. They must also be mobilized to vote. In the following part I will focus on how young citizens are mobilized to vote and how political participation is related to the concept of social capital.

2.3.3. Social Capital Theory

In the previous two sections I introduced rational choice theory and resource-mobilization theory. Both theories have an economic view on political participation and argue that citizens make a decision to vote by making a cost-benefit calculus. In the following part I will introduce social capital theory. As already mentioned in the previous part, motivations such as interests in politics alone are not enough to explain political participation. This theory is closely linked with resource-mobilization theory. I will first introduce the concept of social capital and thereafter I will further analyse social capital theory.

The concept of social capital has been used in many different ways and often social capital is used as a so-called 'umbrella concept' which means that it can be used to facilitate several other concepts from different research disciplines, to connect them in one concept (Scrivens & Smith, 2013).

What all research on social capital has in common is that it focusses on the value of social networks (ibid., 2013). It is also possible to identify three different perspectives that are central in studies of social capital. These three perspectives see social capital: (1) as an individual's access to networks (Bourdieu, 1984, 1986, 1992); (2) as a 'variety of entities' (Coleman: 1988, 1990) and (3) as networks of civic engagement and norms of reciprocity (Putnam: 1993).

In short, the first perspective concerns the question how in certain social networks members of those networks get access to resources (Bourdieu, 1984). According to this perspective, inequalities in society cannot be explained by economic reasons alone. Social capital is according to this perspective, the total sum of all resources an individual or group owns, under condition that this individual or group is embedded in 'a durable network of more or less institutionalized relationships of mutual acquaintance and recognition' (Bourdieu & Wacquant, 1992: 119). The main idea of this approach, which is often used in social capital research, is that membership of social networks provides

individuals access to valuable resources, which can be either material or non-material (Scrivens & Smith, 2013).

The second perspective sees social capital as 'a variety of different entities that consists of some aspect of the social structure and that facilitate certain actions of individuals who are within the structure' (Coleman, 1990: 302). Most important contributions of this perspective to the academic literature about social capital are first that it sees social capital as a resource in a social network, which unlike other forms of capital, cannot be owned by one person, but can only exist within social relationships (Coleman, 1988). Second, this perspective demonstrates that social capital not only exist within homogenous, class-based networks, as proposed by the first perspective, but can also exist within a large range of different types of networks, such as family, communities and schools (ibid., 1988). Finally, social relations can constitute useful forms of social capital and thereby creating channels of information and creating norms for a larger group of people, or even a whole society. This means that social capital is according to this perspective not only a private-, but also a public good (ibid., 1998).

Finally the third perspective sees social capital as networks of civic engagement and norms of reciprocity (Putnam, 1993). Civic engagement is the central concept of this perspective. Social capital consists, according to this perspective, a mix of both 'horizontal-' and 'vertical' relationships (ibid., 1993). Horizontal relationships are connections between individuals or groups of individuals with an equivalent status and power within society. Vertical relationships are connections between individuals or groups of individuals with an asymmetrical relation of hierarchy and dependence (ibid., 1993). Active participation in civic organizations, such as neighbourhood associations, churches, or sport clubs, promotes primarily the creation and maintenance of horizontal relationships. When individuals in a community frequently interact with each other, their reputation of trustworthy becomes more important, and thereby those individuals become more likely to behave as a trustworthy, responsible and cooperative citizen. According to this perspective, social capital fosters norms of reciprocity and trust within the civic community, as well as creating a sense of shared responsibility, skills and a greater opportunity to get politically involved (Putnam, 1993).

All these three interpretations together form the conceptual roots of the social capital literature. These three interpretations are however on some key aspects too different to be combined together in one universal theory of social capital. The three interpretations differ from each other regarding the level of research. The first interpretation has a *micro-level* approach, because it focusses on links between micro-level networks and individual outcomes. In other words, this approach focusses on individuals and how they can get access to networks and resources within these networks. The second interpretation has both a *micro-level* and a *meso-level approach,* because this approach examines both the role of interaction of individual citizens within for example families (*micro*), but also the role of community relationships, norms and sanctions on group outcomes (*meso*). Finally the third interpretation has a both a *meso-level* and a *macro-level approach*, because this interpretation

connects networks of civic engagement on the meso-level with norms of reciprocity, trust, and a shared responsibility on the macro level (Srivens & Smith, 2013). Disregarding those main differences, social capital as an interpretation as access to resources has become the central element of all social capital research (ibid., 2013).

Until now I discussed the three main perspectives on social capital. For my own research I am primary concerned with 'politically relevant social capital', which is 'particular type of social capital that is produced as the consequence of political expertise and information that is regularly communicated within an individual's network of social relations' (La Due Lake & Huckfeldt, 1998: 5). Politically relevant social capital should promote individual citizen's engagement in politics, and should provide opportunities for citizens to become more engaged with politics, who otherwise would not have become engaged (ibid., 1998). I make a distinction between politically relevant social capital and other forms of social capital, because there are also forms of social capital, which are less relevant for political participation, such as having regular group discussions about sports (ibid., 1998). Until now I defined social networks and the concept of social capital. In the following part I will specify how these concepts relate youth voting behaviour. Besides, I will specify two related hypotheses on both the micro- and macro measurement level.

Young citizens are more likely to vote when they have a motivation, an opportunity, and an ability to participate (Delli Carpini, 2000). The biggest contribution of social capital theory to my research is that it also measures the social context in which young citizens participate. Motivations, opportunities and abilities to participate are influenced by the social context of citizens. To explain differences in youth turnout among different countries, it is therefore also important to compare the differences in social contexts.

The level of social capital within a country can be measured by the density of membership in voluntary associations of all kinds (*macro-level*), the extent social trust among citizens (*meso-level*), and the citizen's perceptions of the availability of mutual aid (*micro-level*) (Putnam, 1993). The more citizens cooperate, the stronger the social networks. When young citizens are a member of a voluntary association, they are more likely to become engaged within society, because they have better opportunities to meet more people. By joining voluntary organizations, young citizens develop social relationships, and become more engaged in civil life (Verba et al., 1995). By joining voluntary organizations, young citizens thus generate stronger social networks. Young citizens who are member of a voluntary organization which improves civic engagement, will be more motivated to participate during elections, than young citizens who are not member of a voluntary organization (Putnam, 1993). Especially the concerns of the 'active' citizens reaches the government and concerns of many other citizens, which are not active, aren't heard (McFarland & Thomas, 2006). Young citizens which are member of voluntary organizations talk more with each other about several topics. Voluntary organizations play an important role by offering an opportunity to citizens to exchange several thoughts and to have discussions about on which political party they should vote. By having these

discussions, young citizens become better informed about politics and are more likely to participate during elections (McFarland & Thomas, 2006).

I expect for my fourth hypothesis, that membership of voluntary organizations positively influences the probability that a young citizen is going to vote. The causal relation for this hypothesis is as follows: the probability of voting increases, when a young citizen becomes a member of a voluntary organization. By joining voluntary organizations, young citizens generate stronger social networks, which improves their engagement with society and their motivation to participate during elections. To test the relationship between voluntary organization membership and voting, I will study the following hypothesis:

H4a: Young citizens who are member of voluntary organizations have a higher probability to vote, than young citizens who don't take part of any voluntary organization

As I already mentioned in the previous paragraph, there exists a strong positive relationship between education and political participation. This is one of the most reliable results in empirical social science (De La Due Lake & Huchfeldt, 1998). Beside that citizens with a high level of education are more likely to become engaged with the political process, they are also more likely to participate in various voluntary (political) activities (ibid., 1998). Education provides young citizens skills and resources which support more political participation (Verba, et al., 1995). Speaking in terms of social capital, education provides young citizens human capital resources which reduces the costs of participation (La Due Lake & Huckfeldt, 1998). Schools provide a variety of organizational memberships which encourages political participation of youth. Especially National Honours Society associations, student councils, debate organizations, and religious organizations promote political participation of youth (McFarland & Thomas, 2006).

Combining the effect of education with the previous hypothesis about membership of voluntary organizations, I expect that a high level of education positively influences the effect of voluntary membership on voting, because higher educated young citizens have more intellectual and cognitive skills, which they can use when they interact with other young citizens within voluntary organizations. The better a young citizen is able to interact within a voluntary organization, the stronger the social networks will be. The causal relation for this interaction hypothesis is as follows: the higher the current level of education of the young citizen, the more positive the effect of voluntary membership on voting will be. In other words, by joining voluntary organizations, young citizens generate stronger social networks, which improves their engagement with society and motivation to participate during elections. Education provides young citizens intellectual and cognitive skills which can reduce the costs of participation. Combined, higher educated young citizens have more intellectual and cognitive skills, which positively influences the generating of social networks, which improves the

young citizens' engagement with society and motivation to participate during elections. This results in the following interaction hypothesis:

H4b: The higher the young citizen's current level of education, the more positive the effect of voluntary membership on the likelihood of voting becomes..

Until now I developed two different hypotheses related to social capital measured on the micro-level. Social capital can however also be measured at the macro-level. The level of social capital of a country (*macro-level*) can be measured by both *social trust* and *political trust* (Newton, 2001). It is important to make this distinction, because countries with a high level of social trust do not necessarily also have a high level of political trust and vice versa (ibid., 2001). Social trust can be interpreted as an actor's belief that other actors within society will do their best to act in his or interests, or will at least not harm his or her interests (ibid., 2001). Social trust is necessary for stable social relations, which forms a basis for collective behaviour and productive cooperation (ibid., 2001).

For my following hypothesis, I expect that countries with a high level of social trust, also have better opportunities for stable social relations and collective behaviour. In other words, countries with a high level of social trust have potentially stronger horizontal relationships among its citizens. The stronger those horizontal relationships, the more opportunities young citizens have to acquire social capital resources, which stimulates the political participation during elections. This results into the following hypothesis:

H5a: The higher the average level of social trust within a country, the higher the probability that young citizens, living in those countries, are going to vote.

Political trust is closely related to social trust, however it differs from social trust that it can be interpreted as a citizen's belief that other political actors within society will do their best to act in his or her interests, or will at least not harm his or her interests. Political trust is necessary for a stable social relations between citizens and political actors, which forms the basis for a well-functioning democracy (ibid., 2001). Political trust can be used to test how well a political system is functioning in the eyes of its citizens. Political trust is a core element of a well-functioning democracy, because democracies are based on institutional mechanisms that are supposed to guarantee that politicians behave in a trustworthy manner.

Trust is a so-called 'multi-level' concept (Weatherford, 1992). This means that it can be measured at different levels. The two mentioned approaches are focussed on the micro-level, because they focus on social and political trust of individual citizens. A macro-level approach focusses on the trustworthiness of governments and politicians in general (Levi & Stoker, 2000). For my following hypothesis I expect that countries with a high trustworthiness of governments and politicians have

higher youth voter turnout rates than countries with a low trustworthiness of governments and politicians. The causal relation for this hypothesis is as follows: the higher the average level of political trust of a country, the higher the probability that young citizens living in that country, are going to vote. In other words, countries with a high level of political trust, have stronger vertical relationships between its citizens and politicians. The stronger those vertical relationships, the more opportunities young citizens have to acquire social capital resources, which stimulates political participation during elections. This results in the following hypothesis:

H5b: The higher the level of political trust within a country, the higher the probability that young citizens, living in those countries, are going to vote.

2.3.4. Party Identification Theory: A Social Identity Approach

Until now I already introduced a rational choice approach, a resource-mobilization approach and a social capital explanation of the declining voting-turnout of young citizens. In this part I will introduce the last theory of my research: '*party identification theory*'. While on the one hand social capital theory argues that young citizens don't participate during elections because they don't take part of voluntary organizations, on the other hand party identification theory argues that young citizens don't vote because they cannot identify themselves with the existing political parties. In the following part I will first define the concepts 'party identification' and 'social identity'. Thereafter I will further analyse party identification theory.

Since Campbell et al. (1960) introduced the concept '*party identification*' as a central component of political behaviour, it has been continually challenged, redefined and modified (Green, 1999). Despite all these challenges, the concept of party identification is still defined as *"an affective attachment to an important group object in the environment"* (Campbell et al., 1960: 143). Green argues that party identification contains also a largely unexamined social component. Social identification with a political party is according to him an important element of partisanship. Social identity can be defined as 'that part of an individual's self-concept which derives from his knowledge of his membership of a group (or groups) together with the value and emotional significance attached to the membership' (Tajfel, 1978). In other words, a social identity of a person thus signifies how this person places his- or herself within the social world.

Humans are born with an instinctive feeling that they have to categorize the world into groups consisting of 'us' and 'them'. This is also called *self-categorization*. Humans have to categorize their world into different groups to be able to identify themselves with one of these groups. Tajfel and Turner (1986) make a distinction between a so-called 'in-group' and 'out-group'. An in-group can be defined as your own group: the group which fits your identity best, and an out-group can be defined as the group which does not reflect your identity and you cannot identify with (ibid., 1986). According to

Greene (1999) are comparisons of the in-group with an out-group characterized by 'perceptual exaggerations favouring the in-group'. In other words, people who have a clear preference towards one party have also a strong negative attitude towards the opposition party. Campbell et al. (1960) argued that party identification is stronger when those parties represent clear groups or classes of society, for example religious, racial or ethnic groups. However, in recent years these strong party favouring attitudes weakened. Consequently scientists noticed a rise of neutral citizens, who could no longer identify themselves with the established political elite.

Several political scientists studied the recent decrease of party identification. Several scientists suggested that the current disengagement of young citizens represents a significant generational shift (Blais et al., 2001; Adsett 2003; Furlong & Cartmel, 2007). There exists a generational divide between on the one hand the current young generation which decreasingly participate in the formal political process, and on the other hand the 'baby-boomers' generation who still participate actively in the formal political process (Adsett, 2003). A majority of the established major political parties is aligned along the 'class-based axis of polarization', and still focus on traditional cultural values. However, the major issues today, the so-called 'New Political issues', such as migration, environment and globalization, are not well covered by the established political parties. These new political issues are however the most important issues for the younger generation. This creates a divide between on the one hand, the established traditional political elite which represents the interests of the older traditional generation, while on the other hand, a large younger generation is not represented. This generational divide can be resolved in two different ways: the established political parties try to adopt new political issues and reposition themselves in the political landscape, or new political parties emerge which adopt the new political issues (Inglehart & Flanagan, 1987).

In recent years, young voters felt especially attracted to alternative political parties which focus on single issues (such as the Pirate Party), parties which present a populist message (such as Beppe Grillo's Five Star Movement in Italy), or adopt an extreme position (for example anti-immigrant parties such as the Dutch PVV) (Sloam, 2013). Germany can be seen as a good example of a country in which electoral turnout remained relatively high, however the young generation clearly moved away from the two main traditional parties (Christian Democrats and the Social Democrats) (ibid., 2013). I expect that in countries were new political parties have a good opportunity to emerge, the young generation feels better represented, than in countries where new political parties can hardly emerge. With old political parties, I mean parties which are participating elections already before the 1960s, and the 'new' parties which emerged since the 1960s (Gallagher et al., 2011). The more parties there are to vote for, the better the opportunities for party identification (Crepaz, 1990). Young citizens have better opportunities to identify themselves with political parties and are more likely to vote when a country has a diverse political landscape (ibid., 1990).

There are several factors which determine the opportunities for new political parties to get elected in parliament. One of the most important factors is the type of electoral system. There are

several different types of electoral systems. In short, electoral systems can be ordered into three different general party families: 1) majoritarian-, 2) mixed-, and 3) proportional representative (PR) electoral systems (Norris, 2004). The main purpose of majoritarian electoral systems is 'to create a 'natural' or 'manufactured' majority, that is, to produce an effective one-party government with a working parliamentary majority, while simultaneously penalizing minor parties, especially those with spatially dispersed support' (ibid., 2004: 42). The majoritarian formulae has as the advantage that it produces stable one-party governments, however majoritarian systems do not generate parliamentary representation of all minority groups in society (ibid., 2004).

Mixed electoral systems vary from majoritarian electoral systems regarding the fact that these systems provide more opportunities for proportional representation. Election procedures are characterized by both majoritarian- and proportional representative rule. In Germany, for example, citizens have to cast two votes, where half of the members of the Bundestag are elected by proportional representation, and half of the members of parliament are elected by a simple majoritarian of votes (ibid., 2004). Finally, proportional representative electoral systems (PR) are characterized by the fact that these systems try to include all different voices of minorities in society. In PR systems are the parliamentary seats allocated according to the proportion of votes each party gets. Within PR electoral systems there are several different variations. The opportunities for new political parties to enter parliament depends in PR systems mainly on electoral thresholds, which determine a minimum percentage of the total electoral votes a political party should win before entering parliament (ibid., 2004). These three party families can be further divided in specific variants. Each country in the world can be placed in one of these groups, except the countries which don't organize elections.

For the following hypothesis I assume that in countries with a low electoral threshold, it is easier for new political parties to become elected in the national parliament. PR electoral systems have lower electoral thresholds than majoritarian electoral systems. I therefore hypothesize that political parties in countries with a PR electoral system can better represent young citizen's interests than political parties in countries with majoritarian electoral systems. For mixed electoral systems I expect that the voting turnout of young citizens is higher than in majoritarian electoral system, but lower than in PR electoral systems. I will test the following hypothesis:

H6: In countries with a PR electoral system with a low electoral threshold, young citizens have a higher probability to vote, than in countries with a majoritarian electoral system

When an electoral system consists of more than two parties, the political landscape will be more equally distributed. In other words, both the left-part and the right-part of the political landscape are represented by political parties. When a political system only consists two political parties, those parties both tend to shift to the middle of the political spectrum, resulting in two parties representing both only the interests of one part of the political spectrum. When this happens, you can speak of a

disproportional electoral system (ibid., 1990). Therefore, in countries with a polarized multiparty system, young citizens can better identify themselves with political parties, than in countries with a multiparty system which tend to coverage towards the median voter.

Polarization can be defined as both a state and a process (DiMaggio et al., 1996). Polarization as a state can be defined as 'the extent to which opinions on an issue are opposed in relation to some theoretical maximum' (ibid., 1996: 693). Polarization as a process can be defined as a change in opposition of opinions over time (ibid., 1996). The degree of polarization of an electoral system can be measured by the *dispersion principle*, which states that the more dispersed opinion of political parties becomes, the more difficult it will be for the political system to create and maintain a political consensus (ibid., 1996). The polarization of the electoral system depends on the number of political parties, which are represented in the national parliament (Crepaz, 1990). The higher the amount of political parties within the electoral system, the better the opportunity for political parties to separate themselves from other parties and present themselves as an alternative to the rest. In other words, an increase of the amount of political parties positively influences the degree of party polarization of the electoral system (ibid., 1990). The total amount of political parties is however not enough to determine the degree of polarization. Beside the total amount of political parties, you should also look at the *effective number* of political parties (Laakso & Taagepera, 1979). The effective number of parties can be defined as the 'number of hypothetical equal-size parties that would have the same total effect on fractionalization of the system as have the actual parties of unequal size' (ibid., 1979: 4). The idea behind this measure of political parties, is that beside you are counting the total amount of political parties, at the same time, you also weight the count by the relative strength (ibid., 1979).

Combining this with the previous hypothesis about PR- and majoritarian electoral systems, I expect a positive relationship between polarization of an electoral system and the probability of voting, because for example a country with a polarized PR electoral system will probably stronger influence the probability of voting, than a PR electoral system which is not polarized. The causal relation for the following hypothesis is as follows: the more polarized the electoral system, the better a political landscape is distributed. When a political landscape is well distributed, there is a higher probability that young citizens feel themselves represented and will therefore be more likely to vote during elections. I will test this with the following hypothesis:

H7: The more polarized the electoral system of a country, the higher the probability that young citizens are going to vote

Beside the electoral system, another possible explanation of differences in youth turnout can be that young citizens are mostly attracted by left-wing issues such as equality and social justice (Furlong & Cartmel, 2007). Age-related differences in voting behaviour can be seen as part of a 'life-cycle effect', which means that during your life you will shift from a progressive left-wing attitude, to a more

conservative attitude when you become older (Adsett, 2003) When a conservative neo-liberal political party emerges and wins the elections, I assume that the main focus of the government and government policy will shift away from left-wing issues. This can probably lead to an alienation of young citizens from the political parties in government (Furlong & Cartmel, 2007). Left-wing governments, such as the Labour Government of the UK in 1997, encourage good citizenship through education and by creating fora for youth participation in politics (Sloam, 2007). Contrary, I expect for the following hypothesis that during a long time period of a conservative neo-liberal government, young citizens are less encouraged to become engaged with politics. It is interesting to test if in countries with low participation rates of young citizens also have a conservative neo-liberal government. The causal relation for the following hypothesis is as follows: the more conservative a government becomes, the less likely young citizens are to vote. I will test the following hypothesis:

H8a: Young citizens have a lower probability of voting in countries with a conservative neo-liberal government, than in countries with a left-wing social-democratic government

On the contrary, it is also possible to hypothesize the opposite of the previous relationship. When a country had for a long time a conservative neo-liberal government, young citizens do not feel themselves represented, therefore they are more likely to vote for progressive left-wing parties, or populist protest parties. A presence of a conservative neo-liberal government does in that case not cause lower youth voter turnout. The causal relationship for my last hypothesis is as follows: the more conservative a government becomes, the less well are the youth interests represented. When the youth interests are less well represented by the parties in government, young citizens are more likely to vote for progressive left-wing parties or populist protest parties, and are then more likely to turnout during elections. To test this causal relationship, I will test the following hypothesis:

H8b: Young citizens have a higher probability of voting in countries with a conservative neo-liberal government, than in countries with a left-wing social-democratic government

2.4. Overview & Summary of Hypotheses

To conclude, in this chapter I introduced four different theoretical perspectives on youth political participation. Then I derived eleven different hypotheses from these theories, including three hypotheses related to resource-mobilization theory, four hypotheses related to social capital theory, and finally four hypotheses related to party identification theory. A summary of those ten hypotheses can be found in table 2.1. In the following chapter I will explain the methodology and data set which I will use for my analyses.

Table 2.1: Hypotheses Overview

Theory	Level	Expectation / Hypothesis
Resource-Mobilization Theory	Micro	H1: The higher the (current) level of the young citizen's education, the higher the probability that he or she is going to vote
	Macro	H2: The wealthier the country within a young citizen lives, the higher the probability that he or she is going to vote
	Macro	H3: The smaller the national average amount of working hours a young citizen has to work, the higher the probability that he or she is going to participate in civic society, which will increase the probability of voting
Social Capital Theory	Micro	H4a: Young citizens who are member of voluntary organizations have a higher probability to vote, than citizens who don't take part of any voluntary organization
	Micro	H4b: The higher the young citizen's current level of education, the more positive the effect of voluntary membership on the probability of voting becomes
	Macro	H5a: The higher the average level of social trust within a country, the higher the probability that young citizens are going to vote
	Macro	H5b: The higher the average level of political trust within a country, the higher the probability that young citizens are going to vote
Party Identification Theory	Macro	H6: In countries with a PR electoral system with a low electoral threshold, young citizens have a higher probability to vote, than in countries with a majoritarian electoral system
	Macro	H7: The more polarized the electoral system of a country, the higher the probability that young citizens are going to vote
	Macro	H8a: Young citizens have a lower probability of voting in countries with a conservative neo-liberal government, than in countries with a left-wing social-democratic government
	Macro	H8b: Young citizens have a higher probability of vote in countries with a conservative neo-liberal government, than in countries with a left-wing social democratic government

3. Data & Methodology

In this chapter I will discuss the data, research methods and the operationalization of the main variables. In the first part, I will shortly discuss and justify the research approach which I will apply in the rest of my thesis. Thereafter I will describe and justify the countries and specific cases I selected for my research. Finally I will operationalize the main variables and further explain my hypotheses and research method.

3.1.   Research Approach & Case Selection

The main aim of this research is to open the 'black box' of youth participation. This research focusses on voting behaviour of young citizens among all EU member-states in 2015. My research is a response to the results of the most recent Eurobarometer on European Youth. This survey demonstrated large differences among European Union members. For my research I am interested in explaining those differences, therefore I will only include the 28 EU members. An overview of all selected countries can be found in Appendix A.

Literature on voting behaviour is largely dominated by quantitative approaches, because quantitative approaches are very useful to explain differences among a large group of countries with a large amount of respondents (N). By doing a quantitative research, your results are easier to generalize for the total population. By using quantitative methods, I will be able to make conclusions which I can generalize over all European youth. Therefore a quantitative approach will provide me the best opportunity to answer my research question.

3.2.   Dataset

The main data source I will use for my research is the Eurobarometer survey (EB). I have expanded this dataset with additional data from other data sources. Those data sources are the European Social Survey (ESS), the OECD database, the international IDEA, the Parliament and Government Composition database (ParlGov) and Gallagher's database about the effective amount of political parties (2017). In this part, I will describe my main data sources and I will discuss why I have chosen them.

3.2.1. Eurobarometer Survey

The European Commission has been monitoring the European public opinion since 1973. The main purpose of this monitoring is to evaluate EU decision-making and to inform EU politicians and EU citizens about the actual public opinion (European Commission, 2016). The European Commission uses four different monitoring surveys: the Standard Eurobarometer, the Special Eurobarometer, the Flash Eurobarometer, and the Qualitative Eurobarometer. The Standard Eurobarometer surveys by face-to-face interviews 1000 citizens per EU country since 1973. Reports are published two times each

year (ibid., 2016). Special Eurobarometer Surveys are in-depth thematical studies executed on behalf of the European Commission or other EU institutions. Special Eurobarometer Surveys are integrated into Standard Eurobarometer polling waves. Flash Eurobarometer reports are ad hoc thematical telephone interviews. Flash Eurobarometer surveys are very useful when you specifically want to focus on one target group, such as youth (ibid., 2016). The Eurobarometer data I will use for my research will therefore be based on Flash Eurobarometer surveys. Finally Qualitative Eurobarometer studies investigate in-depth motivations and feelings of selected social groups towards a given subject. This is however qualitative research and will not be useful for my quantitative analyses.

For this research I used secondary data from the Flash Eurobarometer Youth Surveys 2015, because this is the most recent Eurobarometer Survey which includes a question about voting. The 2015 Flash Eurobarometer survey 408 is carried out between the 3rd and the 23rd of December 2014. This Eurobarometer survey is executed as a request of the European Commission, Directorate-General for Education and Culture. Only respondents aged between 15 and 30 years old were included within the survey. The survey covers the populations of all 28 EU member states. This survey is executed by using the TNS e-Call center *Computer Assisted Telephone Interviewing* (centralized CATI system). This means that respondents were called both on fixed lines and on mobile phones. Within a household with more than one person, the respondent was selected following the "last birthday rule" (Eurobarometer, 2015). The 2015 survey uses a random selection method, by randomly selecting telephone numbers. The last two digits of a phone number were changed to randomly select another respondent in a certain NUTS2 region. Business phone numbers are excluded. In most countries the sample consisted around 500 respondents. In the smaller states, such as Cyprus, Luxembourg and Malta, the sample consisted around 300 respondents. The total amount of conducted interviews was 13.454 (ibid., 2015).

Eurobarometer is not open about the non-response rates. Telephone interviews have problematically low response levels (Bethlehem & van Holsteyn, 2016). Before the 1970's almost all survey interviews were conducted in person or by mail. This changed when most households got access to a telephone. Initially, response rates of telephone surveys were quite high, however over time those response rates decreased to around 20 percent (Rivers, 2007). A high non-response rate can be harmful for your research, because it narrows your sample and increases the inaccuracy of your estimations (Bethlehem & van Holsteyn, 2016). A high non-response rate can certainly lead to biased findings, therefore your non-response rate should be as low as possible. Eurobarometer does not provide information about the non-response rates. They try to interview in every country the same amount of respondents, without paying attention to the amount of requests they have to do, to collect those amounts of respondents (ibid., 2016). An additional problem which rises, is that the response rates differ across the different countries. The European Social Survey (ESS), which also executes large scale comparative country surveys, found that response rates across EU members differs between around 45 percent in France and more than 70 percent in Slovakia (Stoop et al., 2010).

Eurobarometer thus does not provide any information about the non-response of their surveys. This does not mean that there is no non-response. Examples of situations of non-response are for example when a respondent does not answer the phone, or doesn't want to answer the questions. Finally there is also the possibility that a respondent doesn't speak the language and is therefore not able to answer the questions (Bethlehem & van Holsteyn, 2016). To solve the biased results due to the non-response, Eurobarometer added some weighting factors. Those weighting factors are added to check the representativeness of the sample. Examples of weighting factors which are added by the Flash Eurobarometer survey are: age, gender, occupation and country region in which the respondent lives (ibid., 2016).

Despite, the fact that Eurobarometer is not clear about the non-response rates, I decided to use this database, because only the Eurobarometer has a unique sample of on average around 15.000 respondents living in 28 different countries, which are aged between 15 and 30 years old. Other databases which are more clearly about their non-response, such as for example the ESS, couldn't provide me the same amount of respondents of the same age. Therefore, I expected that the Eurobarometer database best represent the voting behaviour of young European citizens.

3.2.2. Additional Data Sources

Beside the Eurobarometer Survey I used additional data sources, especially for collecting macro country specific data. The first data source I used for collecting macro-level data, such as social- and political trust, is the European Social Survey (ESS). The ESS has been executed by academics across a large amount of European countries since 2001. Every two years, ESS data has been collected by doing for example face-to-face interviews. The ESS measures attitudes, beliefs, and behaviours of diverse groups of citizens over more than 30 countries (European Social Survey, 2017). The ESS consists also a large group of young respondents.

For collecting socio-economic status data, I used the OECD database. The OECD is an intergovernmental economic organization consisting 35 members, including all 28 European Union members states (OECD, 2017). The OECD collects economic data of all the member states. The data which is most relevant for this research is the collection of the national Gross Domestic Product (GDP) and the collection of average working hours of EU citizens.

Regarding to the hypotheses related to electoral system characteristics, I used the database of the international *Institute for Democracy and Electoral Assistance* (IDEA, 2017). The international IDEA is an intergovernmental organization that supports sustainable democracy worldwide (ibid., 2017). The international IDEA is founded in 2008 and has nowadays 30 member states, including 7 EU members. The main goal of this organization is to collect and share comparative knowledge of electoral processes, constitution-building, political participation and representation, and democracy

and development. The international IDEA database consists electoral system characteristics almost all countries worldwide, including all 28 EU members over several years varying across cases.

Finally to measure the hypotheses related to political parties, I used the *Parliament and Government Composition database* (ParlGov, 2015). This database contains data on elections and governments of all EU and most OECD countries since 1945. This data base is very helpful in requiring data about for example government coalitions, ideological background of political parties and the total amount of political parties within the parliament. I used Gallagher's (2017) database to measure the effective amount of political parties. This database consists of so-called election indices, which represent the effective amount of political parties for almost all countries of the world.

3.3.   Operationalization

In this part, the dependent and independent variables will be operationalized. The independent variables are ordered regarding to their level of measurement.

3.3.1. Dependent Variable

The dependent variable of this research is **Youth Voting**. This variable is measured by using a survey question in the Eurobarometer survey. This survey question is as follows: "*During the last 3 years, did you vote in any political election at the local, regional, national or EU level? If you were, at that time, not eligible to vote, please say so*" (Eurobarometer, 2015). The Eurobarometer of 2015 uses seven different answers, namely: (1) Yes, at local level; (2) Yes, at regional level; (3) Yes, at national level; (4) Yes, at EU level; (5) No, did not vote in an election; (6) No, because you were not old enough to vote; or (7) DK/NA. Because I am only interested in the question if a respondent voted or not, I decided to recode this variable into a dichotomous variable with the categories 'did vote (1)' or 'did not vote' (0). The group of non-voters is used as the reference category. Respondents answering that they were not old enough to vote and respondents who answered DK/NA, will be coded as missing. *Youth voting* is a dichotomous variable with a nominal measurement level.

There are differences regarding to the minimum voting age across the EU countries. While the minimum voting age in the Netherlands is 18 years old for all elections, other countries like Austria, Estonia, Germany and the UK have lower minimum voting ages for local and/or regional elections. This has as a consequence that there are a limited amount of young citizens in the sample aged below 18 years old who voted (65 respondents). I expect that this small amount of respondents does not have an impact on the results of my analysis, however to be certain, at the end of this research I tested the robustness of my findings with a sample which only includes young citizens between 18 and 30 years old.

I am beware of the fact that this dependent variable pools a lot of respondents into one single group of voters. The percentages of young citizens who voted during an election at any level is higher than the percentage of young citizens who for example voted during national elections. It is however

not an option to only look at youth turnout at national elections, because in that case you would label many young respondents as 'non-voters', while they are perhaps very active during local, regional or European elections. By taking the accumulated youth voting turnout at all levels, I can be more certain about the group of non-voters.

3.3.2. Micro-level Independent Variables

There are two different micro-level independent variables: (1) *Education* and (2) *Organizational Membership,* and. First of all, **Education** is measured by taking the highest level of (current) education of a young citizen. This is measured in the Eurobarometer Surveys by first asking the question if a respondent is still studying (1), or has already finished studying (0). The respondents who answer that they are still studying are asked about their *current* level of education, which is ordered into five different categories: (1) Lower-secondary Level or less; (2) Upper Secondary Level, General Education; (3) Upper Secondary Level, General Vocational Education; (4) Post-secondary, Non-higher Education and (5) Higher Education. Within the EB survey this is a harmonized ordinal variable

The respondents who finished their education are asked about their highest level of *completed* education, which is also ordered into five different categories: (1) Lower-secondary Level or less; (2) Upper Secondary Level, General Education; (3) Upper Secondary Level, General Vocational Education; (4) Post-secondary, Non-higher Education and (5) Higher Education. Both education variables are recoded into dummy variables. To make a statistical analysis of all respondents possible, I made one highest level of education variable with the two groups of respondents. Thus each category of this new education variable represents the respondents who are still studying and the respondents who already completed their education. This was necessary, because only in this way it is possible to test the education hypotheses on the total sample. This education variable has the same five categories as the previous two variables, namely: (1) Lower-secondary Level or less; (2) Upper Secondary Level, General Education; (3) Upper Secondary Level, General Vocational Education; (4) Post-secondary, Non-higher Education and (5) Higher Education. This education variable is a categorical variable with an ordinal measurement level. The reference category is the lowest level of education: Lower-secondary or less. I used this category to compare the other dummy variables.

Organizational Membership can be measured by the following question asked in the Eurobarometer Survey of 2015: *'Are you engaged in any voluntary activity*?'. The Eurobarometer Survey of 2015 thus only asked about participation in voluntary activities and not about membership of voluntary organizations. As a consequence, I assume for my research that engagement in voluntary activity can be used as a substitute for voluntary organizational membership. *Organizational Membership* is a dichotomous variable at a nominal measurement level, with the categories (1) Yes and (0) No. Respondents who did not participate in any voluntary activity, and thus answer no on this question (0), are used as the reference category.

3.3.3. Macro-level Independent Variables

There are seven different macro-level independent variables: (1) *Wealth* (2) *Working Hours* (3) *Social Trust* (4) *Political Trust* (5) *Representativeness of Electoral system,* (6) *Polarization Electoral System,* and (7) *Conservativeness of Government*. **Wealth** is measured by taking the Gross Domestic Product (GDP) per capita of a country. A GDP of a country per capita is calculated by taking the total expenditure on final goods and services minus the total imports of a country divided by the national population (OECD, 2017). The GDP of a country is measured in thousand US dollars per capita. One unit increase in Wealth means an increase of one thousand US dollars per capita. Wealth is a continuous variable, measured at the ratio measurement level.

Working Hours is calculated by looking at the average amount of usual weekly hours worked on the main job. There is not data available about the actual worked hours for every country, therefore the OECD only collected data of the usual weekly hours worked on the main job. The OECD (2017) collected for all 28 EU members data about the average amount of working hours per week. Within those data, both dependent- and self-employed citizens are included. The more a young citizen has to work, the less spare time he or she has to invest in political activities. The OECD (2017) argued that a fulltime job requires more than 30 working hours per week, while a part-time job only requires less than 30 working hours per week. One unit increase in Working Hours means an increase of one working hour per week. The national average of working hours per week is measured at the ratio measurement level.

Social Trust is measured by using the seventh round of the European Social Survey in 2014. This is the most recent available ESS data. The following survey question is used: *CARD 2 Using this card, generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people? Please tell me on a score of 0 to 10, where 0 means you can't be too careful and 10 means that most people can be trusted* (ESS, 2014). Answers on this question are measured on an eleven point scale between 0 and 10, with a score of 0 meaning a very low level of social trust, and a score of 10 meaning a very high level of social trust. The average level of social trust for each country is calculated by taking the average of all scores on social trust per country. The average level of social trust is measured at a continuous scale between 0 and 10. One unit increase in Social Trust thus means one point increase on the eleven point scale.

Political Trust is measured by using seventh round of the European Social Survey in 2014. The following survey question is used: *CARD 11 Using this card, please tell me on a score of 0-10 how much you personally trust each of the institutions I read out. 0 means you do not trust an institution at all, and 10 means you have complete trust.* (ESS, 2014). Respondents are asked about how much they trust the following institutions: (1) the country's parliament; (2) the legal system; (3) the police; (4) politicians: (5) political parties; (6) the European parliament, and (7) the United Nations. Their answers are coded on an eleven point scale between 0 and 10. The average level of

political trust per respondent is calculated by taking the average trust scores on the following national political institutions: the country's parliament, politicians, and political parties. Trust in the police and trust in the legal system are not used for this calculation, because citizens have a different opinion towards these order institutions than towards political institutions or persons who represent them (Marien, 2011). The European parliament and the United Nations are not included, because these are international political institutions, while I am interested in the political trust on the national level. The national average level of political trust is thereafter calculated by taking the average political trust scores of all respondents per country. Political Trust is thus a macro-level variable measured at a continuous scale between 0 and 10. One unit increase in Political Trust, means one point increase on an eleven point scale between 0 and 10.

Representativeness of Electoral System is determined by using the electoral system design database of the international IDEA (2016). This database contains data about electoral system designs of almost all countries around the world. This variable is coded according to three different electoral system family categories: (1) Majoritarian electoral system; (2) PR electoral system, and (3) Mixed electoral system. This variable is measured at the nominal measurement level. I made two dummy variables: (1) PR and (2) Mixed. Majoritarian electoral systems are used as the reference category.

Polarization of Electoral System is determined by using the election indices database of Gallagher (2017). The polarization degree is determined by counting the *effective* amount of political parties which are represented within the national parliament. Electoral systems with for example six parties can still be not polarized, when almost all seats are distributed by only two parties. The effective amount of political parties can be calculated by using the formula of Laakso and Taagepera (1979). According to Laakso and Taagepera (1979) the effective number of political parties is calculated by the following formula:

(1) $$N = \frac{1}{\sum_{i=1}^{n} p_i^2}$$

Where N is the number of parties with at least one vote or seat and p_i^2 is the square of each party's proportion of all votes or seats (ibid., 1979). The effective number of parties is calculated by first calculating the sum of the squares of each party's proportion of all votes or seats. Then the effective number of parties is calculated by 1 dividing by the sum of the square of each party's proportion of all votes or seats. Gallagher (2017) created a database with all effective numbers of political parties by using this formula. Data is available of all 28 EU countries since the most recent parliamentary election. The *effective* amount of political parties is always at least 1, and has theoretically no maximum boundary. In practice the effective amount of political parties within the EU varies between 1 and 10 parties (Gallagher, 2017). One unit increase in Polarization of the Electoral System represents an increase of one effective political party. This variable is measured at the ratio measurement level.

Finally regarding to the last hypothesis, the ***Conservativeness of Government*** variable is also measured by using the ParlGov database. Within this database all political parties are classified into party families by their position in an economic (state/market) and a cultural (liberty/authority) left/right dimension (Parlgov, 2015). This classification results into a ten point scale. Parties scoring between 0 and 1,25 are coded as 'Ultra-Left'. Parties scoring between 1,25 and 3,75 are coded as 'Moderate-Left'. Parties scoring between 3,75 and 6,25 are coded as 'Centre'. Parties scoring between 6,25 and 8,75 are coded as 'Moderate-Right', and finally parties scoring between 8,75 and 10 are coded as 'Utra-Right' (Castles & Mair, 1984). The total degree of conservativeness of incumbent government (Cgovernment) is calculated by taking the average left-right score of all coalition parties. Formula 2 shows the calculation of the total degree of conservativeness. The amount of parliamentary seats of a government party (N) is used as a weighting factor.

C government is thus calculated by first multiplying the average left-right scores of all coalition parties (Cparty) with the amount of seats the political parties have in parliament. The sum of all these left-right scores multiplied with N is then divided by the total amount of parliamentary seats of the government coalition. This is a continuous variable measured at the ratio measurement level, with one unit increase in Conservativeness of Government representing an increase of one point on an eleven point scale.

$$(2) \qquad C_{government} = \frac{\left(C_{party\ 1} * N_{seats\ 1}\right) + \left(C_{party\ 2} * N_{seats\ 2}\right) ... + \left(C_{party\ k} * N_{seats\ k}\right)}{total\ N_{seats}}$$

3.3.4. Control Variables

For this research I controlled for age, gender and compulsory voting. My sample only consist of respondents between 15 and 30 years old, nevertheless I decided to control for age, because there are possibly large differences regarding voter turnout of young citizens of 15 years old and young citizens which are between 25 and 30 years old. Citizens of 15 years old have not experience yet with voting and are still studying, while citizens of 25 years old, are already in a completely different phase of life: they are probably working and starting a family. The control variable '*age*' is measured by the Eurobarometer variable 'Age exact', which represents the age of the respondents in years. This variable is measured at the ratio measurement level.

I will add a gender control variable, because traditionally men have always been more likely to vote than women (Inglehart & Norris, 2000). The gender control variable is coded as a dummy variable with the categories 'male' and 'female'. The category 'male' is used as a reference category, whereas 'female' is used for the analysis. This variable is measured at the nominal measurement level.

Finally, I also control my analysis for compulsory voting, because if voting is compulsory, turnout percentages will certainly be higher. Young citizens in countries with compulsory voting, might be more likely to vote, not because of the theoretical reasons I developed, but only because they are 'forced' to vote. The voting turnout percentages are however not 100 percent in countries with

compulsory voting, because despite it is formally mandatory to vote, there are no (severe) sanctions for citizens who do not vote. Within the sample of 28 EU countries, three countries have compulsory voting. Those countries are: Belgium, Greece, and Luxembourg (CIA World Factbook, 2017). The control variable '*compulsory voting*' is coded as a dummy variable with the categories (1) compulsory voting, and (0) no compulsory voting. No compulsory voting is used as the reference category for the analysis. This control variable is measured at the nominal measurement level.

3.4.   Research Methods and Research Models

For this research, I have chosen to use a multilevel approach, because I both used micro-level and macro-level variables. I used individual level data of youth voting and beside I used country specific data about for example the GDP. An additional important reason why I have chosen to do a multi-level analysis is because the data is nested within 28 different countries. The dataset of my research is cross-country: 28 different countries are included measured within the year 2015. Figure B.1 in the appendix shows the data structure of the two different levels. One of the main advantages of multi-level analysis is that it accounts for social-contexts, or social-environments in which a unit of analysis is observed (Schmidt-Catran & Fairbrother, 2016). Therefore, a multi-level model can more accurately model the data, despite the between-country variance of the respondents. In this paragraph I will discuss which research method best fits my research purpose and data. I will first analyze the most common used statistical analysis: multiple regression.

The most common statistical analysis which can be used for testing hypotheses about the effects of independent variables on a dependent variable, is a multiple regression, also called ordinary least squares (OLS) regression. A multiple regression can be used to study a relationship between a single dependent variable and one or more independent variables (Allison, 1999). Multiple regressions can be used for two main purposes: prediction of outcomes and causal analysis. The validity of multiple regression depends on several assumptions. OLS multiple regression works well in some situations, while in other situations it works poorly. The assumptions of a statistical technique can be seen as specifying conditions under which the statistical technique, such as multiple regression, works at its best (ibid., 1999). There are two standards of performance of a statistical method: *bias* and *efficiency.* An estimation method is unbiased when there are is no systematic tendency to produce very high values. Beside unbiased, an estimation must also be efficient. Efficient estimation methods have as small as possible standard errors, because the bigger the standard error, the larger the variation there is around the measured value, and thus the more uncertain your estimation is (ibid., 1999).

Standard OLS regression is based on five core assumptions: (1) *linearity;* (2) *mean independence;* (3) *homoscedasticity;* (4) *uncorrelated disturbances,* and (5) *normal disturbance* (ibid., 1999). A OLS regression must be linear, which means that the dependent variable y is a linear function of the independent variable(s) x, plus a *random disturbance* ε. A formula describing this would be as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_{2\dots\dots} + \beta_k X_k + \varepsilon \qquad (1)$$

Within this formula, β_0 represents the intercept, which is the value of Y when all independent X variables are 0. $\beta_1 X_1 + \beta_2 X_2$ consists the slopes of the regression, which means that it shows how the dependent variable Y changes with one unit increase of the independent variable X. ε is the disturbance term, which represents the random noise that disturbs the relationship between the dependent variable Y and the independent variables X.

The second assumption of mean independence, assumes that the mean of value of ε does not depend on the X's. More specifically, this assumption assumes that the mean of ε is always equal to 0. The third assumption assumes homoscedasticity, which means that the variance of ε cannot depend on the X's. It is always the same value, expressed by σ^2 . The fourth assumption of uncorrelated disturbances assumes that the value of ε for any individual in the sample is uncorrelated with any other value of ε for any other individual. Finally, the fifth assumption of normal disturbance assumes that ε has a normal distribution (Allison, 1999). In the following part I will check if and why these assumptions are violated with multi-level data.

One of the main disadvantages of multi-level data is that it is not possible to use OLS regression, because when I would still run a standard multiple regression, the independent error assumption (i.e. (4) assumption of *uncorrelated disturbances*) would be violated. Nested data is characterized by the fact that errors are correlated with other errors which belong to the same group. This is called *intra-class correlation*. When I would run a multiple (OLS) regression when the errors are correlated, I would possibly get biased coefficients, and almost certainly downwardly biased standard errors. This means that I would have an increased probability of making a type I error, which means that I can be too quick with rejecting the null hypothesis. In other words, I would suggest that there is an effect while in reality there is no effect.

There is also a second reason why I cannot use standard OLS regression. This research wants to test which factors influences the probabilities (p) that young citizens are going to vote. The dependent variable Y is thus binary: it can either be 1 (voting) or 0 (not voting). It is not possible to use Standard Ordinary Least Square (OLS) for binary dependent variables, because if I would use a linear regression model, I would violate the *assumption of linearity* (1), because dichotomous variables have an s-curve distribution instead of a regular line. Another assumption which will be violated is the assumption of normally distributed errors, because the errors of a standard OLS regression of a dichotomous variable are not homoscedastic and not normally distributed. Finally, the predicted values of the OLS regression can be smaller than 0 and bigger than 1. The probabilities of voting are however bounded at zero and 1. When I would run a standard OLS regression, this would have as the main consequences that the coefficients will not be a good representation of the effects and

beside the standard errors cannot be used for testing significance. To solve all these problems, I used instead of a standard OLS regression, a *multi-level binary logit model* (a.k.a. logistic regression).

Logistic regressions belong to the family of generalized linear models (GLMs). GLMs are useful, because they allow to incorporate nonlinear relationships into multiple regression models. This can be done to transform the non-linear relationship of Y and X into a linear relationship by taking the natural logarithm of the odds (Allison, 1999). Within a OLS regression model, the effect of increasing a given X variable by one unit, produces a certain absolute change in Y (ibid., 1999: 154). However, within the binary logit model, the effect of changing the X variable by one unit produces a certain percentage change in Y. In other words, for every unit increase in X, the probability (p) that Y=1 will change. This can be expressed by the following formula:

$$\log_n\left(\frac{\rho}{1-\rho}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 \dots \dots + \beta_k X_k \qquad (2)$$

Within this model, instead of Y, the natural logarithm of the odds that Y=1 (log odds) is modelled. Within the logistic regression model is assumed that Y is binomial distributed, which means that there is no error term within the equation formula.

Although logistic regression analysis has as an advantage that you will not harm the assumptions of regression analysis anymore, it also has one important disadvantage: the difficulties with interpretation of the logistic regression estimates. As earlier mentioned, the coefficients of a logistic regression model do not represent direct effects, they represent the logarithm of the probabilities that the dependent variable Y=1 divided by the probabilities that Y is not 1 (log odds). It is possible to make the results better interpretable, by converting the log odds into odds, or by converting the log odds into probabilities. However, because the coefficients depend on both effect sizes and the magnitude of unobserved heterogeneity, it is not possible to interpret and compare coefficients as straightforward as in linear regression (Mood, 2010).

Without paying attention to this different way of interpretation, your research runs a serious risk of drawing unreliable conclusions from your analyses. To minimize the problems of interpretation, it is important to be aware of these problems before you start collecting your data. You should, for example avoid coding into dichotomous variables, if it is also possible to code your variable on a continuous (or at least ordinal) scale (ibid., 2010). There is however no simple all-purpose solution to solve the problems of interpretability and comparison of effect estimates from logistic regression.

Until now I discussed how standard OLS regression and regular logistic regression models work. Both models are however not suitable for my research, because my dataset has a nested data structure. Within the Eurobarometer data, respondents are nested within EU countries. The

respondents represent the micro-level, while the countries represent the macro-level. Problematic for my database is that every respondent within the dataset has the same value for a macro-level variable as the other respondents belonging to the same country, in other words there is a high intra-class correlation. Again, this would seriously harm the independent error assumption. There are two possible solutions to solve this problem. To solve this problem of intra-class correlation, I can include dummy variables in the model. This is called the *fixed effects model*. For this model it is necessary to create separate dummy variables for each country of my sample. This would mean that I must include 28 dummy variables for every single model I would run. This would be very inefficient. Beside, a second disadvantage of a fixed effects model is that it removes the variance between countries. This is however the variance I am especially interested in, because I want to explain differences across countries regarding youth voting turnout. A second solution is to use a *random effects model* a.k.a. *multi-level models*. Within the random effects model, the between-variance is retained and can be used for estimation. In contrast to the fixed effects model, this model does not includes dummy variables, which means that is more efficient. In the following part, I will shortly demonstrate how a random effects model works, and how I used this model for my research.

The fundamental logic of multi-level models is that a regression model consists of a fixed part and a random part. Within the regression equation, the fixed part consists all β-coefficients and the random part is represented by the error term ε. The random effects model or multi-level model splits the random part (ε) into two different components: variance between groups, and variance within groups. This makes it possible to estimate variance of both components separately, which prevents that the between-group variance and the within-group variance become mixed up. The most basic form of this multi-level model can be expressed by the following formula

$$Y_{ij} = \gamma_{00} + \gamma_{10}X_{1ij} + u_{0j} + \varepsilon_{ij} \qquad \text{with } u_{0j} \sim N(0, \sigma^2_{u0}) \text{ and } \varepsilon_{ij} \sim N(0, \sigma^2_{\varepsilon}) \qquad (3.1)$$

Within this formula, Y_{ij} represents the dependent variable. i represents one invididual respondent at the micro level, while j represents a group of respondents at the macro level. Related to my research, i is represented by individual young citizens, and j is represented by the 28 EU member states. γ_{00} is the intercept, which represents the average value of the dependent variable Y_{ij}, when $\gamma_{10}X_{1ij}$ is 0. $\gamma_{10}X_{1ij}$ represents the effect of the indepedent variable X_1 in every group. In this formula only one independent variable is included, however it is also possible to include more than one independent variable. u_{0j} represents the variance between countries, and ε_{ij} represents the variance within countries. For this formula it is assumed that both u_{0j} and ε_{ij} are normally distributed. Within this formula β_0 is no longer used to indicate the intercept. Instead β_0, γ_{00} is used, because within the multilevel model β_0 consists of a fixed part (γ_{00}) and a random part (u_{0j}).

The term $\gamma_{10}X_{1ij}$ within the formula indicates that this formula deals with a micro-level effect. It is however also possible to measure a macro-level effect by including the following term: $\gamma_{01}W_{1j}$. In this term, W represents a macro-level covariate. A macro-level effect can also be expressed by a formula:

$$Y_{ij} = \gamma_{00} + \gamma_{01}W_{1j} + u_{0j} + \varepsilon_{ij} \qquad \text{with } u_{0j} \sim N(0, \sigma^2_{u0}) \text{ and } \varepsilon_{ij} \sim N(0, \sigma^2_{\varepsilon}) \qquad (3.2)$$

Formula 3.1 and 3.2 still have a similar fixed slope, which assumes that the independent variables have the same effect on the dependent variable in every country. It is however also possible than in one country an independent variable has a positive effect on the dependent variable, while in another country this effect is less strong, or even negative. This is called *causal heterogeneity*. For models with causal heterogeneity, it is possible to include additional random term $u_{1j}X_{ij}$. This additional random term represents the variance of intercepts between individual citizens within the different countries. This can be expressed by the following formula:

$$Y_{ij} = \gamma_{00} + \gamma_{10}X_{1ij} + u_{0j} + u_{1j}X_{ij} + \varepsilon_{ij} \qquad \text{with } u_{0j} \sim N(0, \sigma^2_{u0}) \text{ and } \varepsilon_{ij} \sim N(0, \sigma^2_{\varepsilon}) \qquad (3.3)$$

Until now I demonstrated how random effect models work. To make the model useful for my research, I combine the multi-level approach with a logit regression model. To make it possible to combine those two different models, it is necessary to take the logarithm of the odds that Y =1. This leads to the following final formula:

$$\log_n\left(\frac{\rho}{1-\rho}\right) = \gamma_{00} + \gamma_{10}X_{1ij} + u_{0j} + u_{1j}X_{ij} \qquad (4)$$

To summarize the previous discussion, to test the hypotheses of my research, I have chosen to use a multi-level logistic regression analysis. The main advantage of this multi-level approach is that it does not mix up the between-country variance with the within-country variance, which would otherwise lead to possibly biased coefficients. The most important disadvantage of the multi-level approach is however that it is very complex and time-consuming to compute. The main reason why I have chosen for logistic regression modelling, is because of the dichotomous nature of the dependent variable *youth voting*. A drawback of a logistic regression approach is that estimating of the regression coefficients can be more difficult to interpret.

In order to test if all different variables fit into a single model, I tested them for multicollinearity. Table C.1 in the appendix demonstrates the multicollinearity tests with all variables I used in this thesis. Eight variables do not show any difficulties regarding multicollinearity, however *Wealth, Working Hours*, *Social Trust,* and *Political Trust* score VIF values above 3. It is not very surprising that macro-level variable score higher on multicollinearity, because macro-level data varies

for a small amount of cases (28 countries), while micro-level data is related to a much bigger group of respondents (13.454). Besides, it is not very surprising that the two trust variables have the highest VIF scores, because they both measure trust. The VIF scores are however still low enough to use these variables in my analysis.

4. Analysis

This chapter contains the analysis of my data. Before I will discuss the analyses, I will first give an overview of the descriptives for the data, which I have earlier operationalized within the previous chapter. Thereafter, I will test the nestedness of the data, to validate my multi-level approach. In the following paragraph, bivariate analyses are used to test all hypotheses of the theoretical chapter. After the bivariate analyses, also the more complicated interaction effects are tested. Then, all hypotheses are tested controlled for age, gender and compulsory voting. Finally all hypotheses are tested within full models.

4.1.   Descriptives

Before I will start with my regression analyses, I will first analyze the descriptives of my dependent variable and independent variables. The descriptives demonstrate the number of observations for a variable, its mean, the standard deviation, its distribution, and its missing values.

4.1.1. Dependent variable

The descriptives for the dependent variable **Youth Voting** can be found in table 4.1 below this paragraph. The total dataset of the 2015 Eurobarometer Survey counts 13.454 respondents. Respondents were asked if they voted since 2013. As earlier mentioned, all respondents who answered that they were not old enough to vote are excluded from the sample. Within this sample 1844 respondents are excluded because they were not old enough to vote. Beside 202 respondents are excluded because they did not answer the question if they voted or not. Thus in total 2046 respondents are coded as missing, which is 15,2% of the total sample. Excluding the 2046 respondents leads to a new sample with 11.408 respondents, which I used for my research. *Youth voting* is a dummy variable, which means that there are only two answer categories: (1) Voted and (0) Did not vote. This means that the minimum score of *Youth voting* is 0 and the maximum score is 1. The mean of this variable is 0,8027, which means that 80,27 percent of the total sample voted at least once in any election on the local, regional, national or EU level.

Table D.1 and table D.2 in appendix D present the turnout percentages of the Eurobarometer respondents in 2015. These are the non-weighted percentages, and are thus not similar to the turnout percentages which were presented in the Eurobarometer report and the introduction chapter. Table D.1 shows the percentage of respondents who did vote in any election. This can be at the local-, regional-, national- or EU level. These percentages are on average very high because this is an accumulation of elections of all different kinds. Figure 4.1 demonstrates the turnout percentages of young citizens between 2013 and 2015.

Figure 4.1: European Youth Voting-Turnout percentages during elections at local, regional, national and EU level between 2013-2015
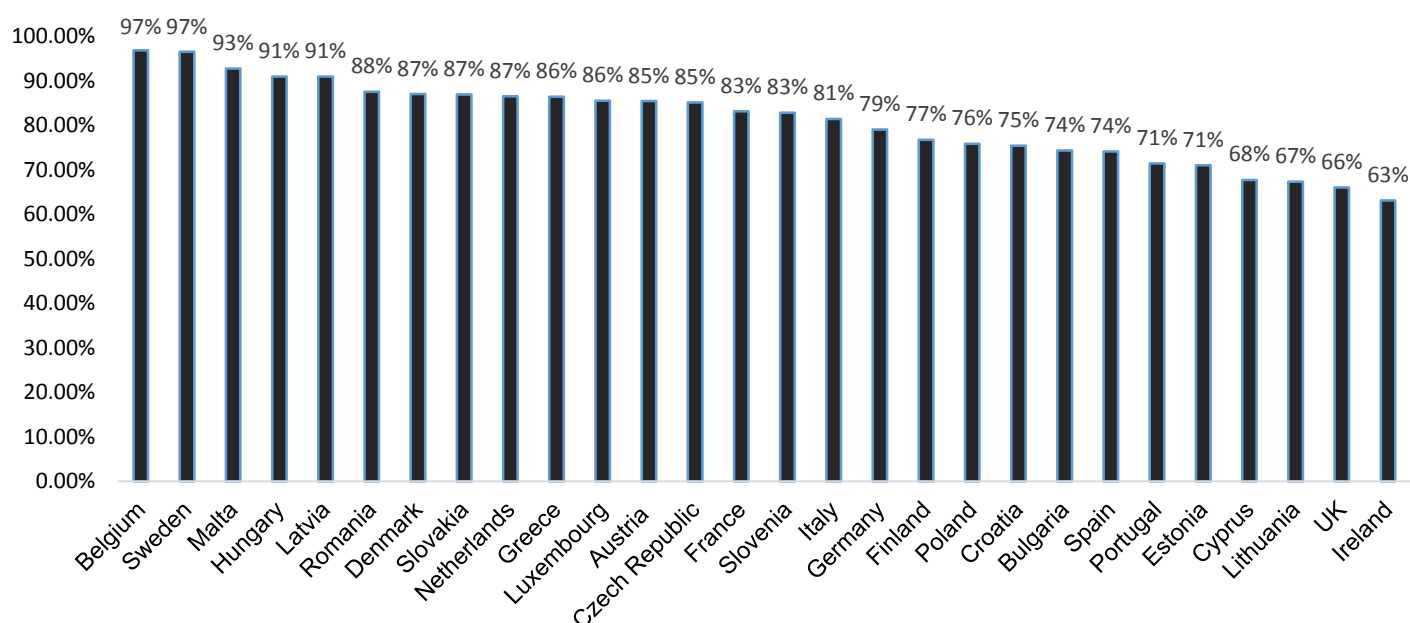
Source: Eurobarometer (2015)

The percentage of for example Belgium is very high, because this country has compulsory voting. The United Kingdom, Ireland, Lithuania and Cyprus score all below the 70 percent. Table D.2 shows the turnout of respondents during all different types of elections. Table 4.2 demonstrates the turnout of young citizens during national elections.

Figure 4.2: Youth Voting-Turnout percentages at National Elections between 2013-2015
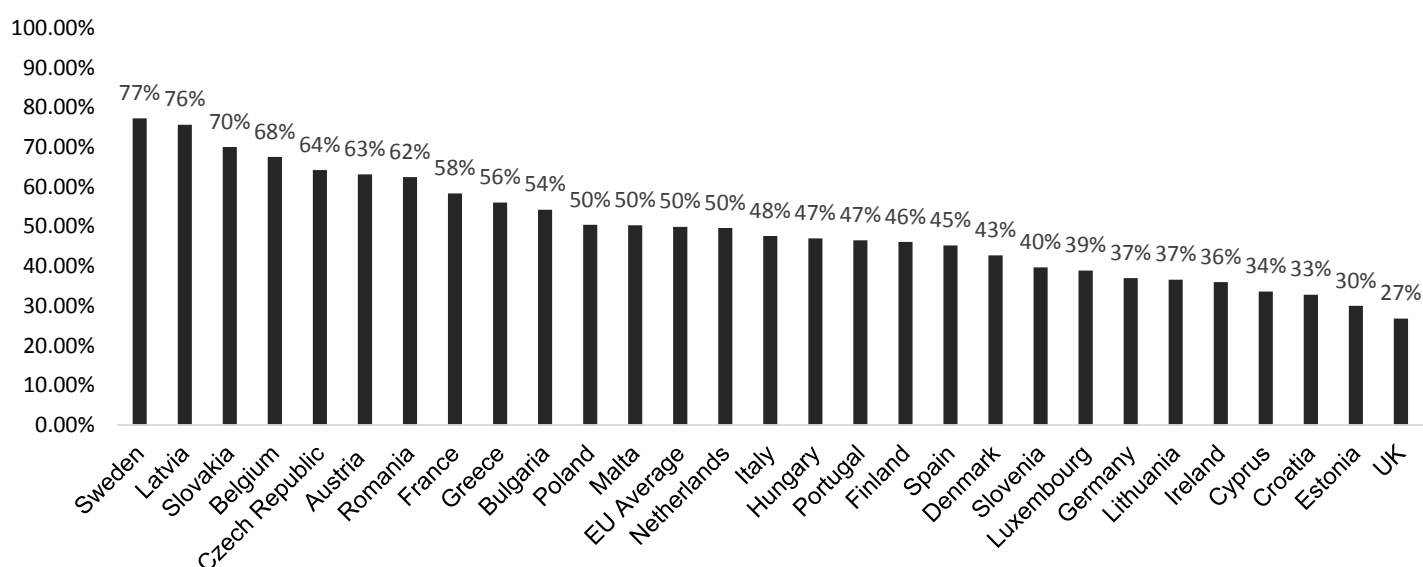
Source: Eurobarometer (2015)

What strikes are the low turnout percentages in countries like the United Kingdom, Germany and Ireland during national elections. Also Croatia, Cyprus, Estonia, Lithuania, Luxembourg and Slovenia all score below 40 percent. Sweden (77,2%) and Latvia (75,6%) have the highest turnout during national elections.

On average the voting turnout is at highest during local elections (51,5%) and during EU elections at its lowest level (35,5%). It is important to keep in mind that these are the non-weighted percentages. This means that the turnout percentages of a large country like for example Germany or the UK, are based on the same sample size as small countries, such as Estonia or Slovenia. According to Eurobarometer (2015) 15.044.288 German citizens aged between 15 and 30 are represented by 500 respondents in the Eurobarometer Survey, while 295.806 Estonian citizens are also represented by 500 respondents in the survey. Therefore weight factors are added to solve these imbalances within the data. Another factor that can be harmful for the representativeness of the sample is the varying amount of citizens within the sample that are not old enough to vote. Excluding this group of respondents, leads to imbalances among the different EU country samples. Luxembourg (41,2%) and Malta (35%) have a very high amount of citizens within the sample which are not old enough to vote. Excluding them, would reduce the country samples to only 179 and 192 unique respondents representing two countries.

Surprisingly, the Netherlands and the United Kingdom also have a high percentage of young respondents who are not old enough to vote. The original samples of those countries are however bigger than the samples of Luxembourg and Malta, thus the final samples still consist respectively 366 respondents for the Netherlands, and 347 respondents for the United Kingdom.

4.1.2. Micro-level Independent Variables

The first micro-level independent variable **Education**, can be divided into two parts: *current level of education (still studying)* and *highest level of completed education*. The first one measures the current level of education of the respondents which are still studying and haven't completed their highest level of education yet. This variable is measured at a 5-point scale. The general descriptives of this variable can be found in table 4.1 and the more detailed descriptives in table D.3. 26,5% of the total respondent sample answered that they are still studying. A large part of this group of respondents follows higher education (63%). Upper Secondary Education General Education, and Vocational Secondary Level score respectively 13,2% and 12%. The smallest groups of respondents answered that they are following Lower Secondary Level (2,6%) and Post-Secondary Level (9,2%). This variable has only 0,2% missings.

The second part of the variable measures the highest level of completed education of respondents which are not studying. 73,5% of the total sample belongs to this group. This variable is also measured at a 5-point scale and the general descriptives and more detailed descriptives can also be found in table 4.1 and table D.3. Similar to the first group of respondents, the biggest part of the

respondents of this second group completed a higher education (37,2%). Upper Secondary Level Education, General Education (18,7%) and Upper Secondary General Vocational Education (27,1%) are well represented. Again, the smallest two categories are Lower Secondary or less (8,2%) and Post-Secondary, Non-Higher Education (8,7%). This variable has 2,4% missings.

The second micro-level variable is ***Organizational Membership***. This is a dichotomous variable with the categories (1) Yes and (0) No. The descriptives of this variable can be found in table 4.1. Of the total sample of 11.408 respondents, 11.386 respondents answered this question with either yes or no. 22 respondents did not answer this question and are thus coded as missing. The mean value of this variable is 0,246, which means that 24,6% of the respondents participated in voluntary activities. These are 2800 respondents. Because this variable has only two categories, the minimum value is 0 and the maximum value is 1.

4.1.3. Macro-Level Independent Variables

The first macro-level independent variable is ***Wealth***. This is a continuous variable, ranging between 18.248 and 102.132. The mean score is 38.692 dollars per capita. Table D.4 in the appendix shows the GDP of all 28 EU countries. Luxembourg has the highest GDP per capita (102.132 dollars per capita) and Bulgaria has the lowest GDP per capita (18.248 dollars per capita). Regarding the fact that GDP data of all countries is available and from each of the 11.408 respondents of the Eurobarometer Survey the country of living is known, consequentially there are no missings.

The second macro-level independent variable is ***Working Hours***. This is a ratio variable with a minimum of 30,10 and a maximum of 42,20. The mean value of this variable is 38,09, which means that on average an EU citizen works 38 hours per week. There is data available of all 28 EU countries, which means that there are no missing values. In the Netherlands, a citizens has the shortest working week (30,1 hours), while in Greece citizens have the longest working week (42.2 hours).

The third macro-level independent variable is ***Social Trust***. This is a continuous variable measured at an eleven point scale, ranging between 0 and 10. There is data available from 27 of the 28 EU countries. There is no data available of Malta, which means that there are 192 missings. The data of 9 different countries is collected from earlier rounds, namely 2012, 2010, 2008 and 2004. I decided to collect data from older ESS rounds, because otherwise I was only able to collect data from 18 out of 28 countries. Besides, I collected data from a short time range of 10 years, in which I assume that both social- and political trust do not vary too much. The country with the lowest score on social trust is Bulgaria, with a score of 3,32 on an 11 point scale. The country with the highest score on social trust is Denmark, with a score of 6,90 on an 11 point scale. The mean score on social trust is 4,76. More detailed descriptives can be found in Appendix D, table D.5.

The fourth macro-level independent variable is ***Political Trust***. This is a continuous variable measured at an eleven point scale, ranging between 0 and 10. There is data available of 27 of the 28 EU countries. There is no data available from Malta, which means that there are 192 missings. Similar

to the data of social trust, the data of 9 different countries is collected from earlier rounds, namely 2012, 2010, 2008 and 2004. The country with the lowest score on political trust is Greece with a score of 1,59 on an eleven point scale. The country with the highest score is Sweden with a score of 5,44. The mean score on political trust is 3,28. More detailed descriptives can be found in Appendix D table D.5.

The fifth macro-level independent variable is ***Representativeness of the Electoral System***. This is a categorical variable measured at a nominal measurement level. The three categories are (1) Majoritarian Electoral System; (2) PR Electoral System; and (3) Mixed Electoral System. A large majority of 22 countries has a PR electoral system. Only the UK and France have a majoritarian electoral system and Germany, Hungary, Lithuania, and Romania have a mixed electoral system. There are no missing values. Table D.6 in the appendix shows the electoral systems for each country.

The sixth macro-level independent variable is ***Polarization of Electoral System***. This is a continuous variable with a minimum score of 1,97 and a maximum score of 7,82. On average the polarization degree of the electoral system type within the 28 EU countries is 4,10 political parties. In other words, on average the European electoral systems consists of four effective political parties. The country with the biggest amount of effective political parties is Belgium with almost 8 effective political parties. The countries with the lowest amount of effect political parties are France, Hungary, Malta and Romania with only around two effective political parties. There are no missings.

The seventh macro-level independent variable is ***Conservativeness of Government***. This is a categorical variable coded on a ten point scale, with a score of 0 meaning ultra- left, and a score of 10 meaning ultra-right. The minimum score on this left-right scale for this sample is 3, and the maximum score on the left-right scale of this sample is 7,5. Greece, Slovenia, and Croatia have the most left-wing governments (they all score 3 out of 10), while the UK, Spain, Cyprus, and Poland have the most right-wing governments (they all score 7,5 out of 10). The mean score on this variable is 5,41. There is no data available of Romania, which results into a missing of 465 respondents.

4.1.4. Control Variables

The first control variable is ***Age***, which is measured as the age of the respondent in years. This variable is measured at a micro-level. The youngest respondents in the sample are 15 years old, while the oldest respondents are 30 years old. The average age of this sample is 23,63 years old, with a standard deviation of 3,661 years. There are no missing values. The second control variable is ***Gender***. This variable is measured at the micro-level. For the analysis I made a dummy-variable *Female* with the male respondents as the reference category. There are less men than women, 48,2% against 51,8%. There are no missings. The third control variable is ***Compulsory Voting***. This variable is measured at the macro-level. For the analysis I made a dummy-variable *Compulsory Voting* with the no compulsory voting countries as the reference category. There are three countries with compulsory

voting: Belgium, Greece and Luxembourg. Those countries contain 9,1% of the total sample. There are no missings.

Table 4.1: Descriptives of the variables based on the 2015 EB survey

N: 11.408	Valid N	Mean or %	Std. deviation	Minimum	Maximum	Missings
Dependent variable						
Youth Voting	11.408			0	1	0
Did not vote (Reference)		19,7%				
Voted		80,3%				
Micro level independent variables						
Education	11.261			0	1	147 (1,3%)
Lower Secondary Level, or Less (Reference)		6,7%				
Upper Secondary Level, General Education		17,3%				
Upper Secondary Level, General Vocational Education		22,8%				
Post-Secondary, Non-Higher Education		8,7%				
Higher Education		44,0%				
Organizational Membership	11.386			0	1	22 (0,19%)
No (Reference)		75,4%				
Yes		24,6%				
Macro level independent variables						
Wealth	11.408	38,692	14,145	18,248	102,132	0
Working Hours	11.408	38,094	2,43714	30,10	42,20	0
Social Trust	11.216	4,7568	0,91174	3,32	6,90	192 (1,68%)
Political Trust	11.216	3,2782	1,11143	1,59	5,44	192 (1,68%)
Representativeness of the Electoral System	11.408			0	1	0
Majoritarian (Reference)		6,7%				
PR		78,4%				
Mixed		14,9%				
Polarization Electoral System	11.408	4,1049	1,41675	1,97	7,82	0
Conservativeness of Government	10.943	5,4135	1,71744	3,02	8,44	465 (4,08%)
Control variables						
Age	11.408	23,63	3,661	15	30	0
Gender	11.408			0	1	0
Male (Reference)		48,2%				
Female		51,8%				
Compulsory Voting	11.408			0	1	0
No (Reference)		90,9%				
Yes		9,1%				

4.2.   Multi-Level Data Models

In the previous chapter, I assumed that the data I used for the analysis was nested. In other words, the young citizens within the analysis depend on the countries to which they belong. This assumption of correlation is also known as the *intraclass correlation* (ρ). In this paragraph, I am going to test this assumption of nested data. It is important to validate this assumption, because the data structure determines the method of analysis. There are two ways of testing the nestedness of my model: measuring the intraclass correlation coefficient and the likelihood ratio (LR) test.

A first way of testing the nestedness of my model is to calculate the intraclass correlation (ICC). The intraclass correlation can be calculated by dividing the variance caused by level 2 with the total variance of Y. In other words, the intraclass correlation is the proportion of variance which is caused by level 2. The variance caused by level 2 is 0,678 and the total variance of Y is 3,968. The intraclass correlation of my 2-level null model is 0,171 which means that 17,1 percent of the total variance is explained by the variance between countries. From this I conclude that a substantial part of the variance of youth voting can be explained by differences between countries. Therefore it is necessary to use a multi-level approach.

The likelihood ratio test (also called the deviance test), can be used to indicate how well the model fits the data (Hox, 2010). The likelihood ratio test compares the -2Log Likelihood (-2LL) of two different models. The first model has a set of parameters (variables), and the second model has all parameters from the first model, plus some additional other variables. The likelihood ratio test uses the following formula:

$$LR = -2 \frac{L(m1)}{L(m2)} = 2(ll(m2) - ll(m1)) \qquad (4.1)$$

$L(m^*)$ indicates the likelihood of the respective model, while $ll(m^*)$ is the natural log of the models' likelihood (UCLA, 2017). When there is a large difference in the -2LL, it is likely that the model with the lowest -2LL value better fits than the other model. This can be tested with a chi-square test. This test can test the statistical significance of the difference between the two models.

I started the likelihood ratio test with a level-1 null model, which only includes a fixed intercept(β_0). I compared this level-1 null model with a multilevel null model which includes a fixed intercept(β_0) and a random disturbance (u_{0j}). The two models can be expressed by the following two formulas:

Null model: $\ln\left(\frac{p}{1-p}\right) = \beta_0$ (4.2)   ML-model: $\ln\left(\frac{p}{1-p}\right) = \beta_0 + u_{0j}$ (4.3)

Within this second model, the respondents are nested within 28 different countries. The loglikelihood of the level 1 model is -5676.2815 and the loglikelihood of the level 2 model is -5439.4664. The difference between the -2LL of these two models is 473,63 which is statistically significant ($p < 0.001$). This suggest that the between-country variance is significant for my data. Thus I conclude that the multi-level null model better fits than the single-level null model. The results of the logistic regression of the level-1 null model and the level-2 null model can be found in the Appendix table D.7.

4.3.   Bivariate analyses

In paragraph, I will test the hypotheses of my research using bivariate analyses. The hypotheses will be tested in the same order as discussed in the theoretical part. The interaction hypothesis (H4b) will however be discussed in the following paragraph, because this hypothesis contains more than two variables. In order to illustrate the explanatory power of the independent variables, the margins for each variable are computed and graphed. After testing the bivariate analyses and the interaction effect, I will test larger models consisting the three control variables. Finally, I will test full multi-level models consisting all variables and control variables.

Regarding the choice of the alpha values, which determine whether a relationship between variables is significant or not, I decided that alpha value levels are different depending on the level of measurement. For micro-level variables, I used significant alpha levels of $p<0.05$, 0,01 or 0.001. The macro-level variables are significant at $p<0.1$, 0.05, and 0.01. The reason why the alpha levels differ regarding their level of measurement is because macro-level variables are more limited in their amount of observations, while micro-level variables are based on thousands of observations.

Education

The expected effect of the first hypothesis is than an increase in the education results into an increase in the dependent variable *Youth Voting*. The independent variable *Education* is measured with 5 dummy variables representing the 5 different levels of education. The first category, consisting the young citizens with the lowest level of education, is used as the reference category and is not included in the analysis. All results of the bivariate analyses of the independent variables can be found in table 4.2 below this paragraph.

First of all, all B-coefficients of the Education dummy variables are highly significant ($p<0.001$). Starting with the first education category, Upper Secondary, General Education, I found a positive coefficient of 0.643. In other words, the log odds of this first dummy variable are 0.643. To make my results more intuitive to interpret, I also calculated the odds ratios of all variables by taking the exponent of the B-coefficients. An odds ratio smaller than 1 means that there is a negative effect, an odds ratio equal to 1 means that there is no effect, and an odds ratio bigger than 1 means that there is a positive effect between X and Y. The odds ratio of Upper Secondary, General Education dummy

variable is 1.902, which means that there is a strong positive relationship between Education and Youth Voting. The odds of voting are 1.902 times greater for a young citizen who enjoyed 'Upper Secondary, General Education' as compared to a young citizen who enjoyed 'Lower-Secondary or Less Education'. The direction of the coefficient is in the expected direction, and the result of this bivariate analysis therefore supports hypothesis 1.

The second category of Education is 'Upper Secondary, General Vocational Education'. The B- coefficient for this variable is 0.593, which is significant with a p value of < 0.001. This means that the log odds for this variable are 0.593, which is also a positive effect. This positive effect is however a little smaller compared to the previous education category. The odds ratio for this coefficient is 1.809, which indicates that the odds of voting is 1.809 times greater for a young citizen who enjoyed 'Upper Secondary, General Vocational Education', as compared to someone who enjoyed 'Lower-Secondary, or Less Education'. The direction of the coefficient is in the expected direction, and the result of this bivariate analysis supports hypothesis 1.

The third category of Education is 'Post-Secondary, Non-Higher Education'. The B-coefficient for this variable is 0.898, which is significant with a p value of < 0.001. This means that the log odds for this variable are 0.898, which is a positive effect. This positive effect is stronger than for the previous two categories of Education. The odds ratio for this coefficient is 2.455, which indicates that the odds of voting is 2.455 times greater for a young citizen who enjoyed 'Post-Secondary, Non-Higher Education' , as compared to a young citizen who enjoyed 'Lower-Secondary, or Less Education'. The direction of the coefficient is in the expected direction, and the results of this bivariate analysis supports hypothesis 1.

Lastly, the fourth category is 'Higher Education'. The B-coefficient for this variable is 1.683, which is significant with a p value of < 0.001. This means that the log odds for this variable are 1.683, which is a strong positive effect. The 'Higher Education' category shows the strongest positive effect compared to the reference category. The odds ratio for this coefficient is 5.382, which indicates that the odds of voting is 5.382 times greater for a young citizen who enjoyed 'Higher Education' as compared to a young citizen who enjoyed 'Lower-Secondary, or Less Education'. The direction of the coefficient is in the expected direction, and the results of this bivariate analysis supports hypothesis 1.

To conclude, hypothesis 1 is supported by all 4 categories representing the levels of education. All results are highly significant, and especially the young citizens who enjoyed 'Higher Education' are more likely to vote.

Wealth

The expected effect of hypothesis 2 is that an increase in wealth of a country increases the probability of youth voting. The independent variable '*Wealth*' is continuous and measured at the macro-level. As table 4.2 shows, the estimation for *Wealth* is not significant at any alpha level. The coefficient is

however in the expected direction: an increase in the wealth of a country, results in an increase in the probability of voting of young citizens.

The log odds of this variable are 0.006, which results into an odds ratio of 1.006. This means that the odds of voting of young citizens increases with 0.6 percent for every percent increase in wealth. Regarding the fact that this is not significant, I cannot support hypothesis 2.

Working Hours

The expected effect of hypothesis 3 is that an increase in the average amount of working hours causes a decrease in the probability of youth voting. *Working Hours* is continuous and measured at the macro-level. As table 4.2 shows, the estimation of *Working Hours* is not significant. The coefficient is however in the expected direction: an increase in the average amount of working hours within a country, results in an decrease in the probability of voting of young citizens. The log odds of this variable are -0.045, which results into an odds ratio of 0.956. This means that the odds of voting of young citizens decreases with 2,9 percent for each percent increase in the average amount of working hours per week. Regarding the fact that I did not found a significant effect, this bivariate analysis does not support hypothesis three.

Organizational Membership

The expected effect of hypothesis 4a is that being a member of a voluntary organization, positively influences the probability of youth voting. This variable is a dummy variable, with two categories: Yes (1) and No (0). This variable is measured at the micro-level. The young citizens who did not participate in voluntary organizations (0) are used as the reference category and are thus not included within the analysis. As table 4.2 demonstrates, the estimation of *Organizational Membership* is significant with a *p* value of <0.001. The coefficient is in the expected direction: an increase of participation in voluntary organizations, positively influences the probability of youth voting. The log odds of this variable are 0.532, which results into an odds ratio of 1.702. This means that the odds of voting of a young citizen increases with 70,2 percent when he or she decides to participate in a voluntary organization. This bivariate analysis strongly supports hypothesis 4a.

Social Trust

The expected effect of hypothesis 5a is that an increase in the average level of social trust within a country causes an increase in the probability of youth voting. *Social Trust* is continuous and measured at the macro-level. As table 4.2 shows, the estimation of *Social Trust* is not significant. The coefficient is however in the expected direction: an increase in the average level of social trust within a country, positively influences the probability of youth voting. The log odds of this variable are 0.158, which results into an odds ratio of 1.171. This means that the odds of voting of a young citizen increases with

17,1 percent for each percent increase in the average level of Social Trust. Regarding the fact I did not found a significant result, this bivariate analysis does not support hypothesis 5a.

Political Trust

The expected effect of hypothesis 5b is that an increase in the average level of political trust within a country causes an increase in the probability of youth voting. *Political Trust* is continuous and measured at the macro-level. As table 4.2 demonstrates, the estimation of *Political Trust* is significant with a *p* value of <0.1. The coefficient is in the expected direction: an increase in the average level of political trust within a country, positively influences the probability of voting of young citizens. The log odds of this variable are 0.205, which results into an odds ratio of 1.228. This means that the odds of voting of a young citizen increases with 22,8 percent for each percent increase in the average level of Political Trust. This bivariate analysis supports hypothesis 5b.

Representativeness of the Electoral System

The expected effect of hypothesis 6 is that an increase in the representativeness of an national electoral system positively influences the probability of youth voting. This variable measured at a nominal measurement level. I made for each electoral system type separate dummy variables. There are three dummy variables: (1) Majoritarian (2) PR and (3) Mixed. Countries having a majoritarian electoral system are not included within the analysis, because this category is used as the reference category.

First of all, all B-coefficients are not significant. Starting with the first category, PR electoral systems, I found a positive coefficient of 0.492. In other words, the log odds of this first dummy variable are 0.492. This B-coefficient results into an odds ratio of 1.636, which means that the odds of voting are 1.636 times greater for a young citizen who lives in a country with a PR electoral system compared to a young citizen living in a country with a majoritarian electoral system. The direction of this coefficient and odds ratio is in the expected direction, however the result of this bivariate analysis does not support hypothesis 6.

The second category is '*Mixed',* which contains all counties with a mixed electoral system. I found a positive coefficient of 0.084. In other words, the log odds of this second dummy variable are 0.084. This result is not significant. This B-coefficient results into an odds ratio of 1.088, which means that the odds of voting are 1.088 times greater for a young citizen who lives in a country with a mixed electoral system compared to a young citizen living in a country with a majoritarian electoral system. Regarding the fact I did not found a significant effect, this bivariate analysis does not support hypothesis 6.

Polarization Electoral System

The expected effect for hypothesis 7 is that an increase in the polarization of the electoral system of a country causes an increase in the probability of youth voting. *Polarization Electoral System* is continuous and measured at the macro-level. As the table 4.2 demonstrates, the estimation of *Polarization Electoral System* is significant with a *p* value of <0.05. The coefficient is in the expected direction: an increase in the polarization of a country's electoral system, positively influences the probability of youth voting. The log odds of this variable are 0.177, which results into an odds ratio of 1.194. This means that the odds of voting for a young citizen increases with 19,4 percent of each percent increase in polarization of the electoral system. This bivariate analysis supports hypothesis 7.

Conservativeness of Government

The final two hypothesis are about the same independent variable: ʼ*Conservativeness of Government'*. The first hypothesis is formulated in a positive direction, while the second hypothesis is formulated in a negative direction. The independent variable '*Conservativeness of Government'* is continuous and measured at the macro-level. The bivariate analysis of this variable can be found in table 4.2. As the table shows, the estimation of *'Conservativeness of Government'* is not significant. The coefficient is consistent with the first hypothesis, because there is a negative association between the degree of conservativeness of a country's government and the probability of youth voting. The log odds of this variable are -0.099 which results into an odds ratio of 0.906. This means that the odds of voting for a young citizen decreases with 9,4 percent for each percent increase in conservativeness of the country's government. The bivariate analysis does however not support hypothesis 8a and 8b, because I did not found a significant effect.

Table 4.2: Multi-level Bivariate Regressions

Independent variable	B	Odds Ratio
Education (ref.: Lower-Secondary or Less)		
Upper Secondary, General Education	0.643*** (0.963)	1.902
Upper Secondary, General Vocational Education	0.593*** (0.094)	1.809
Post-Secondary, Non-higher Education	0.898*** (0.118)	2.455
Higher Education	1.683*** (0.094)	5.382
Wealth	0.006 (0.008)	1.006
Working Hours	-0.045 (0.053)	0.956
Organizational Membership (ref.: No)	0.532*** (0.062)	1.702
Social Trust	0.158 (0.141)	1.171
Political Trust	0.205* (0.109)	1.228
Representativeness of the Electoral System (ref.: Majoritarian)		
PR	0.492 (0.491)	1.636
Mixed	0.084 (0.575)	1.088
Polarization Electoral System	0.177**(0.087)	1.194
Conservativeness of Government	-0.099 (0.075)	0.906

For micro-level variables: *=p<.05; **=p<.01; ***= p<.001 (two-sided). For macro-level variables: *=p<.1; **=p<.05; ***=p<.01 (two-sided). Standard errors are noted in parentheses next to the unstandardized coefficients. *Source:* Eurobarometer (2015); OECD (2017); WorldBank (2015); European Social Survey (2004;2008;2010;2012); International IDEA (2017); Gallagher (2017); ParlGov (2015).

4.4. Interaction Effects

In this paragraph I am going to test the independent variables with interaction effects. The expectation of an interaction effect is that it increases the effects of independent variables on the dependent variable. The results for the interaction regressions can be found in table 4.3. This thesis contains one interaction hypothesis (H4b). This hypothesis argues that the higher the level of the young citizen's education is, the stronger the effect of voluntary membership on the probability of voting becomes. The expectation for this hypothesis is that an increase in *Education* increases the positive effect that *Organizational Membership* has on the probability of voting of a young citizen. However, after doing the interaction analysis, only the *Education* dummy variables were significant with a *p* value of <0.001. The *Organizational Membership* variable and the interactions between the *Organizational Membership* variable and the *Education* dummy variables are not significant at any *p* value. From this I conclude that there is no significant interaction effect of *Education* that influences the effect of *Organizational Membership* on *Youth Voting*.

Table 4.3: Multi-level Regression Analysis of Interaction Effects

Fixed Effects	Model 1
Intercept	0.509**
Organizational Membership (ref. No)	0.291 (0.214)
Education (ref.: Lower-Secondary or Less)	
Upper Secondary, General Education	0.603*** (0.106)
Upper Secondary, General Vocational Education	0.561*** (0.102)
Post-Secondary, Non-higher Education	0.818*** (0.130)
Higher Education	1.643*** (0.103)
Organizational Membership * Education (ref.: Lower-Secondary or Less	
Upper Secondary, General Education	0.108 (0.255)
Upper Secondary, General Vocational Education	0.220 (0.253)
Post-Secondary, Non-higher Education	0.285 (0.300)
Higher Education	0.026 (0.237)
Random Effects	
Country variance	0.751 (0.107)
Model Summary- log likelihood	-5048.74

For micro-level variables: *=p<.05; **=p<.01; ***= p<.001 (two-sided). For macro-level variables: *=p<.1; **=p<.05; ***=p<.01 (two-sided). Standard errors are noted in parentheses next to the unstandardized coefficients. *Source*: Eurobarometer (2015).

In order to illustrate the results of the interaction effect I plotted the margins for the variables *Education* and *Organizational Membership*. The results can be found in Appendix D table D.8. I plotted the results into the figure 4.3 on the next page.

Despite I found no significant results for the interaction hypothesis, I can conclude from the margins plot that young citizens have a higher probability to vote when they become a member of a voluntary organization or start with participating in voluntary activities. Besides, the higher the level of education of a young citizen, the higher the probability to vote. An additional conclusion from this graph can however be made, when you observe the marginal effects. Namely, the probability of youth voting increases more for Upper educated young citizens, compared to the higher and lower educated young citizens, when they become a member of a voluntary organization, or participate in voluntary activities.

In other words, there is perhaps no significant interaction effect for all education categories, however it is possible to find marginal interaction effects. From this I conclude that when you look closer at the marginal effects I can conclude that the effect of *Organizational Membership* on *Youth Voting* is different for each *Education* category.

Figure 4.3: Margins plot for interaction Education and Organizational Membership
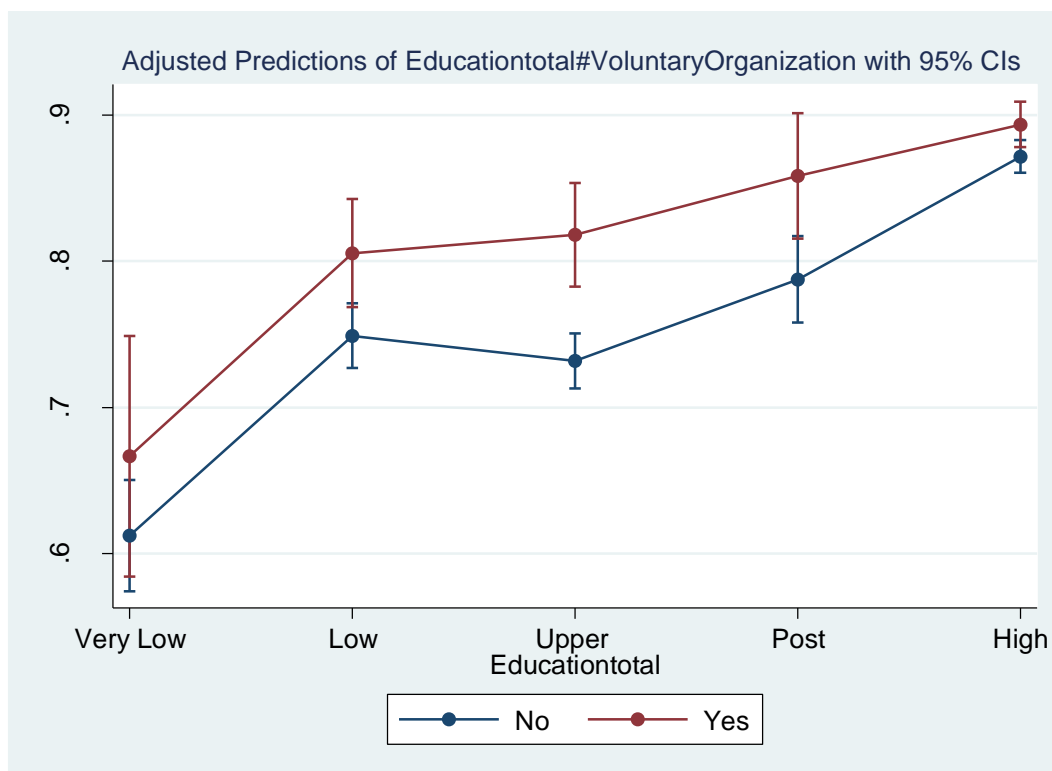
4.5.   Models with Control Variables

Until now, I analysed the bivariate regressions and the multi-level interactions. Those models were the most basic models. To avoid biases in my bivariate analyses and interaction analysis, I now introduce my three control variables. There are no specific hypotheses about these variables, because they are expected to have an impact on both the independent variables and the dependent variable. The control variables for this thesis are: *Age, Gender,* and *Compulsory Voting*. The expectation for *Age* as a control variable is that an increase in the age of a young citizen increases the probability of voting. The expectation for *Gender* as a control variable is that male young citizens are more likely to vote than female young citizens. Finally, the expectation for *Compulsory Voting* as a control variable is that young citizens living in countries with compulsory voting are more likely to vote than young citizens living in countries without compulsory voting. In the following part, I will again analyse all hypotheses with the control variables. In the first model I included all micro-level variables (Education and Organizational Membership) controlled for age, gender and compulsory voting. In the following 7 models I included all macro-level variables (Wealth, Working Hours, Social Trust, Political Trust, Representativeness of the Electoral System, Polarization Electoral System and Conservativeness of Government). Finally, in the last model I controlled the interaction between Education and Organizational Membership for age, gender and compulsory voting.

4.5.1. Micro-Level Independent Variables with Control Variables

Education

The first hypothesis (H1) argued that higher educated young citizens are more likely to vote than lower educated citizens. The dummy variables for *Education* are used in Model 1 in order to test the first hypothesis. Model 1 in table 4.4 below the end of this paragraph demonstrates the results of the logistic regression with the dummy-variables for *Education*, *Organizational Membership* and the control variables for age, gender and compulsory voting.

To start with the first *Education* dummy variable 'Upper Secondary Vocational Education', I found a coefficient of 0.659 which is significant with a *p* value of <0.001. Compared to the bivariate analysis (0.643), the coefficient is a bit higher. Translating the log odds into the odds ratio results into an odds ratio of 1,933. This indicates that the odds of youth voting are 1,933 times higher for those young citizens who enjoyed Upper Secondary, General Education, compared to young citizens who enjoyed Lower Less than Secondary Education. The expected direction of the variable remains the same.

The second dummy variable 'Upper Secondary, General Vocational Education' has a coefficient of 0.582, which is also significant with a *p* value of <0.001. Compared to the bivariate analysis (0.593), the coefficient is a bit lower. Translating this into odds ratio results into an odds ratio of 1,790. This can be interpreted as that odds of youth voting are 1,790 times higher for those young

citizens who enjoyed Upper Secondary, Vocational Education, compared to young citizens who enjoyed Lower Less than Secondary Education. The expected direction of this variable remains the same.

The third dummy variable 'Post-Secondary, Non-Higher Education' has a coefficient of 0.873, which is significant with a p value of <0.001. Compared to the bivariate analysis (0.898), the coefficient is a bit lower. Translating this into odds ratio results into an odds ratio of 2,394. This can be interpreted as follows: the odds of youth voting are 2,394 times higher for those young citizens who enjoyed Post-Secondary, Non-Higher Education, than young citizens who enjoyed Lower Less than Secondary Education. The expected direction of this variables remains the same.

The fourth dummy variable 'Higher Education' has a coefficient of 1,625 which is significant with a p value of <0.001. Compared to the bivariate analysis (1,683), the coefficient is a bit lower. Translating this into odds ratio results into an odds ratio of 5,078. This indicates that the odds of youth voting are 5,078 times higher for those young citizens who enjoyed Higher Education, compared to those young citizens who enjoyed Lower Less than Secondary Education. The expected direction of this variable remains the same.

The micro-level control variables Age and Gender are significant with a p value of <0.001. The macro-level control variable Compulsory Voting is significant with a p value of <0.05. Over all, I can conclude that the this first model with control variables strongly supports hypothesis 1. In other words, the probability of youth voting increases when the level of education of a young citizen increases.

Organizational Membership

The fourth hypothesis (H4a) argues that the being a member of a voluntary organization or participating in voluntary activities increases the probability of youth voting. Similar to the bivariate analysis, I found a significant result for *Organizational Membership* with a p value of p<0.001. Compared to the bivariate analysis, the coefficient of the model with control variable decreased from 0,532 to 0,426. The log odds of this variable results into an odds ratio of exp(0,426) = 1,531. This means that the odds of youth voting increases with 53,1 percent when a young citizen becomes a member of a voluntary organization, or participates in voluntary activities. The control variables age, gender and compulsory voting are all significant with p values of respectively p<0.001, p<0.001 and p<0.05. Concluding, according to both the bivariate analysis and the analysis with control variables, there is a significant strong positive effect between *Organizational Membership* and *Youth Voting*. Hypothesis 4a is thus again supported by this analysis and the coefficient is in the expected direction.

4.5.2. Macro-Level Independent Variables with Control Variables

Wealth

The second hypothesis (H2) argued that the more wealthier a country in which a young citizen lives, the more likely he or she is to vote. Model 2 demonstrates the result of the regression. Similar to the bivariate analysis, the *Wealth* variable is not significant at any alpha value. The coefficient for *Wealth* is smaller in the model with control variables, because it decreased from 0.006 to -0.002. The coefficient thus became negative. The control variables age, gender and compulsory voting are all significant. Age and gender are significant with a *p* value of $p<0.001$. Compulsory voting is significant with a *p* value of $p<0.05$. Concluding, there is no effect of *Wealth* on *Youth Voting* according to this database.

Working Hours

The third hypothesis (H3) argues that the more a young citizen has to work per week, the less spare time he or she has to participate in civil society which decreases the probability of voting. Model 3 demonstrates the result of the regression for *Working Hours* with the micro-level variables and control variables. Similar to the bivariate analysis, I did not find a significant effect for *Working Hours* on *Youth Voting*. The coefficient for *Working Hours* is a bit higher in the model with control variables (-0.070) compared to the coefficient for *Working Hours* in the bivariate analysis (-0.045). The control variables age, gender and compulsory voting are all significant with *p* values of respectively $p<0.001$, $p<0.001$ and $p<0.05$. Concluding, according to this database there is no effect between *Working Hours* and *Youth Voting*.

Social Trust

The sixth hypothesis of this thesis argues that the average level of social trust within a country positively influences the probability of youth voting (H5). The bivariate analysis with the independent variable *Social Trust* had no significant result. The analysis of the *Social Trust* variable with control variables is demonstrated in table 4.4. in model 4. Also with control variables, I found no significant result for the *Social Trust* variable. The coefficient for *Social Trust* (0.197) is a bit higher in the model with control- and micro-level variables, than in the bivariate analysis (0.158). The control variables age, gender and compulsory voting are significant with *p* values of respectively $p<0.001$, $p<0.001$ and $p<0.05$. Concluding, according to both the bivariate analysis and the analysis with control variables, there is no significant relationship between *Social Trust* and *Youth Voting*. Hypothesis 5 is thus not supported by the analyses.

Political Trust

The seventh hypothesis of this thesis argues that the average level of political trust within a country positively influences the probability of youth voting (H6). The bivariate analysis with the independent

variable *Political Trust* demonstrated a significant result with a *p* value of p<0.1. Model 5 demonstrates the results of the analysis of *Political Trust* with the micro-level variables and the control variables. The coefficient of the analysis with control variables is also significant with a *p* value of p<0.1. The coefficient of the analysis with control variables (0.208) is also a bit higher than the coefficient of the bivariate analysis (0.205). Translating the log odds into odds ratio, results into an odds ratio of exp(0.208) = 1.231, which is quite high. This result can be interpreted as follows: if the average level of political trust within a country increases with 1 point on an eleven point scale, the odds of youth voting increases with 23,1 percent. The control variables age, gender and compulsory voting are all significant with *p* values of respectively p<0.001, p<0.001 and p<0.05.

Concluding, according to both the bivariate analysis and the analysis with control variables, there is a strong significant positive relationship between *Political Trust* and *Youth Voting*. Hypothesis 6 is thus supported by the analyses.

Representativeness of the Electoral System

The eighth hypothesis of this thesis argues that young citizens living in countries with PR electoral systems are more likely to vote than young citizens living in countries with majoritarian electoral systems (H7). The bivariate analysis with the independent variable *Representativeness of the Electoral System* demonstrated no significant results for both PR and Mixed electoral systems. The analysis with control variables is demonstrated by model 6. Similar to the bivariate analysis, I found no significant results for both PR and Mixed electoral systems. The coefficient for PR electoral systems is in model 6 with the control variables and micro-level variables (0.612) higher than in the bivariate analysis (0.492). The coefficient for Mixed electoral systems is in model 6 with the control variables (0.437) is a much higher than in the bivariate analysis (0.084). The control variables age, gender and compulsory voting are all significant with *p* values of respectively p<0.001, p<0.001 and p<0.05. Concluding, according to both the bivariate analysis and the analysis with control variables, there is not significant relationship between the *Representativeness of the Electoral System* and *Youth Voting*. Hypothesis 7 is thus not supported by the analyses.

Polarization Electoral System

The ninth hypothesis of this thesis argues that young citizens living in countries with highly polarized electoral systems are more likely to vote than young citizens living in countries with no polarized electoral systems (H8). The bivariate analysis of this variable showed a significant result with a *p* value of p<0.05. Model 7 shows the result of the analysis with control variables. The coefficient of the analysis with the control variables is significant with a *p* value of p<0.1. The coefficient of the analysis with the control variables (0.163) is smaller than the coefficient of the bivariate analysis (0.177). Translating the log odds into odds ratio results into an odds ratio of exp(0.163) = 1,177. This means

that with 1 percent increase of polarization, the odds of youth voting increases with 17,7 percent. The control variables age, gender and compulsory voting are all significant with *p* values of respectively p<0.001 p<0.001 and p<0.05. Concluding, according to both the bivariate analysis and the analysis with control variables, there is a significant positive relationship between *Polarization Electoral System* and *Youth Voting*. Hypothesis 8 is thus supported by the analyses.

Conservativeness of Government

Finally the last hypothesis of this thesis argues that young citizens living in countries with conservative governments are less likely to vote (H9a). Hypothesis 9b argues the opposite effect. In the bivariate analysis I already found a negative association between *Conservativeness of Government* and *Youth Voting*. The coefficient of the bivariate analysis was however not statistically significant. Also model 8 does not show a significant result. The coefficient of *Conservativeness of Government* is a bit higher in the model with control variables (-0.084) than in the bivariate analysis (-0.099). This means that the negative effect of this variable is less strong in the model with the control variables. The control variables age, gender and compulsory voting are all significant with *p* values of respectively p<0.001, p<0.001 and p<0.05. Concluding, according to both the bivariate analysis and the analysis with control variables, there is not significant relationship between the *Conservativeness of Government* and *Youth Voting*. Hypothesis 9a and 9b are thus not supported by the analyses.

4.5.3. Interaction Education with Organizational Membership

Hypothesis 4b argues that the higher the level of the young citizen's education is, the stronger the effect of voluntary membership on the probability of voting becomes. This is an interaction effect between *Education* and *Organizational Membership*. The expectation for this hypothesis was that higher educated young citizens would experience a stronger positive impulse from participation in voluntary organizations, than young citizens with a lower level of education. In the bivariate analysis I did not found a significant result for this interaction, and also in model 9 I found no significant result. The coefficient of the first category 'Upper Secondary, General Education' is a bit lower in the analysis with control variables (0.090 compared to 0.108). The coefficient of the second category 'Upper Secondary, General Vocational Education' is also a bit lower (0.155 compared to 0.220). The coefficients of the third and the fourth category 'Post-Secondary, Non-higher Education' and 'Higher Education' are also lower. The coefficient of Post-Secondary, Non-Higher Education decreased from 0.285 to 0.233 and the coefficient of Higher Education became negative (-0.017). The control

variables age and gender are significant with a *p* value of p<0.001 and the control variable compulsory voting is significant with a *p* value of p<0.05. Concluding, beside the bivariate analysis, also the model with control variables did not provide a significant result for this interaction hypothesis. The data does not support hypothesis 4b.

Table 4.4: Multi-level Regression Models with Control Variables (table continues next page)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Fixed Effects									
Intercept	-0.623**	-0.561	2.007	-1.552**	-1.300***	-1.156**	-1.267***	-0.183	-0.609**
	(0.233)	(0.400)	(2.062)	(0.725)	(0.441)	(0.522)	(0.435)	(0.496)	(0.236)
Micro-Level Independent Variables									
Education (ref.: Lower-Secondary or Less)									
Upper Secondary, General Education	0.659***	0.659***	0.659***	0.643***	0.643***	0.658***	0.658***	0.675***	0.643***
	(0.097)	(0.097)	(0.097)	(0.097)	(0.097)	(0.097)	(0.097)	(0.100)	(0.106)
Upper Secondary, General Vocational Education	0.582***	0.582***	0.583***	0.578***	0.578***	0.582***	0.580***	0.580***	0.559***
	(0.095)	(0.095)	(0.095)	(0.095)	(0.095)	(0.095)	(0.095)	(0.097)	(0.102)
Post-Secondary, Non-higher Education	0.873***	0.873***	0.872***	0.861***	0.860***	0.874***	0.872***	0.880***	0.827***
	(0.119)	(0.119)	(0.119)	(0.120)	(0.120)	(0.119)	(0.119)	(0.122)	(0.131)
Higher Education	1.625***	1.625***	1.626***	1.627***	1.627***	1.626***	1.624***	1.632***	1.637***
	(0.095)	(0.095)	(0.095)	(0.095)	(0.095)	(0.095)	(0.095)	(0.097)	(0.104)
Organizational Membership (ref.: No)	0.426***	0.426***	0.424***	0.436***	0.435***	0.426***	0.425***	0.427***	0.358
	(0.065)	(0.065)	(0.065)	(0.065)	(0.065)	(0.065)	(0.065)	(0.065)	(0.215)
Macro-Level Independent Variables									
Wealth		-0.002							
		(0.009)							
Working Hours			-0.070						
			(0.054)						
Social Trust				0.197					
				(0.143)					
Political Trust					0.208*				
					(0.113)				
Representativeness of the Electoral System (ref.: Majoritarian)									

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
PR						0.612 (0.514)			
Mixed						0.437 (0.598)			
Polarization Electoral System							0.163* (0.093)		
Conservativeness of Government								-0.084 (0.078)	
Interactions									
Organizational Membership* Education									
Upper Secondary, General Education									0.090 (0.256)
Upper Secondary, General Vocational Education									0.155 (0.254)
Post-Secondary, Non-higher Education									0.233 (0.302)
Higher Education									-0.017 (0.237)
Control Variables									
Age	0.045*** (0.007)	0.045*** (0.007)	0.046*** (0.007)	0.043*** (0.007)	0.044*** (0.007)	0.045*** (0.007)	0.046*** (0.007)	0.045*** (0.007)	0.045*** (0.007)
Gender (ref.: Male)	-0.192*** (0.051)	-0.192*** (0.051)	-0.191*** (0.051)	-0.201*** (0.051)	-0.201*** (0.051)	-0.192*** (0.051)	-0.191*** (0.051)	-0.197*** (0.052)	-0.191*** (0.051)
Compulsory Voting (ref.: No)	0.996** (0.445)	1.033** (0.486)	1.070** (0.437)	1.060** (0.423)	0.951** (0.415)	0.917** (0.441)	0.836* (0.433)	0.952** (0.442)	0.995** (0.445)
Random effects									
Country variance	0.698 (0.100)	0.697 (0.100)	0.677 (0.098)	0.658 (0.096)	0.640 (0.094)	0.678 (0.098)	0.661 (0.096)	0.683 (0.100)	0.697 (0.100)
Log likelihood	-5019.77***	-5019.76***	-5018.97***	-4966.82***	-4966.13***	-5019.04***	-5018.33***	-4854.89***	-5018.84***

For micro-level variables: *=p<.05; **=p<.01; ***= p<.001 (two-sided). For macro-level variables: *=p<.1; **=p<.05; ***=p<.01 (two-sided). Standard errors are noted in parentheses next to the unstandardized coefficients. *Source:* Eurobarometer (2015); OECD (2017); WorldBank (2015); European Social Survey (2004;2008;2010;2012); International IDEA (2017); Gallagher (2017); ParlGov (2015)

4.6.   Final Models

Until now I tested the bivariate analyses for hypotheses, and beside I tested the hypothesis with an interaction effect (H4b). Thereafter I controlled all independent variables for age, gender and compulsory voting. In this last paragraph I will first test all hypotheses of resource mobilization theory in a single model. Thereafter I will also test all hypotheses of social capital theory and party identification theory in full models. After that, I will test a full model with all independent variables and control variables. Finally I will also test the interaction in a full model with all independent variables and control variables. All results of the full model analyses can be found in table 4.5 on page 74.

4.6.1. Full Model for Resource Mobilization Theory

The first theory which I tested is resource mobilization theory. The relevant independent variables of this theory are *Education, Wealth* and *Working Hours*. Previous bivariate analyses of those three variables showed a strong and significant positive relationship between *Education* and *Youth Voting*. The higher the level of education of a young citizen, the more likely he or she is to vote. This supports hypothesis 1. Also in the full model for resource mobilization theory I found significant ($p<0.001$) and strong relationships between the different levels of education and *Youth Voting*. In the full model, the coefficients are a bit higher than in the model with control variables. The coefficient for Upper Secondary General Education is 0.683 which can be translated in an odds ratio of 1.980. The coefficient for Upper Secondary, General Vocational Education is 0.584, which results into an odds ratio of 1.793. The coefficient for Post-Secondary, Non-higher Education is 0.900, which results into an odds ratio of 2.460. And the coefficient for Higher Education is 1.675, which results into an odds ratio of 5.339. The analysis in the full model for resource mobilization theory thus supports hypothesis 1.

The second variable related to resource mobilization theory is *Wealth*. Previous bivariate analyses showed no significant results for this variable. The coefficients of this variable were also very small. Also in the full model for resource mobilization theory, I found no significant result for *Wealth*. The coefficient for *Wealth* in the full model is -0.016. The full model for resource mobilization theory thus does not support hypothesis 2, which argues that an increase in wealth of a country produces an increase in probability of youth voting.

The third variable related to resource mobilization theory is *Working Hours*. I hypothesized that a decrease in the amount of working hours positively influences the amount of spare time young citizens have to participate in politics. Previous bivariate analyses did not show a significant result for *Working Hours*. The variable is however significant in the full model for resource mobilization theory with a *p* value of $p<0.05$. The coefficient for this variable is -0.146, which results into an odds ratio of 0.864. This can be interpreted as follows: for every one percent increase in the average amount of

working hours per week, the probability that a young citizen is going to vote decreases with 13,6 percent. The analysis of *Working Hours* in this full model thus supports hypothesis 3.

4.6.2. Full Model for Social Capital Theory

The second theory which I tested is social capital theory. The relevant independent variables for this theory are *Organizational Membership, Social Trust* and *Political Trust.* Previous bivariate analyses for the variable *Organizational Membership* showed significant results. I found a strong positive relationship between *Organizational Membership* and *Youth Voting*. In other words, being member of a voluntary organization and/or participating in voluntary activities increases the probability of voting. Also in the full model of social capital theory, I found a significantly strong relationship between *Organizational Membership* and *Youth Voting.* The coefficient of *Organizational Membership* increased from 0.426 to 0.569 and is statistically significant with a *p* value of p<0.001. This coefficient results into an odds ratio of 1.766. In other words, the probability of voting is 76,6 percent higher for a young citizen who participate in voluntary organizations compared to a young citizen who does not participate in any voluntary activity. The full model for social capital theory thus supports hypothesis 4a.

Social Trust was not significant in the bivariate analyses and also in the full model for social capital theory I found no significant effect. The coefficient for *Social Trust* became much smaller and the direction of the coefficient became negative (-0.057 compared to 0.197). The full model for social capital theory thus does not support hypothesis 5a, which argues that an increase in the national average level of social trust positively influences the probability of youth voting.

For *Political Trust* I found in the bivariate analyses a significant (p<0.1) and positive relationship with a coefficient of 0.208. However in the full model for social capital theory I did not find a significant result for *Political Trust*. The coefficient however remains in the same direction (0.231). The full model for social capital theory thus does not support hypothesis 5b, which argues that an increase in the national average level of political trust positively influences the probability of youth voting.

4.6.3. Full Model for Party Identification Theory

The third theory which I tested is party identification theory. The relevant independent variables for this theory are: *Representativeness of the Electoral System*, *Polarization Electoral System,* and *Conservativeness of Government.* The first variable which I tested was *Representativeness of the Electoral System*. This variable was not significant in the bivariate analyses. In the full model for party identification theory I also found no significant effect. The coefficient for PR electoral systems became much smaller (from 0.612 to 0.033) and the coefficient for Mixed electoral systems became negative (from 0.437 to -0.395). Regarding the fact I did not found significant results in both analyses

I conclude that this data does not support hypothesis 6, which argues that a more representative electoral system type positively influences the probability of youth voting.

The second variable which I tested was *Polarization Electoral System*. This variable was significant in the bivariate analysis with a *p* value of p<0.1. Also in the full model for party identification theory I found a significant effect with a *p* value of p<0.05. The coefficient of *Polarization Electoral System* increased from 0.163 to 0.218. Translating this result leads to an odds ratio of 1.244. This means that an increase of one effective political party positively influences the probability of youth voting with 24,4 percent. The full model for party identification theory thus supports hypothesis 7, which argues that the more polarized a political system of a country is, the more likely young citizens are to vote.

Finally, the third variable I tested was *Conservativeness of Government*. This variable was not significant in the bivariate analyses. However, in the full model for party identification theory I found a significant result for this variable with a *p* value of p<0.1. The coefficient decreased from -0.084 to -0.127. Translating this into odds ratio results into an odds ratio of 0.881. This means that an increase of conservativeness of government negatively influences the probability of youth voting. With every 1 point increase of *Conservativeness of Government* on an eleven point scale, the probability of youth voting decreases with 21,9%. The full model for party identification theory thus supports hypothesis 8a, which assumes a negative association between *Conservativeness of Government* and *Youth Voting*. The full model for party identification theory rejects hypothesis 8b, which assumes a positive association between *Conservativeness of Government* and *Youth Voting*.

4.6.4. Full Model without Interaction Effects

Until now I tested all hypotheses individually and I tested the theories in separate models. In order to answer my central research question, I will now test my hypotheses with a full model including all independent variables and control variables. First I will test my hypotheses with a full model without the interaction effects, but in the following paragraph I will test the complete model including the interaction effects. Model 4 in table 4.5 demonstrates the full model without interaction effects. All hypotheses except the interaction hypothesis 4b are tested with this model.

Starting with the *Education* dummy variables, similar to the previous analyses I found significant (p<0.001) results. The direction of all coefficients remains in the expected positive direction and there are no big differences in the coefficients of the *Education* dummy variables compared to the previous analyses. The coefficient of Upper Secondary, General Education is in the full model 0.656 (was in the full model for resource mobilization theory 0.683). This can be translated into an odds ratio of 1.927. This means that the odds of voting of a young citizen are 1.927 times greater for someone who enjoyed 'Upper Secondary, General Education' than someone who enjoyed

Lower-Secondary Education or less. The coefficient of Upper Secondary, General Vocational Education is in the full model 0.568 (was in the full theoretical model 0.584). This can be translated into an odds ratio of 1.765. This means that the odds of voting of a young citizen are 1.765 times greater for someone who enjoyed 'Upper Secondary, General Vocational Education' than someone who enjoyed Lower-Secondary Education or less.

The coefficient of Post-Secondary, Non-higher Education is in the full model 0.859 (was in the full theoretical model 0.900). This can be translated into an odds ratio of 2.361. This means that the odds of voting of a young citizen are 2.361 times greater for someone who enjoyed 'Post-Secondary, Non-higher Education' than someone who enjoyed Lower-Secondary Education or less. Finally the coefficient of Higher Education in this full model is 1.628 (was in the full theoretical model 1.675). This can be translated into an odds ratio of 5.094. This means that the odds of voting of a young citizen are 5.094 times greater for someone who enjoyed 'Higher Education' than someone who enjoyed Lower-Secondary Education or less. Regarding the fact that I found a significant and strong positive relationship between *Education* and *Youth Voting*, my results thus strongly support hypothesis 1.

The coefficient of *Organizational Membership* is in the full model without the interaction significant with a *p* value of p<0.001. The coefficient in this full model is 0.435. This is a bit lower than in the full theoretical model (0.569). The direction is however still in the expected positive direction. This coefficient can be translated into an odds ratio of 1.545. This means that the odds of voting of a young citizen are 1.545 times greater for someone who participated in voluntary activities, compared to someone who did not participate in any voluntary activity. The results of the full model without the interaction thus support hypothesis 4a.

The coefficient of *Wealth* is in the full model without the interaction is suddenly significant with a *p* value of p<0.01. This is remarkable, because in all previous analyses I found no significant result for *Wealth*. The coefficient is -0.030 which is not in the expected direction. Hypothesis 2 expected a positive effect of *Wealth* on *Youth Voting*. Translating the log odds into odds ratio results into an odds ratio of 0.970. This means that the odds of voting of a young citizen decreases with 3,0 percent for each percent increase in the national GDP. The results of the full model without the interaction thus reject hypothesis 2.

The coefficient of *Working Hours* was in the bivariate analysis not significant. This however changed in the full model for resource mobilization theory (-0.146 with a p<0.05). Also in the full model without the interaction, I found a significant result with a *p* value of p<0.1. The coefficient in the full model without the interaction is a bit higher, namely -0.127. This can be translated into an odds ratio of 0.881. This means that the odds of voting of a young citizen decreases with 11,9 percent for every one percent increase in the national average of working hours per week. The direction of the coefficient is in the expected direction and this result supports hypothesis 3.

The coefficient for *Social Trust* was not significant in any of the previous analyses. In the full model without interaction I found a coefficient for *Social Trust* which was just within the margins of significance (p<0.1). The coefficient is much lower than the coefficient of the previous analyses (-0.361 compared to -0.057 in the full theoretical model). Translating the log odds into odds ratio results into an odds ratio of 0.697. This means that the odds of voting of a young citizen decreases with 30,3 percent for each point increase on an eleven point scale of *Social Trust*.

This is not in the expected direction, because hypothesis 5a expected a positive relationship between *Social Trust* and *Youth Voting*. This result thus rejects hypothesis 5a.

The coefficient for *Political Trust* was significant in the bivariate analysis, however this changed in the full model for social capital theory. The coefficient for *Political Trust* is however again significant in the full model without the interaction with a *p* value of p<0.05. The coefficient for this full model without the interaction is 0.521 which is higher than the coefficient in the full theoretical model (0.231). Translating the log odds into odds ratio results into an odds ratio of 1.684. This means that the odds of voting of a young citizen increases with 68,4 percent for every point increase on an eleven point scale of *Political Trust*. This result is in the expected direction and supports hypothesis 5b.

The coefficients of *Representativeness of the Electoral System* dummies were not significant in any of the previous analyses. Also in the full model without the interaction I found no significant results for both dummy variables. The coefficients are both higher in the full model without the interaction compared to the full theoretical model (for PR: 0.358 compared to 0.033, and for Mixed: -0.232 compared to -0.395). Regarding the fact I found no significant results, hypothesis 6 is rejected.

The coefficient of *Polarization Electoral System* was significant in all previous analyses with *p* values of p<0.1 in the bivariate and p<0.05 in the full theoretical model analysis. The coefficient of *Polarization Electoral Systems* is however not significant in the full model without interactions. The coefficient is a bit lower than the coefficient of the full theoretical model (0.141 compared to 0.218). Because I found no significant results for *Polarization Electoral System* in the full model without the interaction, this result rejects hypothesis 7.

The coefficient of *Conservativeness Government* was not significant in the bivariate analysis. However the coefficient was significant in the full model for party identification theory with a *p* value of p<0.1. In the full model without interactions I also found a significant coefficient with a *p* value of p<0.05. The coefficient is -0.184 which can be translated into an odds ratio of 0.832. This means that the odds of voting of a young citizen decreases with 16,8 percent for every one point increase in conservativeness on an eleven point scale. This supports hypothesis 8a which expected a negative association between *Conservativeness Government* and *Youth Voting*. Hypothesis 8b is thus rejected, because this hypothesis expected a positive association between *Conservativeness Government* and *Youth Voting*. The control variables are all significant in the full model without interactions with a *p* value of p<0.001 for age and gender and p<0.05 for compulsory voting.

4.6.5. Full Model with Interaction Effects

Model 5 shows the full model in which all variables and interactions are included. Because the coefficients of most of the variables are the same in this model compared to the previous full model, I will only focus on the variables with large differences and the interactions. The variables without large differences in the coefficients are: *Education*, *Wealth, Working Hours, Political Trust, Representativeness of the Electoral System, Polarization Electoral System,* and *Conservativeness Government*. The directions of the coefficients of all those variables are similar to the full model without the interactions and the levels of significance are not changed.

The variables which show different results in the full model including the interactions are *Organizational Membership* and *Social Trust*. The coefficient of *Organizational Membership* is not significant in the full model with the interactions. The coefficient is also lower (0.373 compared to 0.435). In all previous models without the interaction I found a highly significant and strong relationship between *Organizational Membership* and *Youth Voting*, in other words, my analyses confirm the main effect between *Organizational Membership* and *Youth Voting*. Hypothesis 4a is thus strongly supported by the data. I found no significant coefficient in this final interaction model for *Organizational Membership*, because in this model I tested the interaction effect of *Education* on the main effect between *Organizational Membership* and *Youth Voting*.

The second variable which shows a different result is *Social Trust*. This variable showed mixed results in the previous analyses regarding the significance. In the full model without interactions I found a significant coefficient for *Social Trust* with a *p* value of p<0.1. However in the full model including the interaction this coefficient is no longer significant. This is not very surprising because the level of significance was already very close the margin of p<0.1 and in the bivariate analyses I also found no significant results. From this I conclude that hypothesis 5a is not supported.

Finally, regarding to the interaction hypothesis about the interaction between *Education* and *Organizational Membership*, I already found no significant coefficients in the previous bivariate analysis and in the analysis with control variables. Also in the full model including all independent variables and control variables I found no significant coefficients for this interaction. The coefficients of the interactions are quite similar to the bivariate analyses and are not changed in direction. The control variables in this full model are all significant with *p* values of respectively p<0.001 for age and gender and p<0.05 for compulsory voting.

Table 4.5: Multi-level Regression Full Models (table continues next page)

	Model 1	Model 2	Model 3	Model 4	Model 5
Fixed Effects					
Intercept	5.606	-0.697	-0.163	5.474	5.485
	(2.923)	(0.697)	(0.562)	(3.385)	(3.383)
Micro-Level Independent Variables					
Education (ref.: Lower-Secondary or Less)					
Upper Secondary, General Education	0.683***			0.656***	0.645***
	(0.097)			(0.100)	(0.110)
Upper Secondary, General Vocational Education	0.584***			0.568***	0.545***
	(0.094)			(0.097)	(0.105)
Post-Secondary, Non-higher Education	0.900***			0.859***	0.803***
	(0.119)			(0.122)	(0.135)
Higher Education	1.675***			1.628***	1.641***
	(0.095)			(0.098)	(0.107)
Organizational Membership (ref.: No)		0.569***		0.435***	0.373
		(0.063)		(0.098)	(0.218)
Macro-Level Independent Variables					
Wealth	-0.016			-0.030***	-0.030***
	(0.011)			(0.011)	(0.011)
Working Hours	-0.146**			-0.127*	-0.127*
	(0.069)			(0.069)	(0.069)
Social Trust		-0.057		-0.361*	-0.359
		(0.219)		(0.219)	(0.219)
Political Trust		0.231		0.521**	0.521**
		(0.178)		(0.203)	(0.203)
Representativeness of the Electoral System (ref.: Majoritarian)					
PR			0.033	0.358	0.360
			(0.431)	(0.388)	(0.388)
Mixed			-0.395	-0.232	-0.231
			(0.509)	(0.445)	(0.445)
Polarization Electoral System			0.218**	0.141	0.140
			(0.088)	(0.098)	(0.098)

Conservativeness of Government			-0.127* (0.065)	-0.184*** (0.058)	-0.185*** (0.058)
Interactions					
Organizational Membership* Education					
Upper Secondary, General Education					0.066 (0.260)
Upper Secondary, General Vocational Education					0.149 (0.257)
Post-Secondary, Non-higher Education					0.277 (0.308)
Higher Education					-0.028 (0.241)
Control Variables					
Age	0.043*** (0.007)	0.062*** (0.007)	0.059*** (0.007)	0.043*** (0.007)	0.043*** (0.007)
Gender (ref.: Male)	-0.186*** (0.051)	-0.058 (0.049)	-0.037 (0.050)	-0.208*** (0.052)	-0.208*** (0.052)
Compulsory Voting (ref.: No)	1.494*** (0.510)	0.871** (0.389)	0.565 (0.368)	1.171*** (0.399)	1.173*** (0.399)
Random effects					
Country variance	0.640 (0.093)	0.582 (0.087)	0.535 (0.082)	0.445 (0.070)	0.445 (0.070)
Log likelihood	-5047.92***	-5270.31***	-5195.98***	-4793.04***	-4791.91***

For micro-level variables: *=p<.05; **=p<.01; ***= p<.001. (two-sided) For macro-level variables: *=p<.1; **=p<.05; ***=p<.01 (two-sided) Standard errors are noted in parentheses next to the unstandardized coefficients.
Source: Eurobarometer (2015); OECD (2017); WorldBank (2015); European Social Survey (2004;2008;2010;2012); International IDEA (2017); Gallagher (2017); ParlGov (2015)

4.7.   Robustness of the Effects

I mentioned at the start of this chapter that I also included young respondents aged younger than 18 in the sample. In some countries, young citizens are already allowed to vote at local or regional elections, when they are younger than 18 years old. The minimum voting age is however for most countries 18 years old for all elections. To be certain about the found effects in my analyses I tested the robustness of the effects by again using the same models for a sample which only includes respondents aged between 18 and 30 years old. This sample has 11.068 instead of 11.408 respondents within 28 different countries. The results of all analyses can be found in Appendix E.

In short, I found no large changes within the results of the analysis with the 18+ respondents. This means that all coefficients remained in the same direction, and all significant effects I found within the previous analyses remained also significant in the analysis with the 18+ respondents. The only difference I found in the analysis with the 18+ respondents, was that the coefficient for age as a control variable became less significant in almost all models. This is however not very surprising, because I excluded the youngest respondents of my sample. This means that the age distribution became smaller in the new sample, which resulted in less significant results of my analyses. The results for age are however still significant with a *p* value of $p<0.05$.

Concluding, the fact that I also included respondents younger than 18 years old, did not influence my results. In other words, I can conclude that the founded effects are fairly robust.

4.8.   Summary of Results

In this paragraph I will shortly summarize the main findings of my research. I will discuss those findings in the following chapter. I started this chapter with the descriptives of the dependent variable and independent variables. One of the main conclusions I made from the analysis of the dependent variable *Youth Voting* is that overall I found that the average voting turnout of youth is quite high: 80,27 percent. This percentage however represents the voting turnout of young citizens during elections at any level. As I expected are the voting turnout percentages at the separate levels much lower. On the one hand I found that especially countries like Sweden and Belgium score high on youth voting turnout. Belgium has the highest score on the total turnout at all levels (97%) while Sweden scores the highest youth voting turnout at the national level (77%). On the other hand, I found that countries like Ireland and the UK score the lowest youth voting turnout scores. The youth voting turnout at all levels is in Ireland the lowest: 63%, while the youth voting turnout during national elections is the lowest in the UK: 27%. On average is the voting turnout the highest during local elections (51,5%) and during EU elections is the youth voting turnout at its lowest level (35,5%).

I used multiple multi-level logistic regressions to answer my main research question. The multi-level model consisted of two different levels: an individual level and a country level. The dataset I used for my analyses was cross-country, but not longitudinal, because Eurobarometer did not collect voting turnout of young citizens every survey round in the same manner. In total I analysed 11.408 different respondents aged between 15 and 30 years old living in 28 different EU countries. I used a likelihood ratio test and an intraclass correlation test to test the nestedness of my data. Table D.7 demonstrates that the two-level model better fits than the single-level model with a significance of p<0.001.

To illustrate the outcomes of all my analyses of this chapter, I presented an overview of all hypotheses and their expected directions of the independent variable in table 4.6. Besides, I included the expected outcomes of hypotheses. A '+' indicates a positive association and a '-' indicates a negative association. In the last column 'findings' I present whether the founded results supported the hypothesis or not. In the following part I will shortly discuss the results for all hypotheses.

Hypothesis 1 argued that young citizens with a higher level of education have a higher probability to vote than young citizens with a low level of education. For this hypothesis I found the strongest and most significant results in all analyses. The results of all analyses supported hypothesis 1, in other words, the higher the level of a young citizens (current) education, the higher the probability that he or she is going to vote.

Hypothesis 2 argued that the more wealthy countries provides young citizens better and more resources to participate in politics. For this hypothesis I found no significant results in the bivariate analyses. However in the full models I found a significant result. The coefficient of *Wealth* was however in the full models not in de expected direction. In other words, I found a negative association between *Wealth* and *Youth Voting*. This means that the wealthier a country would be, the lower the probability that young citizens are going to vote. The results of all analyses thus cannot support hypothesis 2.

Hypothesis 3 argued that the average amount of hours a young citizen has to work determines the amount of spare time a young citizen has which he or she can invest in participation in civic society. The more time a young citizen has to participate in civic society, the higher the probability that he or she is going to vote. I expected that the more hours a young citizen has to work per week, the lower the probability that he or she is going to vote. This variable was not significant in the bivariate analyses, however in the full models I found significant results which were quite strong and in the expected direction. From this I conclude that hypothesis 3 is somewhat supported by my results.

Hypothesis 4a argued that young citizens who are member of voluntary organizations or taking part in voluntary activities have a higher probability to vote than young citizens who are not a member and don't take part of any voluntary activity. This variable showed in all analyses significant and strong results, with exception of the last full model with the interactions. The reason for this can be that the interaction also contains the same variable. Overall the results were quite strong and in the expected direction. From this I conclude that hypothesis 4a is mostly supported.

Hypothesis 4b is an interaction hypothesis which argued that the level of Education of a young citizen can positively influence the relationship between Organizational Membership and the relationship between *Organizational Membership* and *Youth Voting*. I found however no significant results for this interaction in the analyses, however from margins plot I concluded that there are differences regarding the different Education categories. The impact of *Organizational Membership* on *Youth Voting* seems to be larger for upper educated young citizens than for lower- and higher educated citizens. Because I did not find a large impact of high education on the relationship between *Organizational Membership* and *Youth Voting*, I concluded that hypothesis 4b is not supported by my results.

Hypothesis 5a argued that the average level of social trust within a country positively influences the probability of youth voting. I found no significant results for this variable in the bivariate analyses, however I did find a significant result in the full model without the interactions. This coefficient was however not in the expected positive direction, besides this variable was only significant with a *p* value of $p < 0.1$. From this I conclude that hypothesis 5a is not supported by my results.

Hypothesis 5b argued that the average level of political trust within a country positively influences the probability of youth voting. I found significant results in almost all analyses, except for the full theoretical model. The coefficients were quite high and in the expected direction. From this I conclude that hypothesis 5b is mostly supported by the results.

Hypothesis 6 argues that young citizens living in countries with a more representative electoral system, such as a PR electoral system, are more likely to vote than young citizens living in countries with less representative electoral systems, such as majoritarian electoral systems. I found no significant results in all analyses. The coefficients of the 'Mixed' category were also not in the expected direction. From this I conclude that my results do not support hypothesis 6.

Hypothesis 7 argues that the more polarized an electoral system is, the higher the probability that young citizens are going to vote. For this hypothesis I found significant results in all bivariate analyses and in the full theoretical model, however I did not find significant results in the final full models. From this I conclude that my results somewhat support hypothesis 7.

Hypothesis 8a argues that young citizens have a lower probability to vote in countries with conservative governments. For this hypothesis I found no significant results in the bivariate analyses, however within all full models I found quite strong and significant results. The results were also in the expected negative direction, which means that my results somewhat support hypothesis 8a, but do not support hypothesis 8b, which argued the opposite effect of *Conservativeness of Government* on *Youth Voting*.

Table 4.6: Overview of Tested Hypotheses (table continues on next page)

Hypothesis	Direction of Independent Variable	Expected Effect of Independent Variable on Youth Voting	Findings
Resource Mobilization Theory			
H1: The higher the (current) level of the young citizen's education, the higher the probability that he or she is going to vote	+	+	**Supported**
H2: The wealthier the country within a young citizen lives, the higher the probability that he or she is going to vote	+	+	**Not supported**
H3: The smaller the national average amount of working hours a young citizen has to work, the higher the probability that he or she is going to participate in civic society, which will increase the probability of voting	+	-	**Somewhat supported**
Social Capital Theory			
H4a: Young citizens who are member of voluntary organizations have a higher probability to vote, than citizens who don't take part of any voluntary organization	+	+	**Mostly supported**
H4b: The higher the young citizen's current level of education, the more positive the effect of voluntary membership on the probability of voting becomes.	+/+	+/+	**Not supported**
H5a: The higher the average level of social trust within a country, the higher the probability that young citizens are going to vote.	+	+	**Not supported**
H5b: The higher the average level of political trust within a country, the higher the probability that young citizens are going to vote.	+	+	**Mostly supported**

Party Identification Theory

H6: In countries with a PR electoral system with a low electoral threshold, young citizens have a higher probability to vote, than in countries with a majoritarian electoral system	+	+	**Not supported**
H7: The more polarized the electoral system of a country, the higher the probability that young citizens are going to vote	+	+	**Somewhat supported**
H8a: Young citizens have a lower probability to vote in countries with a conservative neo-liberal government, than in countries with a left-wing social-democratic government	+	-	**Somewhat supported**
H8b: Young citizens have a higher probability to vote in countries with a conservative neo-liberal government, than in countries with a left-wing social democratic government	+	+	**Not supported**

Supported = significant in all analyses; **Mostly Supported** = significant in all analyses except 1; **Somewhat supported** = significant in some analyses; **Not supported** = not significant in any of the analyses.

5. Conclusion & Discussion

The main aim of this thesis was to open the 'black box' of youth political participation. My research focussed on differences of youth participation during elections across the 28 different EU member states and differences between young people living within those countries. One of the main reasons why I focussed on youth voting is because political scientists largely neglected political behaviour of youth (Furlong & Carmel, 2007). Besides, I found that there exists large differences across EU countries regarding their levels of youth participation during elections. I used a rational choice approach to bring three theories together: resource mobilization theory, social capital theory, and party identification theory. All three theories built further on the rational choice approach, however all theories have different theoretical expectations of why young citizens are going to vote. Because all three theories have a rational choice theoretical basis, I was able to test the three theories against each other. Therefore, one of the main contributions of my thesis is that I was able to test three different theories within one research by using a rational choice approach.

In the first chapter I came up with two different research questions for this thesis. The first one was a descriptive research question, which has as the main aim to analyse the main differences across European Union countries regarding their youth voter turnout. The first research question was as follows:

To what extent are there differences in youth voter turnout across European Union countries in 2015?

This research question can be answered with using the descriptives of the dependent variable in paragraph 4.1.1. I found that the average voting turnout of European citizens is quite high, however there exist also large differences across EU countries regarding their youth voting turnout. Belgium and Sweden have for example a high level of youth voting turnout, while countries like the UK and Ireland have the lowest youth voting turnout. This research had as the main goal to explain these differences across the EU members. To explain those differences across the EU members I developed a second research question which is also the main research question of this thesis. The second research question for this thesis was an explanatory research question, which tries to explain the main differences in youth voter turnout across European Union countries. The second research question was as follows:

To what extent can we explain differences in youth voter turnout across European Union countries in 2015, by using resource-mobilization-, social capital- and party-identification theory?

Of all independent variables I found the strongest and most significant results for the micro-level variables *Education* and *Organizational Membership*. These variables had high coefficients in all analyses and were also highly significant in all analyses. Despite that those two variables are related to two different theories, both variables share a same important element: resources. Resource-mobilization theory argues that education provides young citizens skills and resources which increases the probability of youth voting. Besides, social capital theory argues that joining voluntary organizations generates stronger social networks, which improves the engagement of young citizens with society and their motivation to participate during elections. In other words, from my research I can conclude that both following education and joining voluntary organizations provide young citizens skills and resources which increase the probability of voting. This is the most reliable result of my analyses.

From the results I can also conclude that the micro-level control variables *Age* and *Gender* have the most significant coefficients. It is not very surprising that the macro-level variables are less significant than the micro-level variables, because micro-level variables are based on thousands of individual level observations, while the macro-level observations are based on only 28 different countries. The results of the hypothesis of party identification theory, which are all based on macro-level variables thus have a lower explanatory power, not because of wrong theoretical assumptions, but because of the macro-level nature.

To conclude, to answer my second research question, I can conclude that all three theories can give a theoretical explanation for youth voting. Of a total of eleven hypotheses, five hypotheses were not supported by my analyses. There is however not a single theory with only significant results, and there is also no theory without any significant results. The use of a multi-level approach allowed me to reduce biases in the data. One of the main added values of my thesis, is that I was able to test both individual-level and macro-level variables into one model related to three different theories, which provided me a better insight into how country specific characteristics might possibly effect voting behaviour of individual young citizens.

5.2.   Discussion

As I already mentioned in the introduction, there has not been a large amount of country comparative research on youth voting behaviour. This thesis has thus an explorative purpose to study which differences there are across EU countries regarding their youth voting turnout, and to what extent these differences can be explained by existing theories of political participation. Research on voting behaviour of young citizens should thus be continued and expanded to for example more countries from different regions in the world.

In this research I analysed three different theories by using a rational choice approach. This had as the main advantage that I was able to test three different theories into one research and compare

the results. There is however also a limitation, which is that by focussing on three theories in one research, I had no opportunity to study and test a theory in-depth. Combining this limitation with the limitation in available data about young citizens, I was not able to test many very specific hypotheses which are especially related to voting behaviour of youth, instead of adults. A second limitation of my research is related to the lack of comparative longitudinal Eurobarometer data. Eurobarometer also collected data about young European citizens in previous years, however there was a lack of variables which were operationalized in the same way, which would make it possible for me to perform a comparative longitudinal analysis. This was the main reason why I couldn't perform a longitudinal analysis.

A third limitation related to the Eurobarometer data was that it didn't contain many survey questions measuring personal attitudes. Therefore I was not able to measure for example political- or social trust at the micro-level. An additional limitation is the operationalization of the dependent variable. The turnout percentages of young voter are in my dependent variable quite high, because it includes electoral turnout during elections at all levels. I was however not able to only measure turnout at the national level, because in that case I would place a young citizen who didn't vote during a national election in a group of non-voters, while he or she perhaps voted in all other elections. I decided to use a total turnout variable, because only then I was completely sure that the group of non-voters was actually a real 'non-voter'.

The final limitation concerns the research method I used for my analyses, which was a multi-level logistic regression analysis. By using this method I was able to get more accurate results which were controlled for the fact that the respondents were nested within different countries. The biggest limitation was however, that the results were more complicated to interpret and it took a lot of time to run the complicated models.

I have a few recommendations for further research. Further research is necessary and should have a larger scope and more in-depth. Regarding the scope, I think I would be necessary to include more countries also from different continents. This research only focussed on EU countries. This had as the main consequence that the between country differences were not very large. Especially not regarding the types of electoral systems, and wealth. It would be very interesting to include non-EU countries into the sample and compare them with EU members. A second recommendation for further research would be that one should try to use longitudinal data of youth participation. If Eurobarometer would be more accurate in using the same survey questions for every survey round and would include some more questions regarding personal attitudes, it would make it easier to perform a longitudinal analysis.

To make this research more in-depth I would recommend to perform several case-studies of countries which demonstrate low levels of youth turnout. For my research I only used existing data from the Eurobarometer surveys. It is however also possible if you have enough time and money to start collecting survey data by your own. In that case you can develop your own survey. It would in

that case be very interesting to execute a survey round just after a national election, because then you will probably get more accurate answers on the question why a young citizen vote or didn't vote.

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Appendix A: Case Selection EU Member States

Table A.1: EU member-states

Country Name:	*Year of Accession:*
Austria	1995
Belgium	1958
Bulgaria	2007
Croatia	2013
Cyprus	2004
Czech Republic	2004
Denmark	1973
Estonia	2004
Finland	1995
France	1958
Germany	1958
Greece	1981
Hungary	2004
Ireland	1973
Italy	1958
Latvia	2004
Lithuania	2004
Luxembourg	1958
Malta	2004
Netherlands	1958
Poland	2004
Portugal	1986
Romania	2007
Slovakia	2004
Slovenia	2004
Spain	1986
Sweden	1995
United Kingdom*	1973

* Data was collected before the UK BREXIT

Source: European Union (Europa.eu, 2016)

Appendix B: Data Structure

Figure B.1: The Two-level model of analysis
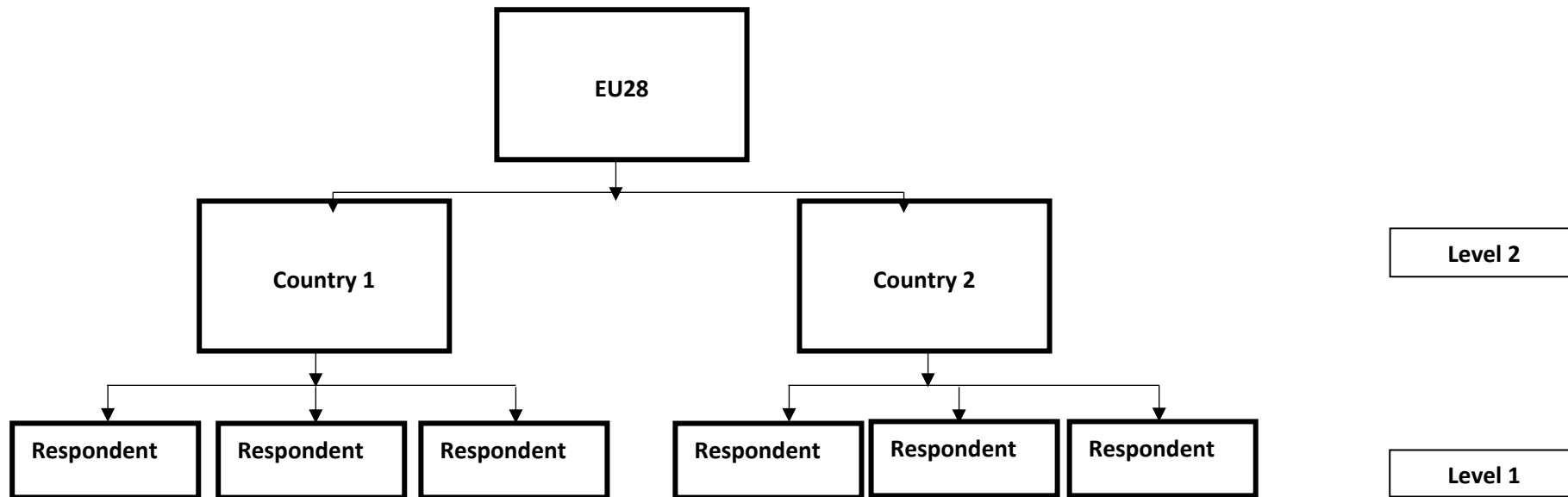
Appendix C: Multicollinearity diagnostics

Table C.1: Multi-collinearity statistics for the independent variables

Variable	VIF	Tolerance
Micro level		
Education	1,078	0,927
Organizational Membership	1,034	0,967
Macro level		
Wealth	3,052	0,328
Working Hours	3,562	0,281
Social Trust	4,669	0,214
Political Trust	5,522	0,181
Representativeness of the Electoral System	1,106	0,904
Polarization Electoral system	1,596	0,626
Conservativeness of Government	1,209	0,827
Control variables		
Age	1,055	0,948
Gender	1,022	0,978
Compulsory Voting	1,506	0,664

Appendix D: Tables Chapter 4

Table D.1: Voting turnout in any political election (local, regional, national or EU level) of young citizens across 28 EU countries based on sample including respondents which are old enough to vote.

Country	Voting-turnout*	Sample Size**	Original Sample Size
Austria	85,4%	473	501
Belgium	96,8%	408	501
Bulgaria	74,3%	459	500
Croatia	75,4%	398	500
Cyprus	67,7%	220	301
Czech Republic	85,1%	471	506
Denmark	87,0%	414	501
Estonia	71,0%	411	500
Finland	76,7%	437	501
France	83,1%	421	501
Germany	79,0%	409	500
Greece	86,4%	447	500
Hungary	90,9%	421	500
Ireland	63,1%	426	503
Italy	81,4%	452	502
Latvia	90,9%	462	501
Lithuania	67,3%	404	500
Luxembourg	85,5%	179	306
Malta	92,7%	192	300
Netherlands	86,5%	363	510
Poland	75,8%	463	500
Portugal	71,4%	451	501
Romania	87,5%	465	510
Slovakia	86,9%	481	504
Slovenia	82,8%	442	504
Spain	74,1%	459	502
Sweden	96,5%	433	500
United Kingdom	66,0%	347	500
Total	**80,3%**	**11.408**	**13.454**

* Belgium, Greece and Luxembourg have compulsory voting
** Sample size contains only citizens who are old enough to vote
Source: 408 Eurobarometer 2015

Table D.2: Voting turnout of young citizens across 28 EU countries based on the original sample

Country	Local Elections	Regional Elections*	National Elections	EU Elections	Did Not Vote	Not Old Enough to Vote
Austria	46,9%	50,3%	63,1%	46,1%	13,8%	4,0%
Belgium	64,9%	71,5%	67,5%	61,7%	2,6%	4,4%
Bulgaria	44,8%	31,6%	54,2%	38,8%	23,6%	6,6%
Croatia	48,4%	35,8%	32,8%	36,8%	19,6%	19,0%
Cyprus	28,8%	21,9%	33,6%	22,9%	23,6%	26,6%
Czech Republic	63,6%	47,2%	64,2%	26,3%	13,8%	6,7%
Denmark	62,3%	44,7%	42,7%	46,1%	10,8%	15,8%
Estonia	49,6%	18,0%	30,0%	32,8%	23,8%	17,2%
Finland	38,1%	27,9%	46,1%	29,3%	20,4%	10,2%
France	53,5%	33,7%	58,3%	25,0%	14,2%	4,0%
Germany	48,0%	42,0%	37,0%	37,0%	17,2%	16,2%
Greece	68,6%	64,6%	56,0%	48,4%	12,2%	9,6%
Hungary	48,0%	27,2%	47,0%	22,8%	25,0%	15,4%
Ireland	44,7%	29,6%	36,0%	34,0%	31,2%	13,9%
Italy	54,0%	51,4%	47,6%	36,7%	16,7%	8,8%
Latvia	64,9%	4,2%	75,6%	42,9%	8,4%	7,0%
Lithuania	23,2%	18,0%	36,6%	22,0%	26,4%	15,6%
Luxembourg	28,4%	16,0%	38,9%	29,1%	8,5%	41,2%
Malta	41,7%	2,0%	50,3%	42,7%	4,7%	35,0%
Netherlands	45,3%	35,7%	49,6%	31,2%	9,6%	27,5%
Poland	61,0%	51,8%	50,4%	36,0%	22,4%	6,6%
Portugal	52,3%	41,9%	46,5%	31,1%	25,7%	6,4%
Romania	55,9%	33,9%	62,4%	34,5%	11,4%	7,5%
Slovakia	58,4%	56,7%	70,0%	30,6%	12,5%	4,0%
Slovenia	62,7%	29,0%	39,7%	19,0%	15,1%	10,9%
Spain	47,4%	41,2%	45,2%	43,2%	23,7%	5,2%
Sweden	78,8%	78,0%	77,2%	64,6%	3,0%	13,0%
United Kingdom	34,8%	19,6%	26,8%	18,0%	23,6%	27,6%
EU Average	**51,5%**	**37,7%**	**49,9%**	**35,5%**	**16,7%**	**13,7%**

* Not all countries have direct regional elections

Source: 408 Eurobarometer 2015

Table D.3: Descriptives Level of Education

Level of Education Still Studying	% of total sample	% within still studying/ not studying
Lower Secondary Level	0,7%	2,6%
Upper Secondary Level, General Education	3,5%	13,2%
Upper Secondary Level, General Vocational Education	3,1%	12,0%
Post-Secondary, Non-Higher Education	2,4%	9,2%
Higher Education	16,5%	63,0%
Total	26,2%	100%
Missing*	0,1%	
Level of Education Not Studying	**% of total sample**	**% within still studying/ not studying**
Lower Secondary Education or Less	6,0%	8,2%
Upper Secondary Level, General Education	13,6%	18,7%
Upper Secondary Level, General Vocational Education	19,7%	27,1%
Post-Secondary, Non-Higher Education	6,3%%	8,7%
Higher Education	27,0%	37,2%
Total	72,5%	100%
Missing*	0,2%	

* Respondent refused to answer the question, or answered didn't know the answer

Source: *408 Eurobarometer* (2015)

Table D.4: Overview GDP dollars per capita and national average working hours per week of all 28 EU countries in 2015

Country	GDP dollars per capita	Working Hours per week
Austria	49.440	36,6
Belgium	45.873	37,1
Bulgaria	18.248	40,8
Croatia	22.514	39,5
Cyprus	31.769	39,5
Czech Republic	33.753	40,4
Denmark	48.994	33,5
Estonia	28.993	38,6
Finland	42.268	36,8
France	41.005	37,2
Germany	47.999	35,2
Greece	26.268	42,2
Hungary	26.446	39,8
Ireland	68.481	35,9
Italy	37.255	37,0
Latvia	24.902	39,0
Lithuania	28.913	38,3
Luxembourg	102.132	37,4
Malta	33.995	38,4
Netherlands	49.570	30,1
Poland	26.514	40,7
Portugal	29.694	39,4
Romania	18.249	39,8
Slovakia	29.915	40,2
Slovenia	31.968	39,3
Spain	34.727	37,8
Sweden	47.823	36,3
United Kingdom	41.779	36,7

Source: OECD (2017) *& WorldBank* (2015)

Table D.5: Average level of social trust and political trust

Country	Average level of social trust (0= not at all, 10= very high)	Average level of political trust (0= not at all, 10= very high)
Austria	4,97	3,81
Belgium	5,02	4,37
Bulgaria*	3,32	1,86
Croatia**	4,57	1,88
Cyprus*	3,64	2,80
Czech Republic	4,48	3,50
Denmark	6,90	5,30
Estonia	5,57	3,77
Finland	6,74	4,93
France	4,67	3,16
Germany	5,09	4,23
Greece**	4,02	1,59
Hungary	4,17	3,26
Ireland	5,13	3,44
Italy*	4,83	2,35
Latvia***	4,12	1,76
Lithuania	4,77	2,99
Luxembourg****	5,01	5,30
Malta	-	-
Netherlands	5,97	4,95
Poland	3,95	2,27
Portugal	3,67	2,48
Romania***	3,79	3,32
Slovakia*	3,97	2,88
Slovenia	4,07	2,22
Spain	4,83	2,71
Sweden	6,25	5,44
United Kingdom	5,38	3,75

Source: European Social Survey Round 7 (ESS) (2014)

* Data collected from ESS Round 6 (2012)

** Data collected from ESS Round 5 (2010)

*** Data collected from ESS Round 4 (2008)

**** Data collected from ESS Round 2 (2004)

Table D.6: Electoral system- and governmental characteristics of all 28 EU countries

Country	Electoral system family[1]	Effective amount of parties[2]	Left-Right orientation of incumbent government on a 10-point scale (1= ultra-left, 10= ultra-right)[3]
Austria	PR	4,59	5,03 (Centre)
Belgium	PR	7,82	6,48 (Moderate-Right)
Bulgaria	PR	5,06	7,02 (Moderate-Right)
Croatia	PR	2,92	3,02 (Moderate-Left)
Cyprus	PR	3,60	8,44 (Moderate-Right)
Czech Republic	PR	6,12	4,65 (Centre)
Denmark	PR	5,75	7,29 (Moderate-Right)
Estonia	PR	4,72	7,10 (Moderate-Right)
Finland	PR	5,84	6,49 (Moderate-Right)
France	Majoritarian	2,83	3,67 (Moderate-Left)
Germany	Mixed	3,51	5,25 (Centre)
Greece	PR	3,24	3,27 (Moderate-Left)
Hungary	Mixed	2,01	6,65 (Moderate-Right)
Ireland	PR	3,52	5,52 (Centre)
Italy	PR	3,47	3,42 (Moderate-Left)
Latvia	PR	5,13	6,90 (Moderate-Right)
Lithuania	Mixed	5,28	3,76 (Centre)
Luxembourg	PR	3,93	4,48 (Centre)
Malta	PR	1,97	4,21 (Centre)
Netherlands	PR	5,70	5,55 (Centre)
Poland	PR	2,75	7,70 (Moderate-Right)
Portugal	PR	2,86	4,05 (Centre)
Romania	Mixed	2,12	No data available
Slovakia	PR	2,85	3,38 (Moderate-Left)
Slovenia	PR	3,97	3,26 (Moderate-Left)
Spain	PR	4,53	7,60 (Moderate-Right)
Sweden	PR	4,99	3,43 (Moderate-Left)
United Kingdom	Majoritarian	2,53	7,43 (Moderate-Right)

Sources: [1] International IDEA (2017), *[2] Gallagher* (2017), *[3] ParlGov* (2015)

Table D.7: Single- and two-level null model of Youth Voting

	Single-level null model		Two-level null model	
Fixed Effects		OR	B	OR
Constant	1.403*** (0.023)	4.067	1.529*** (0.131)	4.614
Total N	11.408		11.408	
Level-2 N			28	
Random Effects				
Country variance (level 2)			0.678	
Residual variance (level 1)	3.968			
ICC			0.171	
Model Summary				
Log likelihood	-5676.281		-5439.466	

*=p<.05; **=p<.01; ***= p<.001. Standard errors are noted in parentheses next to the unstandardized coefficients.

Table D.8: Marginal Effects at representative values for interaction of Education on Organizational Membership

Representative values of Education	Margins if Organizational Membership = 0	Margins if Organizational Membership = 1	Difference
Lower Secondary Level, or Less	0.612*** (0.019)	0.667*** (0.042)	0.055
Upper Secondary Level, General Education	0.749*** (0.011)	0.805*** (0.019)	0.056
Upper Secondary Level, General Vocational Education	0.732*** (0.010)	0.818*** (0.018)	0.086
Post-Secondary, Non-Higher Education	0.788*** (0.015)	0.858*** (0.022)	0.07
Higher Education	0.872*** (0.006)	0.894*** (0.008)	0.022

Dependent variable: Youth Voting
*=p<.05; **=p<.01; ***= p<.001. Standard errors are noted in parentheses next to the unstandardized coefficients.

Appendix E: Tables Robustness Test

Table E.1: Robustness Test Multi-level Bivariate Regressions

Independent variable	B sample 15-30 years (N= 11.408)	B sample 18-30 years (N= 11.190)
Education (ref.: Lower-Secondary or Less)		
Upper Secondary, General Education	0.643*** (0.963)	0.556*** (0.102)
Upper Secondary, General Vocational Education	0.593*** (0.094)	0.468*** (0.099)
Post-Secondary, Non-higher Education	0.898*** (0.118)	0.725*** (0.122)
Higher Education	1.683*** (0.094)	1.522*** (0.098)
Wealth	0.006 (0.008)	0.006 (0.008)
Working Hours	-0.045 (0.053)	-0.054 (0.054)
Organizational Membership (ref.: No)	0.532*** (0.062)	0.594*** (0.065)
Social Trust	0.158 (0.141)	0.178 (0.114)
Political Trust	0.205* (0.109)	0.232** (0.111)
Representativeness of the Electoral System (ref.: Majoritarian)		
PR	0.492 (0.491)	0.536 (0.501)
Mixed	0.084 (0.575)	0.242 (0.598)
Polarization Electoral System	0.177**(0.087)	0.182** (0.090)
Conservativeness of Government	-0.099 (0.075)	-0.100 (0.078)

For micro-level variables: *=p<.05; **=p<.01; ***= p<.001 (two-sided). For macro-level variables: *=p<.1; **=p<.05; ***=p<.01 (two-sided). Standard errors are noted in parentheses next to the unstandardized coefficients. *Source:* Eurobarometer (2015); OECD (2017); WorldBank (2015); European Social Survey (2004;2008;2010;2012); International IDEA (2017); Gallagher (2017); ParlGov (2015).

Table E.2: Robustness Test Multi-level Regression Analysis of Interaction Effects

Fixed Effects	Model 1: sample 15-30 years (N= 11.408)	Model 2: sample 18-30 years (N= 11.190)
Intercept	0.509**	0.663***
Organizational Membership (ref. No)	0.291 (0.214)	0.533* (0.251)
Education (ref.: Lower-Secondary or Less)		
Upper Secondary, General Education	0.603*** (0.106)	0.520*** (0.110)
Upper Secondary, General Vocational Education	0.561*** (0.102)	0.459*** (0.106)
Post-Secondary, Non-higher Education	0.818*** (0.130)	0.671*** (0.134)
Higher Education	1.643*** (0.103)	1.508*** (0.107)
Organizational Membership * Education (ref.: Lower-Secondary or Less		
Upper Secondary, General Education	0.108 (0.255)	0.014 (0.294)
Upper Secondary, General Vocational Education	0.220 (0.253)	0.023 (0.287)
Post-Secondary, Non-higher Education	0.285 (0.300)	0.050 (0.330)
Higher Education	0.026 (0.237)	-0.211 (0.271)
Random Effects		
Country variance	0.751 (0.107)	0.772 (0.111)
Model Summary- log likelihood	-5048.74	-4859.49

For micro-level variables: *=p<.05; **=p<.01; ***= p<.001 (two-sided). For macro-level variables: *=p<.1; **=p<.05; ***=p<.01 (two-sided). Standard errors are noted in parentheses next to the unstandardized coefficients. *Source*: Eurobarometer (2015).

Table E.3: Robustness Test Multi-level Regression Models with Control Variables (table continues next page)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Fixed Effects									
Intercept	0.203	0.274	2.939	-0.760	-0.507	-0.368	-0.441	0.662	0.195
	(0.248)	(0.413)	(2.093)	(0.734)	(0.095)	(0.535)	(0.450)	(0.511)	(0.250)
Micro-Level Independent Variables									
Education (ref.: Lower-Secondary or Less)									
Upper Secondary, General Education	0.558***	0.558***	0.558***	0.539***	0.539***	0.557***	0.557***	0.571***	0.552***
	(0.103)	(0.103)	(0.103)	(0.103)	(0.103)	(0.103)	(0.103)	(0.106)	(0.111)
Upper Secondary, General Vocational Education	0.470***	0.470***	0.471***	0.464***	0.464***	0.470***	0.467***	0.463***	0.470***
	(0.099)	(0.099)	(0.099)	(0.100)	(0.099)	(0.099)	(0.099)	(0.102)	(0.106)
Post-Secondary, Non-higher Education	0.716***	0.716***	0.716***	0.700***	0.698***	0.718***	0.715***	0.718***	0.703***
	(0.123)	(0.123)	(0.123)	(0.124)	(0.124)	(0.123)	(0.123)	(0.126)	(0.134)
Higher Education	1.492***	1.492***	1.492***	1.493***	1.493***	1.494***	1.491***	1.494***	1.539***
	(0.099)	(0.099)	(0.099)	(0.099)	(0.099)	(0.099)	(0.099)	(0.102)	(0.107)
Organizational Membership (ref.: No)	0.467***	0.467***	0.465***	0.472***	0.471***	0.467***	0.466***	0.468***	0.560*
	(0.067)	(0.067)	(0.067)	(0.067)	(0.067)	(0.067)	(0.067)	(0.068)	(0.251)
Macro-Level Independent Variables									
Wealth		-0.002							
		(0.009)							
Working Hours			-0.072						
			(0.052)						
Social Trust				0.203					
				(0.144)					
Political Trust					0.217*				
					(0.114)				
Representativeness of the Electoral System (ref.: Majoritarian)									

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
PR						0.639 (0.521)			
Mixed						0.546 (0.607)			
Polarization Electoral System							0.163* (0.095)		
Conservativeness of Government								-0.084 (0.080)	
Interactions									
Organizational Membership* Education									
Upper Secondary, General Education									0.004 (0.294)
Upper Secondary, General Vocational Education									-0.006 (0.287)
Post-Secondary, Non-higher Education									0.028 (0.330)
Higher Education									-0.227 (0.270)
Control Variables									
Age	0.018* (0.007)	0.018* (0.007)	0.018* (0.007)	0.016* (0.007)	0.016* (0.007)	0.018* (0.007)	0.018* (0.007)	0.017* (0.008)	0.018* (0.007)
Gender (ref.: Male)	-0.200*** (0.052)	-0.200*** (0.052)	-0.200*** (0.052)	-0.209*** (0.053)	-0.209*** (0.053)	-0.200*** (0.052)	-0.199*** (0.052)	-0.206*** (0.053)	-0.200*** (0.052)
Compulsory Voting (ref.: No)	1.040** (0.454)	1.082** (0.495)	1.118** (0.445)	1.108** (0.428)	1.000** (0.419)	0.972** (0.450)	0.884** (0.442)	0.993** (0.452)	1.038** (0.454)
Random effects									
Country variance	0.708 (0.102)	0.708 (0.102)	0.686 (0.010)	0.662 (0.097)	0.642 (0.095)	0.689 (0.100)	0.672 (0.098)	0.695 (0.103)	0.708 (0.102)
Log likelihood	-4848.57***	-4848.54***	-4847.72***	-4799.37***	-4798.62***	-4847.83***	-4847.18***	-4686.84***	-4847.07***

For micro-level variables: *=p<.05; **=p<.01; ***= p<.001 (two-sided). For macro-level variables: *=p<.1; **=p<.05; ***=p<.01 (two-sided). Standard errors are noted in parentheses next to the unstandardized coefficients. *Source:* Eurobarometer (2015); OECD (2017); WorldBank (2015); European Social Survey (2004;2008;2010;2012); International IDEA (2017); Gallagher (2017); ParlGov (2015)

Table E.4: Robustness Test Multi-level Regression Full Models (table continues next page)

	Model 1	Model 2	Model 3	Model 4	Model 5
Fixed Effects					
Intercept	6.768*	0.147	0.618	6.560	6.533
	(2.965)	(0.701)	(0.586)	(3.437)	(3.435)
Micro-Level Independent Variables					
Education (ref.: Lower-Secondary or Less)					
Upper Secondary, General Education	0.586***			0.549***	0.546***
	(0.102)			(0.106)	(0.115)
Upper Secondary, General Vocational Education	0.477***			0.450***	0.449***
	(0.099)			(0.102)	(0.109)
Post-Secondary, Non-higher Education	0.753***			0.692***	0.673***
	(0.123)			(0.127)	(0.139)
Higher Education	1.552***			1.489***	1.535***
	(0.099)			(0.102)	(0.111)
Organizational Membership (ref.: No)		0.608***		0.471***	0.552*
		(0.065)		(0.068)	(0.252)
Macro-Level Independent Variables					
Wealth	-0.017			-0.031***	-0.031***
	(0.011)			(0.011)	(0.011)
Working Hours	-0.154**			-0.133*	-0.133*
	(0.070)			(0.070)	(0.070)
Social Trust		-0.071		-0.370*	-0.367*
		(0.219)		(0.222)	(0.222)
Political Trust		0.247		0.540***	0.539***
		(0.178)		(0.206)	(0.206)
Representativeness of the Electoral System (ref.: Majoritarian)					
PR			0.079	0.386	0.386
			(0.447)	(0.393)	(0.393)
Mixed			-0.211	-0.097	-0.099
			(0.529)	(0.452)	(0.452)
Polarization Electoral System			0.216**	0.138	0.136
			(0.092)	(0.100)	(0.100)

Conservativeness of Government				-0.126*	-0.184***	-0.185****
				(0.068)	(0.059)	(0.059)
Interactions						
Organizational Membership* Education						
Upper Secondary, General Education						-0.008
						(0.296)
Upper Secondary, General Vocational Education						0.012
						(0.289)
Post-Secondary, Non-higher Education						0.063
						(0.334)
Higher Education						-0.213
						(0.272)
Control Variables						
Age	0.016*	0.030***	0.027***	0.016*	0.016*
	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)
Gender (ref.: Male)	-0.194***	-0.073	-0.051	-0.218***	-0.213***
	(0.052)	(0.050)	(0.051)	(0.053)	(0.053)
Compulsory Voting (ref.: No)	1.570***	0.897**	0.614	1.263***	1.264***
	(0.519)	(0.701)	(0.383)	(0.407)	(0.407)
Random effects						
Country variance	0.647	0.581	0.556	0.451	0.451
	(0.094)	(0.087)	(0.085)	(0.071)	(0.071)
Log likelihood	-4879.41***	-5073.81***	-5002.88***	-4628.81***	-4627.39***

For micro-level variables: *=p<.05; **=p<.01; ***= p<.001. (two-sided) For macro-level variables: *=p<.1; **=p<.05; ***=p<.01 (two-sided) Standard errors are noted in parentheses next to the unstandardized coefficients.

Source: Eurobarometer (2015); OECD (2017); WorldBank (2015); European Social Survey (2004;2008;2010;2012); International IDEA (2017); Gallagher (2017); ParlGov (2015)