Department of Political and Social Sciences

A Widening Generational Divide?
Assessing the Age Gap in Voter Turnout
Between Younger and Older Citizens

Kaat Smets

Thesis submitted for assessment with a view to obtaining the degree of
Doctor of Political and Social Sciences of the European University Institute

Florence, March 2010

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Abstract

This thesis departs from the observation that in some countries such as Canada the age gap in voter turnout between younger and older citizens is widening. It does so because of a rapid turnout decline among the youngest electoral cohorts. These findings prompt the following question: What are trends in the age gap in voter turnout between younger and older citizens in other Western democracies, and how can these trends be accounted for?

Plotting over-time age differences for ten countries, this thesis shows that age patterns in voter turnout are far from generic. Evidence of a widening generational divide is found in Canada, Denmark, Great Britain, Norway, and the United States. The age gap in Finland, Germany, Italy, the Netherlands and Sweden, on the hand, turns out to be relatively stable or even trendless through time.

Turning from description to explanation, this thesis presents a novel hypothesis to account for declining turnout levels among young voters. Combining the life-cycle and cohort/generation approaches to age differences in political participation, the later maturation hypothesis examines the idea that the timing of certain life-cycle events that are considered important for the development of political participation varies from one generation to the next. Since key events such as leaving school, starting a first job, getting married and starting a family nowadays take place at a higher average age than they used to, later maturation should be able to explain turnout decline among young voters at least partially.

Based on data from the British Election Studies from 1964 to 2005, this thesis shows that delays in the timing of life-cycle events are indeed negatively related to individual level youth voter turnout. Attendance of religious services, levels of political interest, turnout at previous elections, perceived party differences and strength of party identification also explain over-time differences in youth voter turnout. The largest share of individual level youth turnout is, however, accounted for by turnout trends in the rest of the electorate.

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At the aggregate level later maturation is also shown to explain part of the widening of the age gap. The political-institutional context, however, explains between-country differences best.

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Acknowledgements

Unlike some others perhaps, writing a doctoral dissertation is certainly not something that I have aspired from a young age onwards. On the contrary, I struggled through the last year of primary school as well as the first years of high school. School – in my view as a teenager – was surely a waste of time. Stepping down one level in high school turned out to be my saving. I ended up studying journalism and enjoyed my work as a journalist for a regional newspaper afterwards.

I was still very young when I started my first full time job and the letter that I received stating that I would need to work another '44 years and 3 months until my legal pension age' certainly spurred the decision to go back to school. Studying law would mean another four years in post-secondary education, political science just two. The choice was easily made.

Somehow, however, finishing my master studies in political science still did not satisfy me as I was determined to show myself that I was able to conquer the next academic level as well. The thesis that you find yourself reading at this moment is the fruit of this determination (although those that know me would probably say that stubbornness might be an appropriate label as well...).

Surely if I could start over right now this thesis would have looked differently. However, making mistakes is part of the learning process that comes with studying at any given level. Likewise this thesis might have turned out better if I had worked on it for another year. That is, however, not the exercise. This thesis is the best that I could come up within the four years and under the circumstances that were given to me. My personal goal has therefore been satisfied. All I can hope now is that some of my work will be of interest to the rest of the academic community and that I will be able to do something that is somehow relevant to society with the knowledge that I have gathered.

During the past four years Alex Trechsel has kept an eye on me and the progress that I made while I worked on the thesis. Belonging to his first cohort of EUI supervisees, I hope that it has been a positive experience for him as well. One of the advantages of having a younger supervisor is surely that he or she can still

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vividly remember what it was like to write a dissertation. Alex has always provided nothing but his full support for me to be able to live PhD experience to the fullest. The occasional supervision session at the Blu Bar in Le Cure or the pizzeria in San Domenico are characteristics of his style that I will think back about with a smile.

André Blais also deserves a very special thank you. When I was looking to gain extra experience abroad, he invited me to stay at his research chair instantly – e-mailing me back within 12 hours after I had come up with the courage to ask if I could come and visit. My stay in Montréal has been one of the highlights of my career as a doctoral student. Moreover it was a wonderful personal experience. With André as my external co-supervisor I was as lucky as to always receive instant feedback and have someone by my side who would truly think through my questions and problems. The experience has inspired me about the kind of mentor that I hope to be to my own students later on.

Of my other two jury members, I would like to thank Mark Franklin for never failing to make time for me when I was puzzled about how to proceed or stuck with my statistical analyses. Although receiving his advice and comments was not always as easy, my thesis has improved a lot because of them. I am also thankful to Marc Hooghe for taking the time and effort to be one of my jury members. Before I started as a PhD student at the EUI, I discussed my research proposal with him in Leuven. Marc being part of my defense committee makes the circle round.

There are many other people without whom I would not be where I am right now. Be it because they provided me with inspiration, help, or with a listening ear. Some people deserve extra special attention, however. Rik, without whom I would not have embarked on this journey (and who read this thesis from front to back: *mijn dank is groot!*). Even though we decided that we had to go our separate ways, I am very happy that we're still in each other's life as friends. Evelyne I want to thank for sharing the whole adventure with me: highs, lows, laughing, joking, complaining and all. We'll have to keep seeing each other, because it seems that we never got around to half of our plans. Ale deserves thanks for dragging me through the summer of 2008 and being my rock on several other occasions. Stefano made sure to check in several times a day to see whether I was still alive while I was working in a slightly self-destructive manner to get this thesis done. I am ever so grateful to whoever kept bringing him on my path over the past two years.

Then there are many people who I have been lucky to meet over the past years and who have been important in some way or another. They are too many to mention, but the following people certainly deserve to be named here: Beatrijs, Gabriella, Marie-Ange, Alessandra, Françoise, Fiamma, Antonella, Loredana,

Cinzia and Gjovalin who helped me on various occasions and made my life at the EUI easier and more pleasant; my friends and colleagues Yvette, Christel, Chris, Michael, Patryk, Bruno, Masha, Igor, Carolien, Sergi, Elias, Till, Chiara, Anja, and Gema; as well as all the wonderful people I was lucky to meet and work with during my stay at the CRCES: Sébastien (and the FoNN and the FcoDHH), Peter, Jiyoon, Frédérick, Eugénie, Pascal, Christophe, Patrick, Simon, Silvina, Agnieszka, Henry and Romain. Dave I would like to thank for the speedy language correction of my thesis.

Everyone mentioned here has pitched in in their own sort of way and I am grateful for this. My friends and family in the Netherlands and Belgium deserve the last lines, however. They never complained about my absence and did their fair share of trouble shooting taking care of business for me at home. *Sigrid, Walter, Lente en Inden; oma en opa; opa; Lotte, Daan en Anke, moeke en vake: bedankt voor alles!*

Kaat Smets

Firenze, January 2010

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Chapter 1

Introduction

Over the past two hundred years, gradual lowering of the minimum voting age has increased the franchise to ever-younger citizens (see Katz, 1997 for an overview). Seemingly curious, it is precisely these young cohorts that make least use of their right to vote. There is, however, nothing new about this: young adults are often considered notorious non-voters as they have for a long time been known to turn out at lower levels than older age groups (Nie, Verba and Kim, 1974; Topf, 1995b; Galston, 2001; Gidengil et al., 2003).

Recent research suggests that although young adults have long been identified as the group of the electorate least likely to vote, turnout among young cohorts is declining rapidly. It does so at a much faster pace than the turnout among older age groups. In other words, not only do today's young adults turn out to vote at much lower levels than their parents and grandparents did when they were young, the age gap in turnout between younger and older voters is widening as well.

The above-described trends have been particularly well documented in Canada (Gidengil et al., 2003; Pammett and LeDuc, 2003; Johnston, Matthews and Bittner, 2007) and Great Britain (Phelps, 2004, 2006). The question of whether similar trends exist in other western democracies as well, so far, remains unan-

swered. Moreover, it is unclear what processes can explain over-time trends in the age gap in political participation as well as the turnout decline among younger voters which is causing this divide. Combining the above, this research focuses on the following central research question:

- *What are the trends in the age gap in voter turnout between younger and older citizens, and how can these trends be accounted for?*

This thesis aims to make a contribution to (youth) political participation research in a twofold way. Central to this research is the presumed gap in turnout levels between younger and older age groups. Trends in the difference in turnout between younger and older citizens are, first, assessed longitudinally and country-comparatively. The focus of the research will be on advanced industrial Western democracies. Secondly, after having observed patterns in the age gap in turnout, competing hypotheses concerning explanations for these trends are put to the test.

Also central throughout this thesis will be a novel yet intuitive explanation for declining turnout levels among young voters. Fully rooted in the life-cycle and cohort/generation models of age differences in political participation, the later maturation hypothesis examines the idea that by going through life-cycle events that are considered to be important for the development participation at an older average age, young citizens are nowadays less inclined to turn out to vote than young people of the past. In other words, the later maturation hypothesis combines age and generation effects by reasoning that different cohorts and generations have different patterns of ageing. These different patterns of ageing cause differences in participation levels. Although later maturation is by no means considered the sole explanation of turnout decline among young voters, this thesis strongly focusses

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on the idea that changed patterns of maturation should at least partially explain declining levels of turnout among younger voters. The later maturation hypothesis will be introduced in detail in the next chapter setting out the the theoretical framework of the thesis.

Before dedicating a few words to the justification of this research at the end of this introductory chapter, the Canadian research on which this project builds, and by which the central research question was inspired, deserves attention. Taking the Canadian case as a point of departure allows us to get a better understanding of the research puzzle and also sets out the main contours of the debate.

1.1   Point of Departure: The Canadian case

In 2008, the Canadian federal elections recorded an historically low turnout rate with slightly fewer than 59% of the electorate casting a vote. From 1945 up to 1988, an average of 75% of the registered voters still turned up at the polls in Canada. After this period, turnout rates for the federal elections began to fall, with the turnout rates of 2008 the lowest ever recorded.

The Canadian drop in voter turnout since 1988 is not the result of an overall lack of participation by the Canadian electorate: Turnout decline has mainly been caused by young people born after 1970 staying away from the polling booth (Blais et al., 2002; Rubenson et al., 2004; Gidengil et al., 2003; Pammett and LeDuc, 2003). Figure 1.1, taken from Gidengil et al. (2003, p. 9), clearly demonstrates this trend by plotting the turnout rates of four Canadian birth cohorts in elections taken place from 1988 to 2000. The turnout rate of the oldest birth cohort in 1988 is taken as point zero and the turnout rates of the other cohorts are compared against this level. The turnout rates of the cohort born after 1970 are only measured from

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1993 onwards, as this was the first opportunity for citizens of this age group to vote.
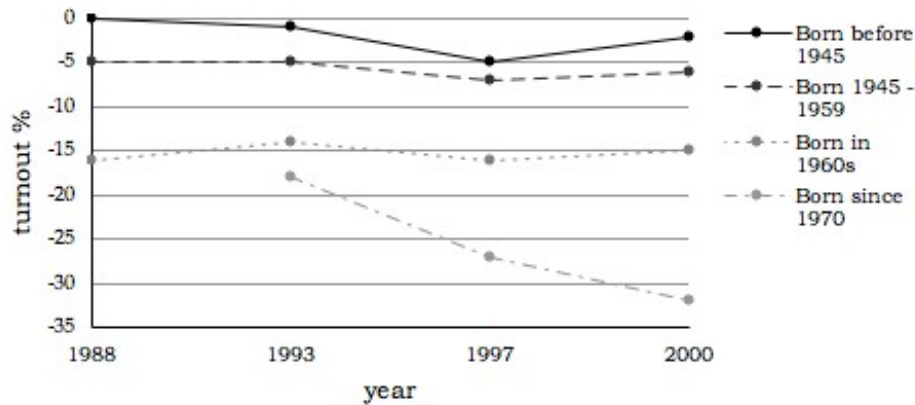
source: (Gidengil et al., 2003, p. 9)

Figure 1.1: Canadian trends in turnout by cohort

Figure 1.1 visualizes the described drop in general turnout levels, as well as the larger contribution of the youngest age groups to the decline. For each observed birth cohort after the one that includes citizens born before 1945 participation rates have dropped through time. The decline for the oldest three birth cohorts has, however, only been marginal between 1988 and 2000. The same cannot be said for the turnout rate of citizens born after 1970. This youngest age group shows a clear and steep decline in turnout behaviour between 1993 and 2000, marking the beginning of what seems to be a widening generational divide (Gidengil et al., 2003).

Whether similar trends in the age gap in voter turnout as in Canada exist in other advanced industrial democracies so far remains largely unknown. An exception is the work of Phelps (2004, p. 244) that demonstrates that there are considerable differences in the turnout patterns of various birth cohorts in Britain.

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The first aim of this research is, therefore, to explore over-time patterns in the age difference in turnout in a cross-national setting. Questions to be answered include the following: Do we find evidence of a widening generational divide in other advanced industrial democracies besides Canada? If so, is this pattern also caused by rapidly declining turnout levels among young people? In a second step, explanations for observed trends will be assessed. What can explain why contemporary youth turns out at much lower levels than their parents or grandparents did when they were young? Possible between-country differences in the age gap also deserve attention.

Even with regard to the Canadian case the answers to some of these questions are still to be explored. To my knowledge, no studies exist that research over-time changes in the age gap. Several studies have, however, researched the age gap apparent in the 2000 Canadian federal elections (i.e. the age gap at a single point in time). A quick review of these studies provides an idea of where to start looking for indicators that can explain over-time changes in the age gap. Summarizing, four types of explanations have been tested to explain the gap in voter turnout between people under and those of and above the age of 30 in the Canadian federal elections of 2000: socio-demographic features, political system variables, measurements of political cynicism, and lastly political knowledge and interest.

Where it is usually assumed that young people refrain from participating in electoral forms of political participation, such as voting in elections, because they are alienated from the political system (see e.g. Henn, Weinstein and Wring, 2002), young Canadians were actually found to be less cynical than their older counterparts (Gidengil et al., 2003; Blais et al., 2002; Rubenson et al., 2004; O'Neill, 2003). Young people's lack of political interest and political knowledge was found

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to be able to account for part of the gap in turnout between younger and older age groups (Blais et al., 2002; Rubenson et al., 2004). Howe (2003), moreover, not only shows that in Canada the age gap in political knowledge increases with each successive cohort, he also notes that political knowledge becomes a more important indicator for political participation. Together, these factors could, thus, be used to explain the widening generational divide in turnout levels.

Blais et al. (2002) and Rubenson et al. (2004) also looked at the influence of political system variables, such as identification with a party, mobilization and the perceived party competition. Young Canadians did identify themselves less frequently with a political party than older age groups. In addition, they had been contacted and asked to vote fewer times by political parties than older birth cohorts. Since both variables were found to have a positive effect on voter turnout, they explain part of the age gap in the 2000 Canadian federal elections. Perception of party competition was not found to have an influence on turnout.

By far the largest part of the 2000 Canadian age gap in voter turnout between those under and those of or older than 30 years could be accounted for by socio-demographic factors (Rubenson et al., 2004). In fact, almost a third of the turnout difference between younger and older voters could be explained by the fact that young voters share traits that are known to decrease the probability of turnout, such as low income, low levels of religiosity, low rates of marriage, etc.

Although the above studies focus on one point in time, they provide a springboard for exploring over-time change in the age gap in voter turnout. The next chapter will provide an extended overview of theoretical explanations for age differences in political participation. Moreover, it explores how rapidly declining turnout levels among young cohorts during the last two decades are explained in

the literature. Before turning to the theoretical framework of this thesis, let us briefly inquire into why it is valuable to study the turnout differences between cohorts and/or generations.

1.2 Research justification and specification

> *'Democracy is not just a spectator sport - it requires the active involvement of its citizens'* (Dalton, 2000, p. 57).

The manner in which people participate in politics is fundamental for the way a political system functions. In classical and contemporary theories of democracy, political participation is seen as a way of protecting private interests while simultaneously making sure that good government is practised (see Held 1996; Pateman 1970). It is, therefore, not difficult to guess why many academics have and have had an interest in the question of how and why people come to participate in politics. As the primary mechanism with which to implement the principle of popular sovereignty, electoral participation in particular has received scholarly attention.

This thesis focuses on age differences in turnout. Canadian research shows that there is increasing divergence between the turnout levels of younger and older voters. This divergence is primarily caused by a turnout decline among young adults. Young voters grow into older voters. Unless the losses are made up as young people age, participation trends of young people can thus provide a preview of the future functioning of democracy (Sigel and Hoskin, 1981).

Firstly, if low levels of turnout among young adults persist as these citizens age, overall levels of turnout are at stake. Opinions differ on whether mass political participation is a good thing for democracy (see Barnes and Kaase, 1979, p. 28-31

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and Kriesi, 2005, p. 2-6 for an overview of this discussion). Political inactivity can be seen as a consequence of contentment about the way politics is functioning, as well as a sign of aversion and apathy towards politics.

Low levels of participation are, however, often seen as a problem for democracy. Lower bases can be a sign of declining support for democracy and rejection of the political system and is often seen as a sign of growing distrust and cynicism (Armingeon, 1994; IDEA, 1999; Henn, Weinstein and Wring, 2002; Franklin, 2004). If each new cohort entering the electorate is more alienated and disaffected with democracy than their parents or grandparents were when they were young, in the long run support for the democratic system could reach alarmingly low levels.

Since elections are based on the principle of equality (one man, one vote), low turnout among certain groups in society makes the operation of electoral democracy unequal. This may endanger both legitimacy and representation (Lutz and Marsh, 2007).[1] Low levels of participation among younger people can – both in the short and in the long term – lead to selective representation. This, in its turn, could lead to young adult's interests not being taken into account in policy making processes. The solution to this problem is, of course, relatively simple. By partaking in the political decision-making process young people could easily make themselves more visible to politicians. However, young cohorts may either not care (see the argument above) or there may be something more structural that prevents them from participating in the political process.

Because young people are presumed not yet to be set in their political ways, it is believed that social, cultural, political and historical changes have a higher impact

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[1]While the view that low turnout constitutes a democratic dilemma with regard to equal representation is widely held, empirical evidence for this assumption is scarce indeed. For exceptions see: Pettersen and Rose (2007); Rosema (2007); Rubenson et al. (2007).

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on this age group than on older adults whose political orientations were shaped years before. Focussing on young adults, in this sense, provides an indication of what is going on in the electorate at large. To understand current and future trends in political behaviour it thus is fundamental to focus on young people (Hooghe, 2004, p. 333; Stolle and Hooghe, 2004, p. 423; Franklin, 2004).

Although considerations of democratic health are an implicit reason for studying age differences in turnout and changes in turnout levels among young people, the aim of this thesis is not to make normative judgments on the (future) state of the democratic system. The focus of this study is on explaining past trends. By assessing different mechanisms through which turnout develops over the life span, an educated guess can be made about future developments in voter turnout towards the end of this thesis. Emphasis, however, will be on explaining rather than on predicting.

This thesis focuses solely on voter turnout. It is generally assumed that in many Western democracies citizens are withdrawing from traditional forms of political participation. Voter turnout is declining, party membership is at an all-time low, and people, in general, are thought to be disengaged from traditional politics. Many scholars, however, support the idea that political participation is simply becoming less institutional and more individual as people tend to turn to more activist forms of political participation, such as demonstrating, signing petitions, and buying or boycotting products. In this perspective, it is the political behaviour of young people that seems to be most affected by the new patterns of political participation that have emerged over the last decades (see e.g. Amnå, Munck and Zetterberg, 2004; Dekker, 2002; Norris, 2003; Topf, 1995*a*).

Researching turnout instead of a broader battery of forms of political participation, is however justified, as the question *why* young people are less involved in traditional forms of political participation than previous generations still requires an answer. Voter turnout receives most attention of all traditional forms of participation and this bias in the literature is by no means surprising. Voting has been, and still is, the most exercised form of political participation (Topf, 1995*b*, p. 31). Moreover, and more important for this research, it is a rather uniform act, which increases its comparability (Hooghe and Kavadias, 2005, p. 9).

It should be noted that this research will not be aimed at factors that determine the direction of electoral participation of young people (i.e. what party they vote for). In line with Milbrath (1965), I argue that decisions about the direction of political participation are not the same as the question whether or not to participate at all. Even though an interesting line of research, focusing on party choice as well as on turnout would very much expand and complicate this research.

1.3   Structure of the thesis

In this introductory chapter the central research question and main goals of this thesis as well as its origin have been discussed. Very briefly this research centers around age differences in voter turnout and turnout decline among younger voters. The aim is to both describe and explain overtime trends in the age gap in voter turnout and it is assumed that – as observed in Canada – changes in young people's turnout levels play a disproportionate role in movements of the age gap. In addition to identifying the research puzzle, in this first chapter a justification for the research to be conducted has been provided. The next chapter will present an overview of the literature on age differences in turnout. We will look into the theoretical

mechanisms accounting for the age gap in political participation and address how young citizen's increasing abstention from participation in electoral politics can be explained. Although the two issues overlap, they are usually explained with a different battery of explanatory indicators.

After reviewing the literature, the main hypotheses to be assessed in this thesis will be identified. Particular attention will be paid to the later maturation hypothesis that is central throughout this research. The later maturation hypothesis explains young people's abstention by arguing that different generations experience certain life-cycle events at a different average age. Because this average age has increased overtime, as people stay in school longer, start their first job later, postpone marriage, put off starting a family, etc., a larger proportion of young citizens can be expected to abstain. Fully rooted in the life-cycle and generation theory of political participation, the later maturation hypothesis provides an intuitive – yet original – explanation for (part of) the turnout decline among young voters. The second chapter also discusses the research design of the thesis. It provides an overview of the data to be used and touches upon estimation issues and other methodological considerations.

In the next chapter the first aim of this thesis will be addressed. This third chapter provides an overview of over-time age differences in voter turnout in ten advanced Western democracies. The main finding is that, contrary to conventional wisdom, age patterns in voter turnout differ greatly from country to country. Evidence of a widening generational divide is found in Canada, Denmark, Great Britain, Norway, and the United States. Movement of the age gap in the latter four countries, just like in Canada, is largely caused by the turnout pattern of younger voters. The age gap in Finland, Germany, Italy, the Netherlands, and

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Sweden on the other hand, turns out to be relatively stable or simply trendless over time. These descriptive findings prompt two questions: What can explain over-time trends in the age gap (or more specific: how do we explain overtime turnout decline among young adults) and how do we account for the between-country differences?

In the fourth chapter we turn from description to explanation as the question to what extent later maturation can account for the turnout decline among young voters – which in its turn causes patterns of a widening generational divide – as observed in some countries in chapter three is assessed. Using individual level data from the British Election Studies, an index of characteristics of maturation is created. Average scores of young people on this maturation index – as expected – are found to decline overtime, indicating a trend towards later maturation. Since maturation itself is positively related to turnout among young adults, later maturation has a negative impact on the turnout levels of younger citizens. Although effects should not be exaggerated, analyses demonstrate that life-cycle delays can account for roughly 10% of the overtime decline in turnout among young adults in Great Britain.[2]

Although it takes a central position in this thesis, the later maturation hypothesis is by no means the only hypothesis that can be derived from the literature to explain overtime turnout decline among young people. These alternative explanations to turnout decline take a central place in the fifth chapter. By confronting them with the later maturation hypothesis, two aims are served. First, it provides an overview of as wide a range as possible of mechanisms that can explain the

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[2]After controlling for other explanatory factors in the subsequent chapter, later maturation is still found to explain 7,3% of pre/post 1990 differences in youth voter turnout in Great Britain.

turnout decline among younger voters. Secondly, it allows us to see how well the later maturation hypothesis behaves in a better specified environment. The results of the chapter indicate that the results of the fourth chapter are robust. Maturation plays a positive and highly significant role in all estimated models. Since we know that the proportion of young adults that has experienced an x number of life-cycle events by a certain age is declining overtime, later maturation can be concluded to play a role in the lower turnout levels of young people. Apart from indicators of maturation, factors such as attendance of religious services, political interest, turnout at previous elections, perceived differences between political parties, and strength of party identification are also found to significantly explain over-time differences in youth voter turnout. The most important indicator of youth voter turnout in Great Britain is, however, turnout the average turnout level of the rest of the electorate. This indicate that turnout levels of younger and older voters go hand in hand.

In order to provide an additional robustness check of the later maturation hypothesis, the sixth chapter assesses its validity at the aggregate level. With data from 10 countries spanning a period between 1960 and 2003, the maturation hypothesis is contrasted with other aggregate level explanatory factors of age differences in voter turnout. These are mostly characteristics of elections, related to the electoral system and the party system. Taking the actual age gap as the dependent variable, in this chapter too later maturation is observed to explain part of the widening age differences in voter turnout. Political-institutional variables were found to best explain between-country differences.

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Chapter 2

Age differences in political participation

Age differences in political participation represent a common feature of democratic polities. Recently, however, researchers have identified what seems to be the beginning of a widening generational divide in voter turnout in Canada. This widening of the age gap is mainly caused by the changes in the turnout pattern of young Canadians. Although turnout levels are declining among both younger and older citizens, they do so much more rapidly among young adults. This causes the difference in turnout between younger and older voters to become larger.

Differences in levels of political participation between younger and older voters have received scholarly attention for many decades. This chapter reviews how the existence of the age gap in political participation is explained in the literature. Particular attention will be paid to whether and how over-time changes in the difference in participation between younger and older citizens are accounted for.

The second part of the chapter focuses on theoretical explanations of turnout decline among younger voters through time. Although very much related to the question of why there is an age gap in voter turnout to begin with, the question why

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young people are less inclined to turn out to vote than their parents or grandparents did when they were young is usually considered separately, and is answered with a different battery of explanatory factors.

2.1 The age gap in political participation

Generally, three types of mechanisms are used to explain age differences in political participation: age (here referred to as life-cycle), period and cohort/generation effects. All types of explanation focus on the question whether or not political participation levels vary over the life span, and why distinct participatory patterns between age groups emerge.

This section discusses how each of the mechanisms perceives the way in which age differences in levels of political participation come about, as well as the differences and similarities between the approaches. As we will see, making a theoretical distinction between the mechanisms is easier than disentangling them empirically. Since the interest of this thesis is in over-time changes in the age gap in turnout, this time dimension will receive special attention.

2.1.1 Life-cycle effect

According to the age effect – as the name already suggests – participation levels increase with age. Young people are therefore expected to turn out at lower levels than older citizens and this explains why we observe an age gap. Age in itself does however not necessarily affect political involvement. Rather than the number of years that have passed, it is more likely the experience that comes with age that influences behaviour. The political life-cycle theory is based on precisely the assumption that participation levels rise over the life span as people grow older and

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experience certain life events. Hence, the theory specifies *why* turnout patterns change as people age. As such, it perceives the relationship between age and political participation to be curvilinear rather than linear (see figure 2.1).
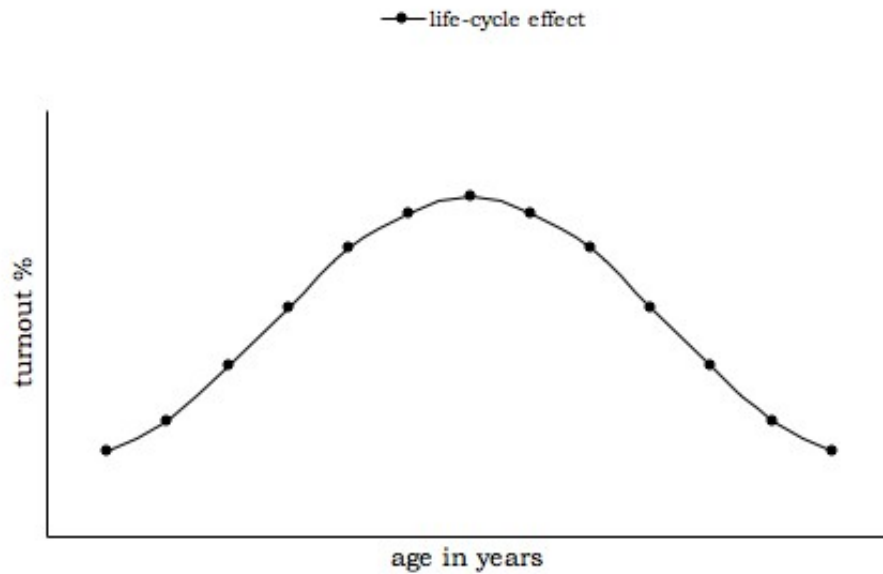
Figure 2.1: The life-cycle of political participation (schematic)

Young people, it is argued in the life-cycle theory, participate less in politics because of their low attachment to civic life, a characteristic that is fuelled by young people still going through education, being occupied with finding a partner, trying to establish a career, having higher mobility, dealing with the psychological transformation into adulthood, etc. Together these characteristics lead young people to be politically inexperienced and to have little political interest, skills and knowledge (i.e. to have few political resources). This, in its turn, makes political participation both more difficult and less meaningful to this age group (Strate et al., 1989, p. 443; Jankowski and Strate, 1995, p. 91).

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In middle-age, participation rates are thought to stabilise at a higher level as people leave the parental home, buy a house, get a full-time job, start a family, settle down in a community, etc. Even though many of these processes demand time, they are associated with activities (involvement in organizations, associations, the community, etc.) that tend to enhance political participation due to increased motivation, mobilisation, skills, and pressure (Strate et al., 1989, p. 444; Lane, 1959, p. 218; Kinder, 2006). All in all, the middle-aged seem to have the best cards to understand politics and their part in it (Jankowski and Strate, 1995, p. 91), which is most likely the reason why this stage of the political life-cycle is often used as a base against which to compare the political participation levels of younger and older citizens (Braungart and Braungart, 1986, p. 210).

The participation rates of older age groups, namely, tend to fall under the influence of, for example, health problems, retirement and declining family income. In sum, it is a more general disengagement from social life that leads to a lower attachment to political life (Cutler and Bengtson, 1974, p. 163). Note that it is extremely difficult to isolate some of the above-mentioned effects from changes in the composition of the electorate. Older birth cohorts have lower educational levels than younger ones. As such, this is a potential explanatory factor of older people's lower levels of turnout that falls outside the life-cycle argument per se. Secondly, a large share of the elderly live alone which means that the potential motivation by a politically active spouse falls away. Also, the ratio of women to men increases with age, and women have traditionally participated less in politics than men (see Strate et al., 1989, p. 444; Kohli and Künemund, 2005, p. 351-352; and also Goerres, 2007). In short, composition effects may account for part of

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the pattern in age differences in turnout that we observe and should therefore be considered.

The life-cycle argument seems to fit well with observed participatory rates in conventional or traditional forms of political participation such as voter turnout. A curvilinear relationship is indeed shown to exist between age and turnout in Western European countries (Norris, 2003; Stolle and Hooghe, 2005*a*; García Albacete, 2009). Moreover, the relationship between age and and turnout is found to be largely the same in Western democracies (IDEA, 1999, p. 24).

So far, the political life-cycle has mostly been conceived as a static curvilinear relationship. However, we do not know whether *the* life-cycle of political participation really exists, or whether its shape differs across time and space. In fact, if the shape of the political life-cycle is indeed static through time, the life-cycle argument cannot account for changes in turnout differences between younger and older citizens as the distance between the two age groups would remain stable through time (see Kimberlee, 2002, p. 88 for a similar argumentation). In other words, in order for life-cycle events to be able to account for over-time change in the age gap, generations or cohorts must differ with regard to the timing at which they experience such events.

In recent years a de-institutionalization and de-standardization of the family, educational and occupational life-cycle has been identified in the sociological literature (Kohli, 2003, p. 532-533; Mayer, 2004, p. 172). Similar patterns of heterogeneity are likely to have taken place in the political life-cycle too: It is generally assumed that most events that are characteristic of the early and middle stages of the life-cycle have moved to a higher average age. Moreover, individual pathways

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tend to be much more varied than they were in the past (European Commission, 2001*a*, p. 9). In the new millennium, young people stay in school longer because of their higher educational levels, have extended co-habitation with – as well as longer financial dependence on – their parents, and consequently face postponed full entry into the labour market (Pirie and Worcester, 1998; Billari and Wilson, 2001; European Commission, 2001*b*; Billari and Kohler, 2002; Furstenberg, Jr. et al., 2003; Kennedy, 2004; OECD, 2007). Summarizing, today's young cohorts no longer marry and set up house in their early twenties. Instead most events that define 'maturation' or 'adulthood' are experienced later on in life.

The above-described trends give reason to believe that the shape of the political life-cycle as it has so far been perceived may no longer fit with reality. Seemingly facing more and/or extended start-up problems than young people of previous generations, political participation patterns of today's youth can be expected to have been affected. The life-cycle mechanism produces age differences in political participation, but in order for it to produce *overtime* changes in age differences in turnout cohorts need to experience life-cycle events at a different pace. More sharply put: if the movement of several characteristics of the political life-cycle to a higher average age does *not* translate into changes in turnout patterns of young people, we have serious reasons to doubt the over-time validity of the life-cycle model.

The idea that later maturation may have negatively affected young citizen's turnout rates has, to my knowledge, not yet been assessed in the youth turnout literature. Its assessment is, however, not only justified from a theoretical perspective but also from an empirical one. As may be recalled from the previous chapter, the largest part of the 2000 age gap in voter turnout was explained by

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socio-demographic factors. One of the main contributions of this thesis is to assess the extent to which over-time changes in the timing of experiencing certain life-cycle events – mostly measured through the usual battery of background variables in individual level research – can account for over-time changes in the age gap in turnout and (rapidly) declining turnout levels among young adults.

2.1.2 Cohort and generation effects

The political life-cycle approach neglects the fact that certain social, cultural and historical events can influence political participation rates. For this we turn to the cohort and generation mechanisms. Common within these approaches is the idea that it is not so much the dynamics of biological ageing that make one grow into political life, but that social, cultural and historical factors shape the political participatory patterns of a cohort or generation (De Graaf, 1999; Braungart and Braungart, 1986). Historical differences and social change are, thus, considered to be the decisive factors that account for age differences in political participation.

The main problematic feature of the generation and cohort approaches lies in the overlapping meaning and use of the terms generation and cohort. A cohort is usually referred to as a group of people born at the same time in history, sharing social and historical experiences, for example, the 1980s cohort (Braungart and Braungart, 1986, p. 207; Jankowski and Strate, 1995, p. 92; Alwin, Hofer and McCammon, 2006, p. 22). A political generation also consists of a group of people born at the same time in history, although this cohort becomes aware of its unique social and political situation, e.g. the 1960s generation (Braungart and Braungart, 1986, p. 207; Lane, 1959, p. 219; De Graaf, 1999, p. 261). The term generation is, however, also used to refer to lineage age groups such as parent or child generations

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(Braungart and Braungart, 1986, p. 207). Each of these three concepts, related to the cohort and generation approaches, is linked with political participation in a different way.

The *lineage politics perspective*, first, stresses the importance of socialisation on political participation. Younger generations, it is argued, learn political skills by looking at and learning from their parents or grandparents, even though the socialisation efforts of the parent generation are not necessarily direct, intended, or intensive (Braungart and Braungart, 1986, p. 214). Over time changes in age differences in political participation, if we follow this line of thought, should be caused by changes in the way parents socialise their children. The literature gives no indication of such changes in parental socialization[3] and I do not consider this a very plausible explanation for over-time trends as observed in Canada.Turnout among older voters (i.e. the parents of the younger citizens) indeed is declining, however, not even closely to the same extent as among young adults. Therefore, other factors must be at work to explain the rapid decrease in turnout among young cohorts. Also, measurement issues seem problematic here as data that would allow for assessing changes in political socialization is hard to come by.

Although not directly linked to the lineage politics perspective to age differences in political participation, other socializing agents than the parents are also frequently mentioned to influence young people's political behaviour. Friends and the school environment in particular are thought to do so, as the young are still susceptible to chance because they have not yet developed their own habits of political participation (Lane, 1959; Plutzer, 2002; Hooghe and Stolle, 2003; Nor-

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[3]In fact, Corbetta (2009) demonstrates that in Italy the socialization effect from father to son with reference to party choice is perfectly stable through time.

ris, 2003). Obviously, rapidly declining turnout among young people increases the likelihood that any young voter will have more non-voting peers. This may cause a snowball effect of abstention. Data on electoral behavior of respondent's peers is, however, hard to find at best. Some election studies do inquire whether respondents discuss politics with friends. The problem, however, is that even though a decline in the frequency of discussing politics may cause a decline in turnout, we would want to understand *why* politics is being discussed less often with peers. This would imply a shift to a different dependent variable and is hence beyond the scope of this research.

The *cohort politics perspective*, secondly, gives political significance to the fact that some people are born in the same period in history and will, therefore, exprience certain meaningful social, cultural, political and historical events at the same stage of their life. This causes them to participate at different levels than people in other age groups that have experienced different events. Since young people are still in the formative stage of political learning and have no political behaviour pattern to fall back on, they are more likely to be strongly affected by these events than older age groups (Braungart and Braungart, 1986; Plutzer, 2002). The list of social, cultural and political events that are argued to have a potential impact on youth participation is too long to go into detail here, but will be discussed later on in the chapter.

The *political generation perspective*, thirdly, also focuses on social and political events. According to the political generation approach, people become active in politics when a birth cohort becomes aware of the fact that it shares certain specific social and cultural experiences. Social change thus makes new generations develop their own ways to participate in politics (Braungart and Braungart, 1986; Cutler

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and Bengtson, 1974; O'Neill, 2003). Political generations, however, do not develop easily because of the awareness factor. That is to say, it is unusual for people of a birth cohort to both realize that they have a common political interest and to focus on this by striving for political change. Some scholars already think it is too much to assume ordinary citizens can form a comprehensive political (world)view (Kinder, 2006, p. 1906).

Very much linked to the cohort and period approaches just described is the *political learning perspective.* This mechanism intended to explain age differences in political participation has lately drawn a lot of attention from scholars. The main argument of the political learning approach is that people learn the habit of either voting or non-voting in the early stages of their adult life, and that past behaviour predicts present behaviour (Green and Shachar, 2000; Kanazawa, 2000; Bendor, Diermeier and Ting, 2003; Gerber, Green and Shachar, 2003; Fowler, 2006; Aldrich, Taylor and Wood, 2007).[4]

Crucial in the learning approach to political participation is the distinction made between factors that influence a persons starting level of political participation (i.e. whether someone will vote at his or her first opportunity) and factors that influence the chances that someone will become a habitual voter (referred to as inertia) (Plutzer, 2002). Earlier mentioned explanatory factors such as resources, mobilisation processes, socialisation processes, and social, cultural and historical events are considered to have a differential impact on those that have and those that have not yet acquired the habit to participate or abstain.

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[4]Although the notion that the frequency with which a behaviour has been performed is a good predictor of future action is not being disputed, in the psychological literature a discussion takes place on how actions precisely become routinized (e.g. through stimulous or through automatic activation and spontaneity) and what role the frequency of past behaviour exactly plays (see e.g. Ajzen, 2002.)

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The learning mechanism, therefore, adopts a dynamic approach in which the relationship between age and political participation is one of interactions between explanatory factors of political participation and two age groups: young voters who are in the process of developmental transition and older voters who already have established the habit of voting or non-voting. Plutzer (2002, p. 44) explains the political learning perspective with the example of someone aged forty with a higher than average income. Based on this information we would expect this person to have a higher than average level of political participation. What if a couple of years later the same person loses his job and has to take on one that earns an average wage? If voting is a habit that is acquired in young adulthood, a change in income is not likely to influence this person's level of political participation. The other approaches to explain age differences in political participation do not have built-in mechanisms to control for such a habit.

How long does it take then to become a habitual voter? Franklin (2004) and Franklin, Lyons and Marsh (2004) suggest that the key to the answer to this question can be found in the literature on party choice. Butler and Stokes (1974) found that after 13 years (i.e. three elections) people's likelihood to vote for a certain party stabilizes. After this, the chance that someone will vote for a different party decreases significantly. The same cut-off point is used with reference to political participation. People are thought to establish the habit of voting or non-voting within the first three elections they experience.[5] From the fourth election onwards chances become small that people will deviate from their habit (Franklin,

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[5]Aldrich, Taylor and Wood (2007) work with a threshold of five elections, arguing that psychologists use the same cut off point in their research.

2004; Franklin, Lyons and Marsh, 2004). Disruptions in the habit of (non)voting are, however, not completely excluded (Plutzer, 2002; Strate et al., 1989).

The mechanism of demographical replacement (i.e. people entering and leaving the electorate) makes that incoming cohorts voting at different rates than established cohorts cause over-time changes in turnout levels (Franklin, 2004; Franklin, Lyons and Marsh, 2004; Gerber, Green and Shachar, 2003). Extending this line of thought, young adults are responsible for a widening or narrowing of the age gap overtime.

We need to ask ourselves, however, *what* is it that makes incoming cohorts vote at different rates? Mark Franklin's book on turnout in established democracies is by far the most elaborate contribution on the learning effect of voting. Trying to explain turnout decline in general, Franklin argues that changes in turnout are primarily due to the ways in which incoming voters react to the character of an election (Franklin, 2004, p. 65). Apart from features of particular elections, delayed effects from past changes (e.g. changes in electoral laws) also affect turnout change. In sum, according to Franklin, there are two ways in which conventional models of voter turnout are misspecified. The first is in attempting to measure effects on all voters that apply particularly to the younger ones. The second is the failure to take account of long-term factors that played a role in the socialization of established voters (Franklin, 2004, p. 80).

What are these long-term and short-term factors influencing youth voter turnout precisely? Starting with the long term, the effects of the lowering of the minimum voting age from 21 to 18 in the 1970s are argued to still be visible (Franklin, 2004, p. 61-68). Knowing that age and turnout are positively related, we can expect an 18 year old to have a lower probability of turning out to vote than a 21 year

old. Lowering the voting age, thus, has a long term negative effect on youth voter turnout. This thesis is aimed at explaining why today's youth turns out at much lower levels than their parents or grandparents did when they were young. The fact that some people were socialized before the minimum voting age was lowered and some people thereafter needs to be taken into account as it may explain differences in levels of turnout between the two groups.

Short term factors influencing youth voter turnout are related to the features of particular elections. Electoral competition is especially important in this respect. High stake elections tend to attract more voters than elections where the outcome already is a foregone conclusion. Measures of electoral competitiveness such as closeness of the race, margin of the victory, party polarization and party cohesiveness are considered to especially influence young voters that are not yet set in their political ways (Franklin, 2004, p. 112-114). Characteristics of elections, thus, are explanatory factors that need to be taken into account.

As touched upon above, the ambiguous nature of the concepts 'generation' and 'cohort' is one of the problematic features of these two approaches. It is difficult to determine when a political cohort turns into a generation, making it relatively complicated to distinguish between the different effects. Also, it is not always obvious where one generation ends and the following generation starts. This problem mainly occurs due to ambivalence about the criteria to be used to distinguish between generations. Sometimes quantitative criteria such as decade of birth, election year or a fixed interval of years are used, while other scholars have suggested making use of qualitative criteria such as distinct social or political events (see Braungart and Braungart, 1986, p. 218).This is probably the reason

why the generation and cohort effects are sometimes treated as one (see De Graaf, 1999; Braungart and Braungart, 1986; Jennings, 1987).

What is often found in the literature is a mix of different elements from the cohort and generation perspectives described above. In this thesis too the terms generation and cohort will be used interchangeably. The term cohort will usually be used to refer to people born in the same group of years (i.e. as in birth cohorts). With the term generation lineage differences as in child/parent/grandparent generations are emphasized. The key idea of either concept, however, is that experiencing certain social, cultural and historical events can influence political participation rates.

Since citizens that enter the electorate are born against a different socio, cultural, historical background than voters that leave the electorate, the turnout difference between younger and older voters can change. Hence, the idea of demographic replacement is crucial to the cohort and generation approach when trying to explain over-time trends in the age gap. In this respect, there is overlap with the life-cycle approach when trying to explain the same phenomenon. We established above that it is very likely that different electoral cohorts experience certain life-cycle events at different moments in their life. The mechanism of people entering and leaving the electorate (this time with different life experiences) is thus also in this approach the motor behind over-time change in age differences in voter turnout.

Different cohorts have different characteristics. In combination with the natural process of demographic replacement, these characteristics (life, social, cultural and historical experiences) can explain why there is something of an age gap in voter turnout and why this gap can become narrower or wider over time.

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2.1.3   Period effect

There is one more mechanism – the period effect – that is also often mentioned in discussions of differences in political participation between age groups. These period effects are major events, such as the presence of war, that affect the population as a whole, and not just certain age, regional, gender, education or income cohorts (De Graaf, 1999, p. 261; Norris, 2003, p. 9; Cutler and Bengtson, 1974, p. 165; Alwin, Hofer and McCammon, 2006, p. 21). Since everybody – young or old – is considered to be influenced simultaneously it is very difficult to see how period effects should bring forward over-time movements of the age gap.

The only way in which period effects can account for the overtime narrowing or widening of the age gap in political participation – once again – is through demographical replacement. If war, for example, leads to a long-term decrease in turnout levels among the electorate as a whole, these turnout levels will only start to rise again as new cohorts that have not experienced this war enter the electorate. In this case, the age gap would become smaller from the moment the post-war children enter the electorate.

The given example could – and perhaps should – also be described in terms of a war and post-war generation or cohort. Because of the overlap between cohort, generation and period effects, the remainder of this thesis will emphasize the importance of social, cultural and historical experiences rather than talk in terms of period effects. In the strictest sense of the definition period effects – i.e. events that affect the electorate as a whole – cannot, however, influence over-time movements of the age gap.

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Summarizing what has so far been discussed, young age groups have always had deviant participatory behaviour from older age groups. Age differences in turnout – the most common example – are generally explained by three main mechanisms: the life-cycle effect, the cohort and generation effects, and the period effect. The approaches are not as mutually exclusive or different as may appear at first sight. To start with, all types of explanation focus on the same basic questions: whether or not political participation levels vary over the life span, and why distinct participatory patterns emerge between age groups. Secondly, all three approaches assume that young adulthood is a crucial stage in the formation of later patterns of political participation. Young adults, it is thought, are not yet set in their political ways and, as such, are more easily influenced by external factors (see also Sears and Levy, 2003, p. 91; Flanagan and Sherod, 1998, p. 448-449).

How far do age, period and cohort mechanisms help to answer the question why today's youth turns out at lower levels than their parents or grandparents did when they were young? I would like to argue that the mechanism as such cannot help to answer this question at all. Whether participation is a matter of aging or a habit acquired at a young age is useful to attempt to predict future levels of political participation, but it does not provide an answer to the question why turnout among young adults changes overtime. Canadian and British research suggests that it is young voter's turnout levels that act as a catalyst for over-time changes in the age gap. Instead of focusing on the mechanisms that explain the development of participation over the life span, it is much more useful to concentrate on the dynamics behind the mechanisms to shed light on overtime youth turnout decline.

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As discussed above, the age-period-cohort mechanisms differ in their view of why young people abstain from political participation. Crucial to explaining trends in the age gap with the three mechanisms is the idea of demographic replacement. Incoming electoral cohorts differ from established ones and this creates movement in the age gap as well as in general turnout patterns. The key question is what makes these incoming cohorts different.

According to the life-cycle approach, side-effects of maturation lead to young people's disengagement from political life. It is a central focus in this thesis to see to what extent later maturation (i.e. experiencing certain life events at a higher average age) can account for the drop in turnout among young citizens. In the lineage politics perspective socialisation processes are seen as the crucial factors that make people grow into political life. We discussed that having more non-voters among one's peers is likely to increase the probability of abstention. It remains to be seen, however, *why* more young people refrain from voting. The political learning approach, thirdly, focuses on the influence of characteristics of elections. Especially indicators of electoral competitiveness are considered to affect young adults' decision to turn out or not. Over-time changes in competitiveness, but also in electoral rules, could explain why turnout among young people has decreased in the last decades. Other socio-cultural and historical events and experiences, lastly, may also explain why young people's turnout declines. These type of events are central in the cohort and period approaches, but have not yet been specified. We will return to these below.

Before discussing explanations for over-time differences in youth participation, a few more words on age, period and cohort effects are necessary. As argued above, knowing whether participation over the life span is a matter of either of the three

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effects does not help to explain what it is about aging, cohorts or periods that makes participation of young people change over time. However, in order to try to say something about future participation among young people it is important to take the different approaches into account.

The most problematic feature of age-related research is that it is, in fact, impossible to empirically separate age effects from period and cohort effects (and vice versa) because the three are exact linear functions of each other ($A = P - C$) (Cutler and Bengtson, 1974; Elder, 1975; De Graaf, 1999; Glenn, 2005; Wass, 2007). There is no real solution to this problem, except to rely on theoretical assumptions (Riley, 1973; Glenn, 2005) and to try to model the different effects as precisely as possible. Franklin (2004), for example, does so by assessing his hypotheses at the individual, cohort and aggregate level. There are also specific statistical methods available in order to distinguish between age, period and cohort effects as best as possible (see e.g. Neundorf, 2008). Inferring from the large amount of literature on the topic it seems that age, period and cohort/generation effects are often at work simultaneously.

All in all, from this literature overview on age differences in turnout, three dynamics have been identified that – from a theoretical perspective at least – may account for declining turnout levels among younger voters and over-time changes in the age gap in voter turnout. The first involves transformations of the political-life cycle. Due to their higher educational levels, many characteristics of the early and middle stage of the political life-cycle have moved to a higher average age. This can be expected to have had its consequences on the electoral behaviour of young adults. Secondly, changes in electoral competitiveness, that arguably have a magnified effect on younger voters, may have caused turnout decline among young

adults. Lastly, changes in electoral rules may explain over-time trends in youth voter turnout levels. As each election a new group of young people enters the electorate, distinct turnout patterns among these young people that come of age cause changes in the age gap between younger and older citizens. Demographic replacement is, thus, a crucial element regardless of the dynamics that are used to explain youth turnout decline. Beside the dynamics discussed here, other social, cultural and historical events have been argued to have spurred changes in youth turnout patterns. They are the focus of the next section.

2.2 Declining turnout among young adults explained

Declining turnout levels among young adults have caused concern in many Western democracies. Numerous explanations have been given in the literature to explain this changing pattern of youth voter turnout. Although very much related to the question why young people turn out at lower levels than older cohorts in general (i.e. why there is something as an age gap in turnout), the question why today's young adults are less inclined to make their way to the polling booth than their parents and grandparents when they were young, is usually answered with a different battery of explanatory factors. In this section the most commonly mentioned reasons for increasing abstention among young citizens are reviewed.

In the previous section we identified three dynamic processes that could be used to explain the rapidly declining turnout levels among young people. The first is later maturation, the second refers to changes in electoral rules, and the third is declining electoral competition. Turnout change can thus be explained through changes in characteristics of voters and changes in characteristics of elections. The

literature on turnout decline among young adults, however, tends to emphasize that it is something about young people that makes them abstain nowadays.

2.2.1 An alienated youth?

While voting and abstention are individual acts, the phenomena are usually discussed in aggregate terms. 'It [turnout] is a feature of an electorate, not a voter' (Franklin, 2004, p. 16). As such, individual level characteristics, societal characteristics and characteristics of elections can arguably affect turnout levels (Franklin, 2004; Fieldhouse, Tranmer and Russell, 2007). The number of explanations for declining levels of voter turnout addressed in the literature is, therefore, vast. Nonetheless, when it comes to the decline in turnout among young adults, the answer to the question why young people do not vote seems fairly unanimous. Both public opinion and experts contend that young people's abstention is the fruit of their alienation, disengagement, disinterest, apathy, cynicism, and scepticism from and towards political actors, political institutions and politics in general.

Canadian and European research shows that young people are indeed among the least interested and least knowledgeable of the electorate (Blais et al., 2002; Rubenson et al., 2004; Norris, 2003).[6] Howe (2003), moreover, not only shows that in Canada the gap in political knowledge increases with each successive cohort,

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[6]Caution is needed with regard to the concepts of political interest, political knowledge, and political participation. First, political interest is argued to be a dimension of political engagement in a similar fashion as political participation is a dimension of the same concept. The proximity of the two concepts is a potential problem (Rubenson et al., 2004, p. 417). Secondly, related to the first problem, there is a problem of causality, as the relationship between interest and knowledge can be argued to work in two directions. Interest provides an incentive to acquire political knowledge, however, someone who has political knowledge will be more likely to be interested in politics (Rubenson et al., 2004, p. 417; Howe, 2003, p. 22; Brady, Verba and Schlozman, 1995, p. 271). Kriesi (2005, chapter 4) in his study shows that political awareness, in part, is a function of political interest (motivation) and level of education (competence). Age, in its turn, indicates the combination of motivation and competence.

he also notes that political knowledge becomes a more important indicator for political participation. Also in line with conventional wisdom, young people are found to have low levels of trust and low levels of confidence in politicians (Henn, Weinstein and Wring, 2002; O'Toole, 2004; Pirie and Worcester, 1998).

On the other hand, even though it is often assumed that young people refrain from participating in conventional forms of political participation, such as voting in elections, because they are alienated from the political system, young Canadians were actually found to be less cynical than their older counterparts (Gidengil et al., 2003; Blais et al., 2002; Rubenson et al., 2004; O'Neill, 2003). Norris (2003) has found similar results for Europe. Based on the European Social Survey of 2002, she argues that in Europe people under the age of 30, in comparison with older age groups, have a stronger sense of both internal and external political efficacy.[7] Qualitative studies among young people alone do, however, show the internal efficacy of young people to be rather low (Henn, Weinstein and Wring, 2002; O'Toole, 2004). Hence, even though young people's levels of political efficacy may be higher than those of their older counterparts, this does not directly imply that young people's levels of efficacy are high to begin with.

That young people are found to show commitment to the political system, while they have little interest in politics, low levels of trust, and minimal levels of political knowledge may seem counter-intuitive and contradictory. The use of a narrow (or electoral-oriented) conception of 'the political' in most research on (youth) political participation is, however, believed to play a role in this. Survey research imposes

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[7]Internal efficacy usually refers to the level to which people think they can influence the government or policy outcomes. External efficacy, on the other hand, is used to indicate in how far people think a government is responsive to their interests (see e.g. Norris, 2003, p. 14 and Amnå, Munck and Zetterberg, 2004, p. 4).

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a certain idea of what is political on respondents. However, that what political scientist, politicians or adults hold to be political is not necessarily the same as young people's political experience (O'Toole et al., 2003, p. 46; O'Toole, 2003, p. 73-74; O'Toole, 2004, p. 3; Henn, Weinstein and Forrest, 2005, p. 557; Henn, Weinstein and Wring, 2002, p. 169).

That young people have a wider conception of 'the political' is by now is a fairly uncontested assumption. For example, results from a seven-nation study show that young people consider both voting and social-movement related activities important indicators of good citizenship (Torney-Purta and Amadeo, 2003, p. 270). Young people are often found to take the lead in petitioning, buying and boycotting products, demonstrating and participating in illegal protests (Topf, 1995*a*; Dekker, 2002; Norris, 2003; Amnå, Munck and Zetterberg, 2004; Stolle and Hooghe, 2005*b*; Gidengil et al., 2003; Teorell, Sum and Tobiasen, 2007). If young people turn to these non-electoral forms of political participation because they are closer connected to their conception of the political, it seems wrong to automatically equate abstention from electoral politics with general apathy and non-participation (O'Toole et al., 2003, p. 46; O'Toole, 2003, p. 74; Gauthier, 2003, p. 265).

Findings suggest that while younger people are sceptical about political institutions, politicians and political parties, they are nonetheless committed to the democratic process and certainly not as apathetic and disinterested as they are often thought to be (IDEA, 1999; European Commission, 2001*a*). Young people, however, seem increasingly interested in issues that may fall outside the political sphere per se, such as moral, life-style, environmental and international issues (Braungart and Braungart, 1986; Henn, Weinstein and Wring, 2002; O'Toole, 2004;

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Pirie and Worcester, 1998; Henn, Weinstein and Forrest, 2005). These political issues are subsequently discussed with family and friends (Henn, Weinstein and Wring, 2002). All in all, it seems that young people are not so much apathetic from and disinterested in politics in general, but more that they are sceptical toward, disengaged and alienated from electoral politics.

2.2.2 What is wrong with electoral politics?

The question that remains to be answered is *why* young people show such low levels of interest, knowledge, and trust in electoral politics (Hooghe, 2004, p. 338)? The fact that young people are turning to less institutional and more individual forms of political participation such as protest activity and political consumerism is more likely a consequence than a cause of young people's disengagement from formal politics. Higher levels of alienation, disengagement, disinterest, etc. can be linked to both the life-cycle and the cohort/generation model. The political life-cycle model assumes that political involvement changes as people grow older and experience certain life events. If the proportion of young people that experiences certain key events declines because of later maturation, this would explain low(er) levels of political interest among young voters. On the same token, elections that are not competitive at all are obviously also not very likely to spark young people's interest. What other reasons can explain young people's disengagement from electoral politics?

What we are looking for are explanations that focus specifically on young people and, thus, do not apply to the electorate as a whole. Secondly, there has to be an element of change over-time. Only through change we can explain why turnout patterns of incoming cohorts have shown a decline over the last couple of years

(which in its turn generally explains changes in the age gap). The changes that we are looking for need not, however,necessarily have taken place very recently. The fact that the declining turnout patterns of young people have been mostly visible during the last two decades, could, as we saw previously, also be the delayed consequence of changing patterns in habit formation. Most countries, for example, are currently still reaping the dampening effects on turnout of the lowering of the minimum voting age around the 1970s. In this respect it is interesting to see that in some countries, such as Switzerland and Germany, cantons and länder at the subnational level have nonetheless recently lowered the voting age to 16 years for local and subnational elections (Bazler Zeitung, 06.05.2007). The government of the Swiss Canton of Bern is also considering to lower the voting age from 18 to 16 years (Tagesanzeiger, 04.05.2007), and even at national level lowering the minimum voting age is being discussed (Neue Züricher Zeitung, 07.05.2007).

Why young people are less interested and have less political knowledge than previous generations at the same stage of their life course, is not a new question (see Kimberlee, 2002 for a useful overview). Wattenberg (2008), for example, suggests a link with young peoples *(lacking) habits of following political news.* Due to changes in the media landscape, Wattenberg argues, young people are becoming socialized in a different way leading younger cohorts to be increasingly disinterested in media coverage on politics. This, in its turn, has lead to growing disinterest and lower levels of political knowledge among young people in politics. The problem with this theoretical explanation is that it is very difficult to measure the described changes in the media landscape as well as the changed patterns of media consumption among younger voters.

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At societal level, two major explanations for the increasing disinterest and lack of knowledge of young people in politics are individualisation/declining social capital, and *modernization*. The two theories overlap to some extent. According to the modernisation theory, put forward by Ronald Inglehart and others, social and economic prosperity, such as increasing educational levels, rising standards of living, etc., have led to political change in post-industrial societies (Inglehart, 1997, chapter 6). The reason for the decline in voter turnout among young people, according to the modernization theory, is their *decreasing party loyalties*. Political parties, these days, are still polarized along the class and economic cleavages that were present during the time they were established. Older birth cohorts can still identify with these cleavages, however, higher educated young citizens do not relate to these issues anymore. Instead young people, who grew up in a postmaterialist era of economic prosperity, are found to be interested in cultural and quality-of-life issues, and demand more active forms of political participation in which they can use their knowledge. Postmaterialist, who are more present among the youngest birth cohorts in society, take survival for granted and, therefore, have more time to devote themselves to abstract issues such as politics. They do so in a non-electoral instead of an electoral way, however (Inglehart, 1997, p. 307-315).

Robert Putnam (2000), on the other hand, argues that trends of *individualisation* taking place in modern societies lead to a decline in social capital as social networks break down. Associational life has decreased over the last decades, and through this an important mobilizing factor for political participation is becoming extinct. Again, especially young people are thought to be affected by this trend. Their political ways are not yet fixed and this makes young citizens more perceptible to external influences.

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We should also be aware, however, of the fact that *demographic changes* in Western European societies may have an influence on young people's levels of political interest, knowledge and participation. Electorates do not consist of the same individuals from election to election, and the effect of this changing composition of the electorate on (youth) turnout levels tends to be easily overlooked (Franklin, 2001, p. 320). In this respect, the simultaneous decline in birth rates and increasing proportion of older cohorts in many Western European democracies is leading to a larger political weight of elderly in these societies. Their large number makes older people more visible to political actors and institutions, which, in its turn, puts an emphasis on the issues that older cohorts find important (Schmitter and Trechsel, 2004; Kohli and Künemund, 2005; Topf, 1995*b*). Young people and the issues they are interested in appear to be increasingly overlooked as a consequence of this and recent qualitative research seems to confirm the consequences of this change in the demographical composition of the electorate. Young people identify the contemporary political style as being slow, formal, distant, and uninspiring (Hazekamp and Heymann, 1993, p. 94; O'Toole, 2004, p. 8; O'Toole, 2003, p. 81; Henn, Weinstein and Forrest, 2005, p. 562-563). Moreover, politicians, according to young people, do not encourage young citizens to take an interest in politics (Henn, Weinstein and Wring, 2002, p. 176), but neither do young people feel politicians take an interest in them as their expertise on certain topics is rarely acknowledged (O'Toole, 2004, p. 13; Bessant, 2004). Summarizing, formal politics is increasingly dominated by older adults who do not represent and respond to young peoples style and interests (Gauthier, 2003, p. 269).

Several studies, lastly, put forward the *withdrawal of the state*-theory to explain young peoples disinterest in formal politics. In this theory it is argued that nation

states are losing political power to supranational institutions such as for example the European Union, but also to regional and even local political powers. If nation states have less to decide on, why would voters be motivated to turn out to vote at national elections? Although this trend affects the motivation of all voters, especially young people who have not yet established the habit to turn out to vote are vulnerable to abstention because of this trend (Gauthier, 2003; Pirie and Worcester, 1998; O'Toole, 2004; Henn, Weinstein and Wring, 2002).

2.3 Theoretical framework, hypotheses, and research design

In the previous two sections the literature was reviewed with regard to two questions relevant for the central research question dealt with in this thesis. The first question focuses on the age gap in voter turnout. It is a well established fact that young people turn out at lower levels than older cohorts and three mechanisms for how to account for this age gap were discussed: the life-cycle effect, cohort/generation effects, and the period effect. Even though the three mechanisms give indications as to how patterns of political participation develop over the life span, they do not – as such – provide an answer to the question why young people nowadays turn out at lower levels than their parents and grandparents did when they were young. The dynamics behind age, period and cohort effects prove much more useful to answer this question. Two such dynamics in specific were identified: the idea that later maturation may cause turnout decline among young people, and the notion that characteristics of elections, especially indicators of electoral competition, have caused young people to turn out at ever lower levels

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(see figure 2.2 for a schematic overview of the theoretical explanations found in the literature reviewed).

With the idea in mind that changes in the age gap are most likely explained by changing patterns in turnout among incoming cohorts, the second section of this chapter further investigated the question of how declining levels of turnout among young adults can be explained. Both quantitative and qualitative studies show that electoral politics has apparently lost its attractiveness to young people: levels of political interest and knowledge among young adults are lower than ever, young people regard the contemporary political style as slow, formal, distant, and uninspiring, and level of political trust among young cohorts is generally low.

Why young people feel detached from electoral politics is a question to which different answers have been proposed. Changes in media habits, declining social capital, value changes, changing composition of the electorate and the withdrawal of the state from the national level were mentioned in this respect.

This aim of this thesis is twofold. First, it still needs to be established whether over-time patterns in the age gap in turnout are similar or not in different countries. As mentioned in the first chapter, we know that turnout among young people has rapidly declined in Canada and that turnout patterns between cohorts differ greatly in Great Britain. For other countries trends are less clear.

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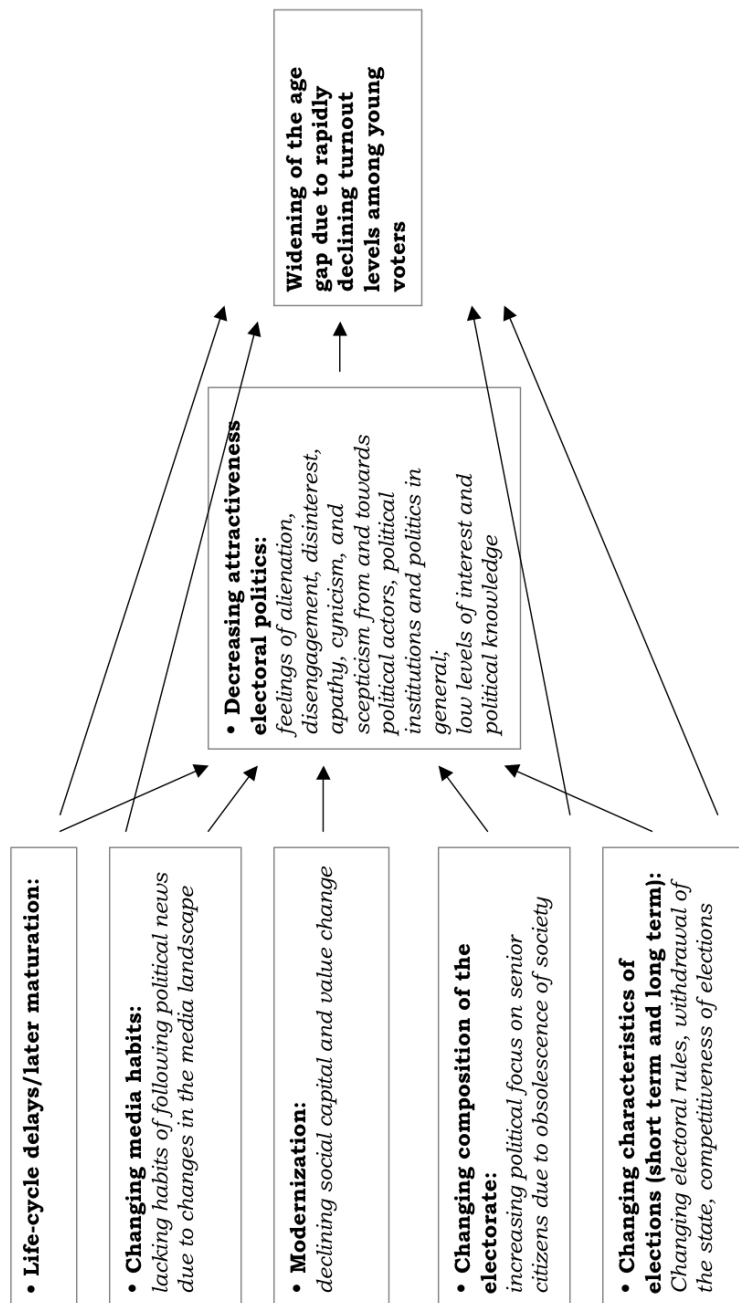
Figure 2.2: Theoretical framework as derived from the literature reviewed (schematic)

Widening of the age gap due to rapidly declining turnout levels among young voters

• **Decreasing attractiveness electoral politics:** *feelings of alienation, disengagement, disinterest, apathy, cynicism, and scepticism from and towards political actors, political institutions and politics in general; low levels of interest and political knowledge*

• **Life-cycle delays/later maturation:**

• **Changing media habits:** *lacking habits of following political news due to changes in the media landscape*

• **Modernization:** *declining social capital and value change*

• **Changing composition of the electorate:** *increasing political focus on senior citizens due to obsolescence of society*

• **Changing characteristics of elections (short term and long term):** *Changing electoral rules, withdrawal of the state, competitiveness of elections*

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Supposing that we find similar patterns in all countries, in a second step, explanations for these trends need to be assessed. The literature review from the previous sections of this chapter provides the basis for these explanations. Basically all clusters of theories can be hypothesized to have a direct and negative effect on turnout levels. They may, however, also influence levels of political interest, political knowledge and feelings of inclusiveness in the electoral process which – in their turn – affect turnout levels.

Although some theoretical explanations are applicable to both younger and older voters, they are still thought to influence the younger voters most as these are not yet set in their political ways. Below the theoretical explanations that will be focussed on primarily will be discussed. Selection depends on various factors such as originality, availability of data, and relative weight in the literature on youth political participation.

This thesis will primarily pay particular attention to the idea that later maturation may (partly) be responsible for turnout decline among young adults. The assumption is that many events characteristic of the first and middle stages of the political life-cycle have moved to a higher average age. This leads to a lower proportion of young citizens nowadays to have fully 'matured' or adopted a variety of adult roles. Since life-cycle events at young age are positively related to turnout, a lower proportion of young adults with mature characteristics should lead to lower turnout among this age group. The later maturation hypothesis is unique in combining age and generation effects by reasoning that different cohorts experience life-cycle events at different moments in their life span. Although rather straightforward and intuitive, to my knowledge, the idea of life-cycle delays and

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later maturation has not yet been linked to turnout decline among young voters in the literature.[8] It is a central aim of this thesis to investigate this link.

As discussed above, individual level characteristics are but one group of indicators found to influence voter turnout. Starting with the work of Franklin (2004), the interplay between characteristics of elections and generational replacement has received a great deal of scholarly attention in recent years (see also Franklin, Lyons and Marsh, 2004). Making the link to institutionalism, the context in which elections are held is considered of crucial importance. However, since many institutional features are stable through time and thus cannot explain turnout decline, the focus should be on characteristics that change from election to election.

In short, the decision of individuals to vote (or not) should be seen as a byproduct of this context or character of elections. In particular in this respect, competitiveness of elections is seen as an important contextual indicator of turnout. Any research trying to explain turnout decline should thus include both individual level and macro level indicators. This thesis will therefore also research the hypothesis that characteristics of elections influence turnout. It will be particularly interesting to see whether both life-cycle delays and electoral characteristics are accountable for over-time trends, or whether the two explanations are mutually exclusive. The literature, however, provides no indications that the two hypotheses cannot coincide.

Where possible other theoretical explanations will also be touched upon. In the fifth chapter of this thesis, for example, the later maturation hypothesis will be

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[8]The idea that the interplay life-course development *and* socio-historical influences needs to taken into account when researching the the relationship between age and politics has, nonetheless, already been brought up decades ago (see e.g. Elder, 1975, p. 168, and Braungart and Braungart, 1986, p. 220).

assessed in light of *all* other available indicators of youth voter turnout available in the British Election Studies on which the empirical analyses are based.

Summarizing, this thesis will test – at at minimum – two competing hypotheses accounting for over-time differences in the age gap caused by declining levels of turnout among young citizens. One of these hypotheses deals with characteristics of voters, the other with characteristics of elections. More precise working hypotheses will be formulated in the chapters dealing with the assessment of the later maturation hypothesis and the hypothesis concerning changes in electoral characteristics. Before turning to the empirical part of this thesis, a few words on the research design are, however, in order.

Since both individual level and macro level hypotheses were identified for assessment, the level of analysis will change accordingly on a chapter-by-chapter basis. Since this research has two comparative dimensions – over-time and between-country – a quantitative approach seems most evident and hypotheses will therefore be assessed through secondary analysis of existing data.

Panel data, allowing for the following of the same respondents over time, is best suited to distinguish different age effects (Hooghe, 2004, p. 336; Glenn, 2005) and would be especially useful to assess the later maturation hypothesis. To my knowledge there is, however, no such panel data available that contains the relevant indicators and is composed of sufficient waves to allow for a relatively large time dimension. The time span of the data is of the essence as we assume a.) that certain transformations in the life-cycle have been set in motion in the 1960s, 1970s, and b.) that, for example, certain institutional changes implemented decades ago may still have their effect on current turnout levels due to the mechanism of demographical

replacement. I, therefore, rely on the best alternative to assess my hypotheses: repeated cross-sectional election surveys.

Since the different chapters of this thesis serve different purposes, the data used for the assessment of hypotheses will change on a chapter by chapter basis. The following chapter, focusing on establishing between-country differences in over-time trends in the a gap, makes use of national election surveys conducted in ten Western democracies: Canada, Denmark, Finland, Germany, Great Britain, Italy, the Netherlands, Norway, Sweden and the United States. These are the ten countries in which election studies have more or less continuously been conducted from the 1960s, 1970s onwards.

The choice to focus on advanced industrial democracies, apart from data availability, is based on the idea that explanatory mechanisms for over-time changes in levels of youth political participation are specific to Western democracies. For example, the societal changes that are here hypothesized to account for changes in the age at which people experience certain life-cycle events are an exclusive Western phenomenon. By focusing on certain events that are specific to advanced industrial societies, generalisation in the broadest sense is indeed not feasible. However, improving our knowledge of the mechanisms at work in a smaller set of countries seems a more desirable idea than making a weak attempt to explain worldwide phenomena.

A problematic feature of the most similar systems design is, as John Stuart Mill already pointed out in 1843, that it is hard to find cases that indeed are similar (see Lijphart, 1971). Most of the time cases are different in more respects than that they are similar. In fact, we could ask ourselves whether it ever is possible to construct a most similar systems design. In line with the work of Barnes and

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Kaase (1979), it is important to realize to what extent we believe the countries under study to be similar and to which extent we do not. In the case of the ten countries under study in chapters three and six, the differences between the countries are more likely to be found in the political and institutional sphere than with regard to the individual level characteristics of the citizens.

That said, between-country differences in individual characteristics of citizens of interest in this research are in fact not too well-documented. The later maturation hypothesis that is central in this thesis is based on the idea that individuals face certain life-cycle events at a higher average and that this trend can be related to youth turnout decline. While conventional wisdom suggests that this trend has generally taken place in all Western democracies, very little is known about eventual between-country differences in the age at which certain life-cycle events are experienced (see Iacovou (2002) for an exception). Longitudinal country-comparative data is even harder to find.

The fourth chapter focuses on the effect of later maturation on turnout decline. Although this hypothesis should ideally be assessed in a country-comparative setting, there are two considerations to take into account when it comes to data choice. Firstly, there needs to be a trend that can be explained. If turnout does not decline, there is also no need to test explanations for over-time decreases in turnout among younger voters. Since we will see in chapter four that not all countries show evidence of a widening generational divide, this limits the number of countries to focus on. A second, not unimportant consideration is availability of data. After comparing the questionnaires of the different available election studies, it appeared the British Election Studies included by far the most life-cycle indicators. Being a country that demonstrates a widening generational divide due

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to rapidly declining turnout levels among young voters, the chapter on the impact of later maturation on turnout focusses solely on the British case.

Pooling the British Elections Studies – or any other cross-sectional studies for that matter – does not come without problems and concessions to be made. Answering categories for relevant variables had to be scaled down to the lowest common denominator, a process that pertains loss of information. Other potential problematic features include over-time changes in the wording of the questions, the fact that placement of questions within the questionnaire differed over-time and space and that different sampling techniques were used (see Przeworski and Teune, 1966; Przeworski and Teune, 1970; Kuechler, 1987; Jowell, 1998; van Deth, 1998; Braun, 2003; van de Vijver, 2003; and Blasius and Thiessen, 2006 for a discussion).

Most importantly, however, functional equivalence – one of the most important concepts in comparative research – does not seem to be at stake here in this research. Chapter three, where we compare trends in different countries is based on solely two variables: age and individual level voter turnout. Since voting is the most uniform act of political participation (Hooghe and Kavadias, 2005, p. 9), a lack of functional equivalence can hardly be a problem in this chapter. Chapter four, which provides an assessment of the later maturation hypothesis, is based on British data only. This decreases the chance of functional inequivalence. Secondly, the type of variables that we will work with (mostly background variables measured at the individual level) in most instances do not pose problems of inequivalence (Braun and Mohler, 2003). The minimum requirement of the use of random samples is also met (Häder and Gabler, 2003).

In the last chapter of this thesis the focus will shift from the individual to the aggregate level again. By doing so the chapter serves two goals. The first is to

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assess what can account for movements of the age gap through time approaching the phenomenon from an election-to-election perspective. The second aim, closely related to the first one, is to attempt to explain between-country differences in trends in the age gap. The chapter again uses election study data from ten countries to measure the dependent variable. The independent variables used in the analyses come from different sources, however. The data used in this thesis will be discussed in more detail in the chapters to come.

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Chapter 3

Trends in age differences in voter turnout

This thesis started from the observation that in Canada and Great Britain turnout levels among young people are declining much more rapidly than the turnout levels among older age groups. As a consequence, the age gap in voter turnout is widening. Whether similar age patterns in voting behaviour exist in other countries, so far, remains unknown. One of the aims of this thesis is to fill this gap in the literature. As such, this chapter address the first part of the central research question of this thesis: What are the trends in the age gap in voter turnout between younger and older voters? The focus of this chapter is on advanced industrial democracies.

In the first part of the chapter the age gap itself will be central as trends in the difference in turnout patterns between younger and older voters will be plotted and described for ten countries. Following, in the second part of the chapter, a more in-depth glance at over-time trends in age differences in voter turnout will be will be taken by tracking turnout patterns of different birth cohorts through time. The current chapter focuses exclusively on describing trends and identifying between-

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country differences. Explanations for over-time and between-country differences will be dealt with in later chapters.

The key finding of this chapter is that despite the fact that youth voter turnout is often discussed in general terms, age patterns in voter turnout differ greatly from country to country. As expected, there where evidence of a widening generational divide is found, this trend is largely caused by turnout patterns among younger voters. Turnout levels of younger and older voters usually move in the same direction, but young adult's turnout patterns often represent a magnified version of trends going on in the electorate at large. Lastly, youth voter turnout is found to be particularly low in countries where the overall turnout patterns are also low.

3.1 Data

This chapter focuses on trends in age differences in voter turnout. Data for this chapter comes from national election surveys conducted in ten Western democracies: Canada, Denmark, Finland, Germany, Great Britain, Italy, the Netherlands, Norway, Sweden, and the United States. These are the ten Western democracies for which election studies have more or less continuously been conducted since the 1960s or 1970s onwards. The latter is important as it allows us to look at age differences in voter turnout over as large a time span as possible. Summarizing, the findings in this section stem from individual level data on electoral behaviour and its predictors in 112 elections held between 1960 and 2006 in ten countries.[9] (See table 3.1 for a global summary of the data.)

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[9]In fact, a higher number of elections was held in these countries between the starting date of the election study series in each country and present time. The following data was not available: Denmark 1973 (no age variable), Denmark 2001, 2005, 2007 (not (yet) released), Italy 1976, 1979 (no election studies), Sweden 2006 (no age variable). Not yet available when the research for this chapter was conducted: Canada 2008, Finland 2007, Germany 2005, United States 2008.

Country	Period	No. of elections
Canada	'65-'06	13
Denmark	'71-'98	11
Finland	'72-'03	9
Germany	'69-'02	10
Great Britain	'64-'05	11
Italy	'72-'06	8
The Netherlands	'71-'06	12
Norway	'65-'05	11
Sweden	'60-'02	14
United States	'60-'04	12
10 countries	*period covered:'60-'06*	*112 elections*

Table 3.1: Global summary of the data

Although the American National Election Studies (ANES) relate data on both midterm and presidential elections, only the latter are used in the descriptive analyses of this chapter as the US presidential elections have the more similar status to the parliamentary elections held in the other nine countries. A concise description of the origins of the data can be found in appendix A.

3.2   Younger versus older voters through time

Focussing on the age gap in voter turnout, figure 3.1 plots the average turnout (in percentages) of two age groups through time: voters younger aged 35 years or less versus voters aged more than 35 years.[10] Each graph in the figure shows over-time trends for a different country.

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[10]Different cut-off points of age were tried. Naturally, the higher the chosen cut-off point, the smaller the differences in turnout between younger and older voters. Differences, as it were, become flattened out. The choice for a cut-off point at the age of 35 is prompted by two theoretical arguments. The first is that it seems reasonable to assume that most voters by the age of 35 have made the transition from the first to the middle stage of the life-cycle. Secondly, by the age of 35 most voters should have been able to face three elections. This is the number of elections it is argued to take to establish a habit to vote or not.

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Figure 3.1: The age gap in turnout for ten Western democracies, 1960s-2000s

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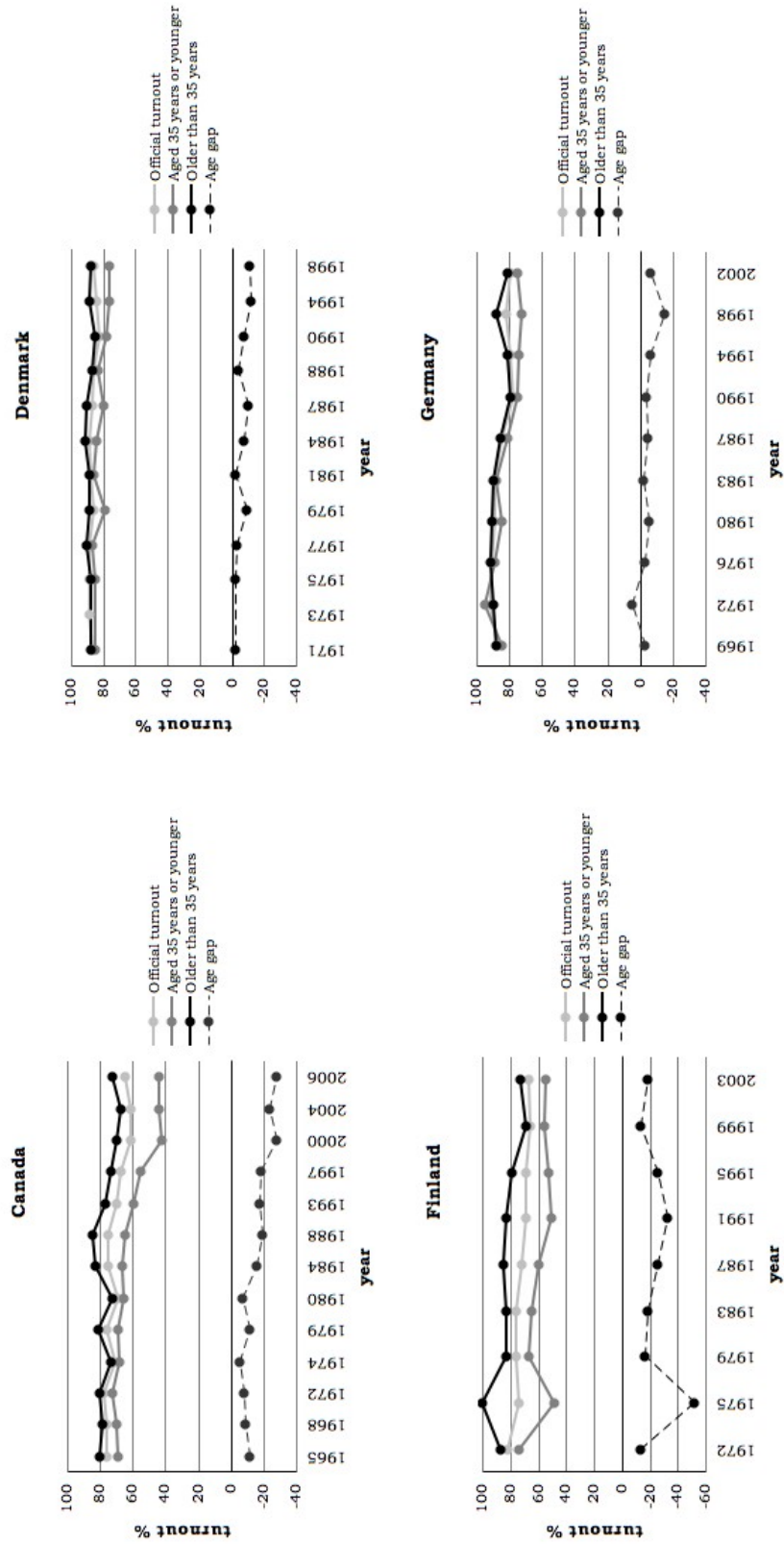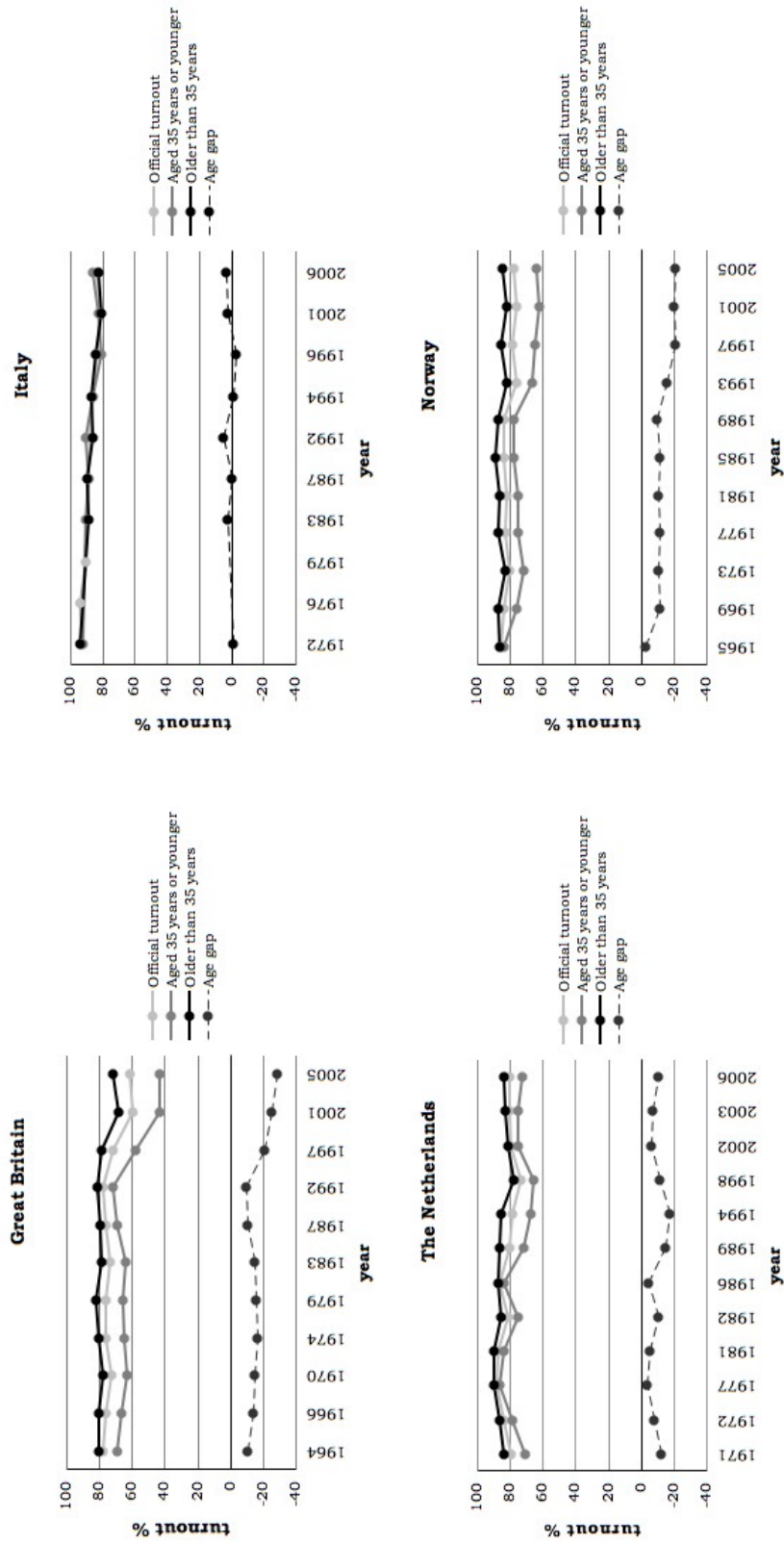
figure 3.1 continued

figure 3.1 continued

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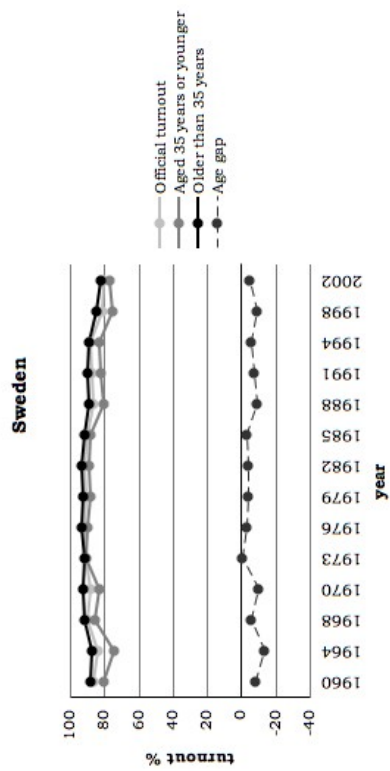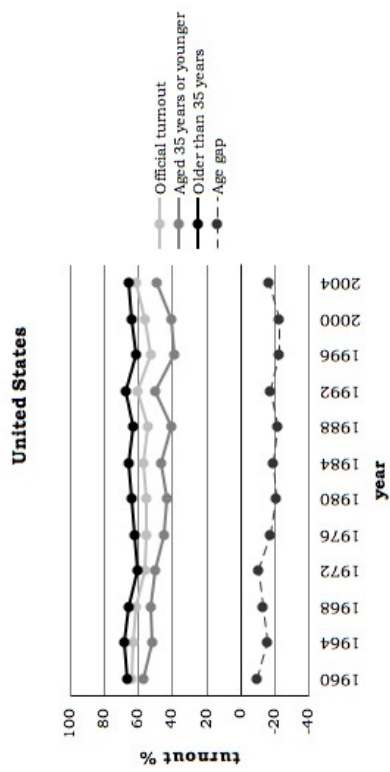
By subtracting the average turnout of the oldest age group from the average turnout of the youngest voters, we can calculate the difference in turnout levels between the two groups. The more negative the number, the wider the age gap (whereby young people participate less than older age groups). A difference of zero, on the other hand, means that younger and older citizens have the same level of turnout.

Also reported in each graph is the official turnout as a percentage of the electorate. For all European countries and Canada this level is based on turnout as reported in the voter turnout database of the International Institute for Democracy and Electoral Assistance (IDEA). Data for the United States come from MacDonald and Popkin's United States Elections Project (see McDonald and Popkin, 2001 for a description). Data in all graphs has been adjusted for sampling errors and over-reporting of turnout (based on the above-mentioned measurements of official turnout levels).

Starting with some general observations, the first thing to be noticed from the ten graphs reported in figure 3.1 is the between-country difference in trends. Over-time turnout patterns for Canada, Denmark, Great Britain, Norway, and the United States show evidence of a widening generational divide. In Germany, Italy, the Netherlands, Sweden and the United States the age gap is, however, relatively stable through time. Finland has a pattern of its own and cannot be said to either have a stable or a widening trend.

What all countries do have in common is that movements in the age gap, apart from a few exceptions, are caused by changing turnout patterns among the younger age group. Young people's turnout patterns are often a magnified representation of older people's turnout patterns. If turnout among older voters goes up, turnout

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among younger voters in many instances will go up even more. If turnout among older voters goes down, turnout among younger voters will oftentimes decline at an even faster pace. This means that widening or narrowing trends in the age gap are mostly set in motion by changes in young people's turnout patterns and not by shifts in older voter's turnout behaviour. This makes sense in light of the discussion of the literature in chapter two. Here we observed that all theoretical mechanisms concerning age differences in political participation contend that young adulthood is a crucial stage in the formation of participation patterns. Young adults, it is thought, are not yet set in their political ways and, as such, are more easily influenced by external factors.

Another general observation to be made from the graphs is that there where general turnout levels go down, younger voters seem to have a disproportionate share in this turnout decline compared to older voters. Another way to put it is that youth turnout levels are particularly low in countries where general turnout levels are also low. This finding is in line with the research of e.g. IDEA (1999), Blais et al. (2002), Gidengil et al. (2003), Franklin (2004) and Fieldhouse, Tranmer and Russell (2007).

Turning to the graphs on a country-by-country basis, as expected, we find evidence of a widening generational divide in Canada. Basically, the time span under investigation (1965-2006) can be divided into two periods. In the first period, up to 1980, the age gap was relatively stable, usually moving within a range of a 5-10 percentage point difference between younger and older voters.[11] After 1980, however, the age gap widened, ranging around a 20 percentage point difference

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[11]Note that the turnout difference is always to the disadvantage of the younger voters (i.e. in the sense that young adults vote less than older age groups) unless explicitly mentioned otherwise.

in turnout levels between younger and older voters. The 2000 and 2006 elections even recorded a 30 percentage point difference in turnout. The widening of the age gap coincides with a decline in the overall Canadian turnout level noticeable from the 1980 elections onwards (although the last two elections in 2004 and 2006 did show a slight increase in general turnout levels).

In Denmark general turnout levels have been relatively stable. Nonetheless, the country shows signs of a widening generational divide. When drawing an imaginary line from the first recorded time point to the last one, we can observe that the age gap has increased by 10 percentage points between 1971 and 1998. Although the magnitude of the over-time movement of the age gap may not come close to resembling that of Canada, the widening of the age gap is unmistakably visible from the data.

Finland is an outlier within the group of countries recorded here. First of all, turnout differences between younger and older voters increased steadily from the 1970s to the 1990s, which is earlier than the increase in the age gap in voter turnout found in any of the other countries. Another way in which Finland is an extreme case is in the non-linearity of the over-time trend. The age gap widened from the early 1970s to the early 1990s, but thereafter this we find that turnout levels among younger and older voters move in each other's direction. The difference in turnout among younger and older voters is still a good 20 percentage points though. In the last election recorded, the Finnish age gap seems to widen again. The year 1975 is an outlier within an outlier. After weighting for over-reporting in turnout, the average turnout among young voters in this year was over 50 percentage points lower than among older citizens. This percentage is an effect of a reported turnout of 100% among older voters that distorts the weighting process.

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For Germany over-time trends in the age gap are fairly stable. Differences in turnout patterns between younger and older voters were smallest in 1969, 1982 and 1987 when they ranged around a 0 to 5 percentage point difference. In the elections of 1972 the difference even turned positive as young adults turned out at slightly higher levels than the electorate aged more than 35 years. After 1987 the age gap became a little larger in the range of a 10 to 15 percentage point difference. We can, however, not speak of a general trend here as similar differences in the turnout patterns between young and old were recorded in 1976 and 1980. The slight widening of the age gap after 1987 seems to coincide with a more general decline in turnout, dropping from an average of 85-90% to around 80% after this election year.

Great Britain is the European country that shows over-time turnout patterns most similar to those observed in Canada. The age gap in turnout was fairly stable in Great Britain up until the election of 1992 (ranging between a 15 to 20 percentage point difference in turnout levels of younger and older voters), but steadily started to widen after this election year with the biggest difference of almost 35 percentage points recorded in 2005. The observed trend in the age gap goes together with a general decline in turnout. It should, however, be noted that with the exception of the 2005 elections turnout not only dropped quite steadily among the youngest voters, but also among those aged more than 35 years.

Over-time patterns in the age gap for Norway resemble those of Canada and Great Britain, although there are also some differences. To start with the similarities, the age gap in turnout in Norway starts to widen from 1989 onwards after a period of relative stability from the beginning of our measurement in 1965. In recent years the turnout difference between younger and older voters has averaged

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around 20 percentage points. It should, however, be noted that turnout, generally speaking, is much higher in Norway than in Canada and Great Britain. Moreover, the general decline in turnout in the period after 1989 in Norway is much smaller than in either Canada or Great Britain (around 5 percentage points).

Contrary to Great Britain and Norway, the Netherlands and Sweden show exceptionally stable patterns in the age gap. Although the age gap is slightly wider in the Netherlands than in Sweden, the two countries show remarkably similar patterns. Up until the middle (Sweden) and end (the Netherlands) of the 1970s a narrowing trend of the age gap is to be observed, after which relative stability sets in.

The turnout difference between younger and older voters in Italy is almost not apparent. Sometimes younger voters have higher turnout levels, in other elections those aged more than 35 years do. The difference, however, never exceeds 5 percentage points. Italy, without a doubt, has the most stable age gap in voter turnout from all countries under research in this chapter.

In the United States, lastly, the age gap has gradually become larger over time and the trend line is therefore more linear than in other countries. The turnout difference between younger and older voters has generally been somewhat larger than in other countries, increasing from around 10 percentage points in the first election years to 20 percentage points in later years. General turnout levels in the United States are also lower than in most other countries. Recent turnout levels in Canada and Great Britain do, however, compare with those in the United States.

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3.3 Following cohorts through time

After having taken a glance at simple age differences in turnout by tracking the age gap, in this second part of the chapter we will dig deeper and take a more in-depth look at age differences by focusing on turnout patterns of different cohorts. The later maturation theory that is central throughout this thesis combines age and cohort effects by reasoning that different cohorts and generations have different patterns of ageing. These different patterns of ageing cause cohorts to have different participation levels. It is therefore useful to look at the over-time development of participation patterns of different cohorts in addition to simple turnout difference between younger and older voters.

Figure 3.2 shows over-time turnout patterns by cohort for the same countries as in figure 3.1 except Denmark. The election studies of this country include a grouped instead of a continuous age variable. This makes it impossible to identify the birth year of the respondent based on which the cohorts are constructed. Information on the birth year is missing in a few other instances as well: Canada 1972, Finland 1972 and 1987, and the Netherlands 1989.

Cohorts are defined by the birth decade of the respondent.[12] Each graph shows the turnout patterns of those respondents born in the 1930s through to the 1980s. This roughly corresponds to starting with those respondents that were young in the 1960s and/or 1970s. As in the previous figure data in all the graphs has been adjusted for sampling errors and over-reporting of turnout. Note that in some

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[12]Electoral cohorts were considered as well but decided against for two reasons. First, using electoral cohorts yields an even smaller n per cohort than birth cohorts already do in some instances – especially the sample size in the first recorded election year of the given birth cohort may be very small indeed. Secondly, from a visual perspective plotting birth cohorts is advantageous over plotting electoral cohorts as it reduces the number of lines in each of the graphs.

election years the sample size for a given birth cohort is rather small and that this may distort the results.

Naturally, looking at the graphs presented below is not going to help us understand *why* certain birth cohorts have deviant levels of turnout from others. It does, however, provide a first step towards identifying more precisely where changes in age differences in voter turnout com from.

Starting with some general observations, once again we can clearly see a difference in over-time trends between the countries under study in this chapter. Based on the description of the graphs plotting over-time trends in the age gap, it is no surprise that in Canada, Great Britain, Norway, but also in the United States turnout levels of the different cohorts vary extensively. Most of these were the countries for which we observed a widening of the age gap and/or in which general turnout levels were found to be low. In Italy, Germany, the Netherlands and Sweden turnout levels of cohorts are much more alike as can be expected based on the finding that the age gap in these countries was fairly stable over time.

Conventional wisdom holds that over the years incoming cohorts have voted at ever lower levels. Although this claim is best assessed when using electoral cohorts, birth cohorts can be made use off as well. The findings in figure 3.2 in part support this claim. Although it is certainly not true that *each* incoming birth cohort has a lower turnout level than the previous one, there seems to be an overall downward trend with regard to the entry level turnout of birth cohorts.

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Figure 3.2: Turnout by birth cohort for nine Western democracies, 1960s-2000s

figure 3.2 continued

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figure 3.2 continued

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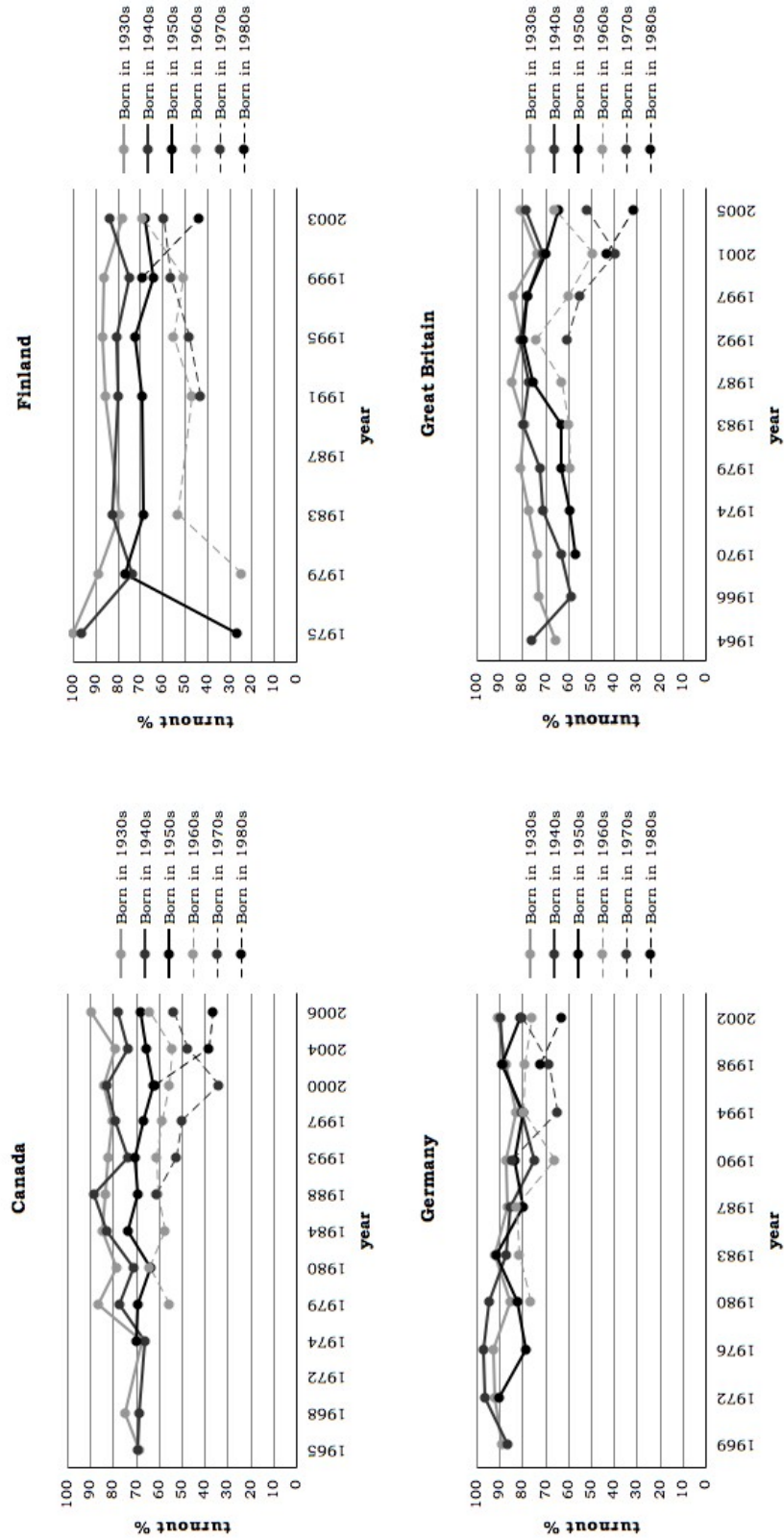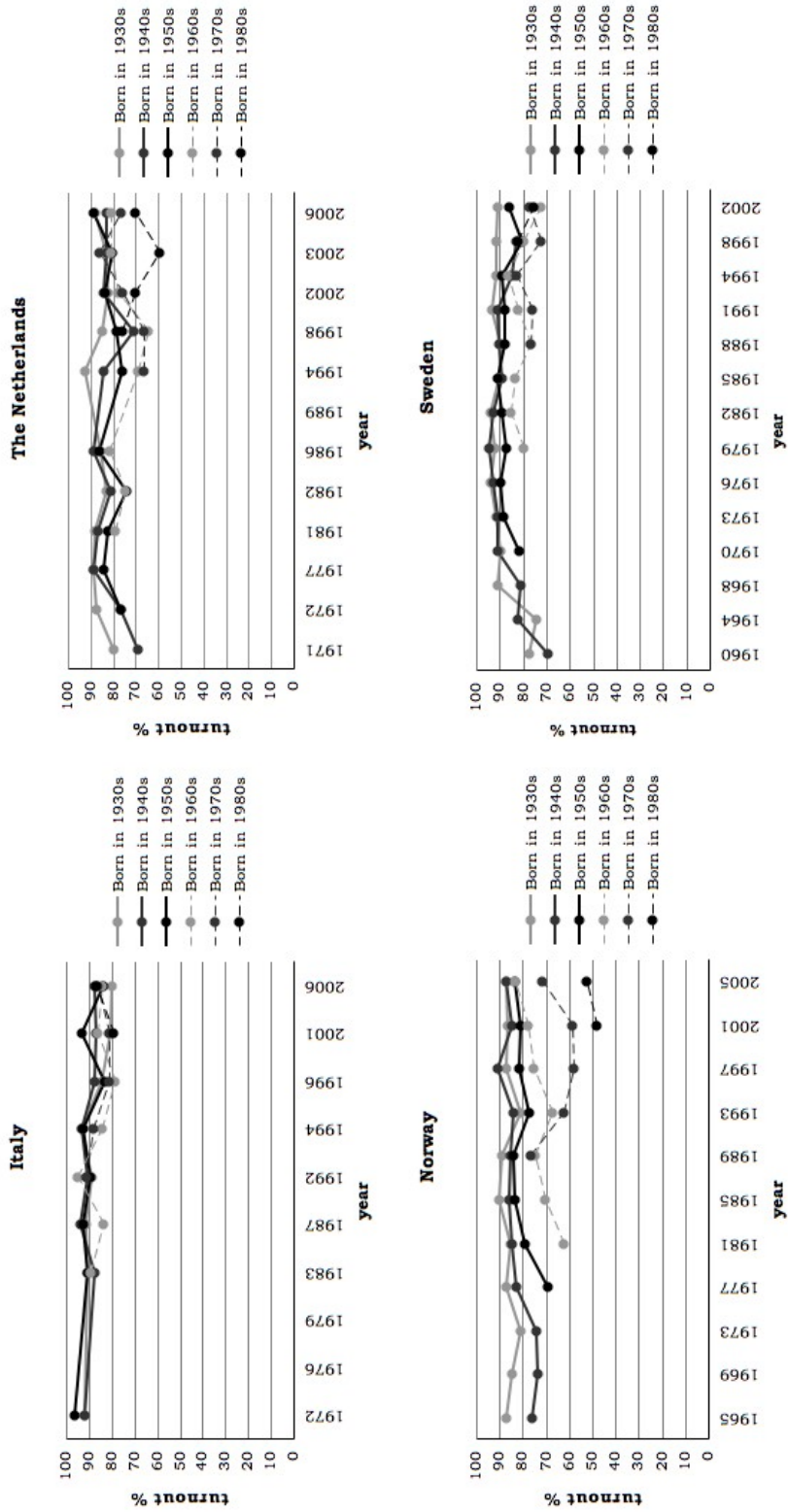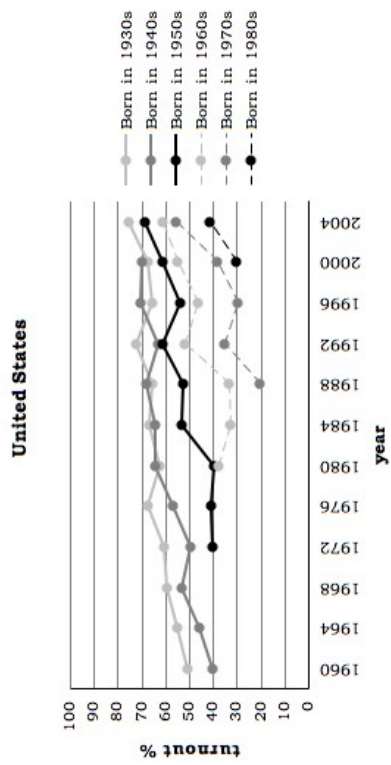
Moreover, the graphs seem to confirm the notion that in those countries where large movements of the age gap were found, declining patterns of turnout among the youngest birth cohorts seem to play a larger role in this. Another general observation is that in many instances turnout levels of cohorts move in the same direction. Although turnout also changes over-time among older cohorts, such changes are much more defined among younger birth cohorts. Changes in younger cohort's turnout levels are, in other words, often a magnified representation of changes in older voter's turnout levels. As always, however, there are exceptions to the rule.

Turning to a country-by-country description, the Canadian graph in figure 3.2 clearly shows how from 1979/1980 onwards age differences in voter turnout have increased. Turnout levels of citizens born before 1960 is high over time. Turnout levels among those born in the 1960s is somewhat lower, but stable through time. However, among those born in the 1970s or the 1980s turnout patterns are both low and highly volatile. These findings are entirely in line with the Canadian research on the age gap discussed in the introductory chapter.

Great Britain shows a fairly similar pattern to that found in Canada. There are two differences, however. Firstly between-cohort differences in turnout patterns in Britain start to diverge a little later than in Canada: from 1990 onwards. Basically all birth cohorts from the 1960s onwards show low and volatile turnout patterns. The second difference is that before the divergence in Britain set in, turnout differences between cohorts – although fairly stable – were somewhat larger than in Canada to begin with.

Norway too shows great differences in turnout patterns between cohorts. It is one of the countries where the notion of ever lower turnout levels among incoming

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cohorts is best visible. In 1989 and 1993 turnout levels of the two youngest birth cohorts have a different direction than older voter's turnout patterns. Whereas turnout among the older birth cohorts goes up, turnout levels among the youngest cohorts goes down in these two election years.

In the United States turnout differences between cohorts have always been large compared to most other countries. Each cohort does, however, shows to age in a fairly similar way. Nonetheless, incoming birth cohorts turn out at ever lower levels in the United States. This is the reason why we found a gradually widening age gap for the United States in figure 3.1.

Germany and the Netherlands show remarkably similar between-cohort patterns, just as those for Italy and Sweden are also comparable. In any case, these are the four countries for which turnout differences between birth cohorts are clearly smallest. Italy – as expected based on the graph in figure 3.1 – displays hardly any turnout differences between cohorts. Turnout is stable and high for all birth cohorts. In Sweden the differences are slightly more profound as there seems to be a marginal increase in between-cohort turnout differences after 1979. In country-comparative terms these between-cohort differences can, however, be disregarded. In the Netherlands and Germany turnout differences between cohorts are again somewhat larger than in Sweden. Overtime turnout patterns of cohorts also tend to go up and down a bit more. Compared to Canada, Great Britain, and Norway, however, levels of volatility in turnout levels of birth cohorts in Sweden, the Netherlands and Germany are very small indeed.

Finland, lastly and as already noted, has a pattern of its own. The first thing to notice is that compared to other countries turnout differences between cohorts are very large. From the graph in figure 3.2 it also becomes clear how there were large

between-cohort differences in the mid-1970s that then became smaller and went up and down some more afterwards. Again it should be noted that an exceptionally high reported turnout level among the oldest birth cohorts in 1975 may distort the picture somewhat for Finland.

3.4 Conclusion and discussion

The aim of this chapter was to take an in-depth look at over-time trends in age differences in voter turnout. In recent years, a widening generational divide has been observed in Canada and Great Britain. The widening of this gap is caused by turnout levels among young citizens declining much more rapidly than turnout levels among older age groups. As identified in the introductory chapter of this thesis these findings prompt two questions: What are the trends in the age gap in other countries, and how can these trends be accounted for?

Focusing on the first question, in this chapter the age gap in voter turnout was plotted for ten Western democracies for which election study data was roughly continuously available from the 1960s/1970s onwards: Canada, Denmark, Finland, Germany, Great Britain, Italy, the Netherlands, Norway, Sweden and the United States. The first and most obvious observation from the graphs in this chapter is that there are clear between-country differences in trends in the age gap in voter turnout. Five countries - Canada, Denmark, Great Britain, Norway, and the United States – showed evidence of a widening generational divide. Differences in turnout levels between younger and older voters, on the other hand, turned out to be fairly stable through time in Germany, the Netherlands, and Sweden and even remarkably stable in Italy. Finland turned out to be an outlier, both in terms of

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trends and the magnitude of the turnout differences between younger and older voters. Table 3.2 provides a summary of the minimum and maximum scores of the each gap in all ten countries and describes the over–time trends. For those countries with a (relatively) stable age gap, the percentage point range within which the age gap is stable is also noted.

Country	Min. (%)	Max. (%)	Mean (%)	Trend
Canada	5,12	27,93	15,66	widening
Denmark	2,3	11,1	6,91	widening
Finland	13,23	51,95	23,96	trendless
Germany	-5,33	15,18	4,4	stable (5-10 p.p. range)
Great Britain	9,93	28,63	15,94	widening
Italy	-4,7	3,2	-0,78	stable (5 p.p. range)
the Netherlands	3,92	17,94	9,41	stable (15 p.p. range)
Norway	2,99	21	13,24	widening
Sweden	0,89	13,44	6,34	stable (10 p.p. range)
United States	9,93	22,68	17,45	widening

Table 3.2: Summarizing trends in the age gap, 1960s-2000s

Movements in the age gap, apart from a few exceptions, were shown to be caused by changing turnout patterns among young people in all countries. Also, it was noticed that whenever overall turnout levels go down, young voters have a disproportionate share in this compared to older voters. Moreover, youth turnout levels are lowest in countries where general turnout levels are also low.

In the second part of the chapter, turnout trends by birth cohort were discussed and the same between-country differences were observed as for the age gap. Although starting levels of turnout were not found to drop with *every* new incoming cohort, there indeed seems to be a trend towards a decline in the entry level turnout of incoming cohorts. This pattern is particularly evident in Norway and in the United States.

Although the graphs discussed in this chapter show us over-time trends in age differences in voter turnout and give an idea of between-country differences, they do not provide an answer to the question *why* in some countries young people develop distinct patterns of turnout. We will turn to this question in the next chapters. Central questions to be answered still are: What causes the age gap to widen or narrow? Why do incoming cohorts turn out at ever lower levels? What can explain that we observe different trends in the age gap from one country to the other?

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Chapter 4

Later maturation and turnout trends among young citizens

In the previous chapter the first central research question of this thesis was addressed by taking an in-depth look at the over-time trends in the age gap in voter turnout in ten advanced industrial democracies. It was established that in some Western democracies turnout among young adults has declined rapidly in recent years, leading to a widening generational divide between younger and older voters. One of the central aims of the remainder of this thesis is to assess what causes this over-time drop in turnout among young voters.

The political life-cycle model predicts low levels of turnout among young people as this age group faces pre-occupations outside the political sphere that lead to low attachment to civic life. In terms of the life-cycle model, a decline in turnout levels among young adults means that this age group nowadays faces more and/or extended 'start-up' problems than the young cohorts that entered the electorate before them.

Based on findings in the sociological literature and circumstantial evidence, it seems plausible to reason that the political life-cycle of young people of today is

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indeed not similar to the life-cycle of their parents and grandparents when they were young. Higher educational levels have resulted in young people staying in school longer, starting their first job later, getting married later, starting a family at a higher average age, etc.

The central focus of this chapter is to establish the extent to which these delays in experiencing certain life-cycle events can account for changed turnout patterns among young adults. Despite frequent references in the literature to the political life-cycle and cohort/generation models, changes in the timing at which different cohorts face life-cycle events – to my knowledge – have never been tied to youth turnout decline. This gap in the literature will be addressed in the current chapter by focusing on Great Britain – one of the countries that has seen a widening of the age gap due to a steady drop in turnout among younger voters.

Empirical analyses in this chapter support the notion that later maturation plays a role in the turnout decline among young British voters in recent decades. As predicted by the life-cycle theory, maturation is found to be a strong and significant predictor of individual level youth voter turnout. Levels of maturation among young Brits have, however, declined over time. This means that recent cohorts have experienced fewer life-cycle events that are considered to be important catalyzers of turnout than the generations before them. Hence, later maturation can be linked to declining turnout levels among young adults. All in all, later maturation is found to explain roughly 10% of the turnout difference among young voters before and after 1990.

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4.1 The life-cycle model: in need of an update or overdue?

According to the life-cycle argument young adults vote less than older citizens because they are faced with 'start-up' problems. Young people, it is argued, participate less in politics given their low attachment to civic life, a characteristic that is fuelled by young people still going through education, being occupied with finding a partner, trying to establish a career, having higher mobility, dealing with the psychological transformation into adulthood, etc. In middle-age, participation rates are thought to stabilise at a higher level as people experience certain life-cycle events such as leaving the parental home, buying a house, getting a full-time job, starting a family, settling down in a community, etc. Even though many of these processes demand time, they are associated with activities (involvement in organizations, associations, the community, etc.) that tend to enhance political participation due to increased motivation, mobilisation, skills, and pressure (Strate et al., 1989, p. 444; Lane, 1959, p. 218; Kinder, 2006).

So far, the political life-cycle has mostly been conceived as a static curvilinear relationship. However, we do not know whether *the* life-cycle of political participation really exists, or whether its shape differs across time and space. The life-cycle model as such cannot explain over-time trends in turnout patterns between younger and older voters. That is, if life-cycle events take place at the same age for every cohort (meaning that the shape of the political life-cycle is identical for different generations), the turnout gap between younger and older citizens should remain stable (see Kimberlee, 2002, p. 88 for a similar argumentation).[13]

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[13]Naturally, this implies that we suppose that the impact of maturation on turnout is stable through time. There are no indications from the literature that this would not be the case.

There are, however, reasons to believe that the life-cycle of today's young adults is not the same as the life-cycle of young people of the past.

Due to their higher educational levels, young people nowadays stay in school longer, have extended co-habitation with – as well as longer financial dependence on – their parents, and face postponed full entry into the labor market (see Pirie and Worcester, 1998; Billari and Wilson, 2001; European Commission, 2001*b*; Billari and Kohler, 2002; Furstenberg, Jr. et al., 2003; Kennedy, 2004; OECD, 2007). In other words, there seems to be a delay in the transition from the first to the middle stage of the political life-cycle as people experience key life-cycle events at a higher average age.

If the life-cycle mechanism is indeed to work as described above, the trend toward later maturation can be expected to have an impact on turnout levels of younger cohorts. It should be able to explain at least part of the over-time decline in turnout among young people observed in the previous chapters.

The interesting question is thus how the initial stage of the life-cycle of contemporary young cohorts is proportionate to the same life-cycle stage of older generations, and how this affects participation patterns of the former cohort. From a pure life-cycle perspective, a delay in the initial stage of young people's life-cycle 'merely' indicates a delay in turnout patterns. As soon as young people start making the transition into the middle stage of the life-cycle (whether delayed or not), their participation rates should reach high(er) levels. That is, the life-cycle theory does not indicate that delays or disruptions in the early life-cycle stage have a lasting (reducing) impact on turnout. Later maturation, therefore, does not necessarily have to lead to a rapid overall decline of general turnout levels. The delayed life-cycle effect is indicated by the grey line in figure 4.1.
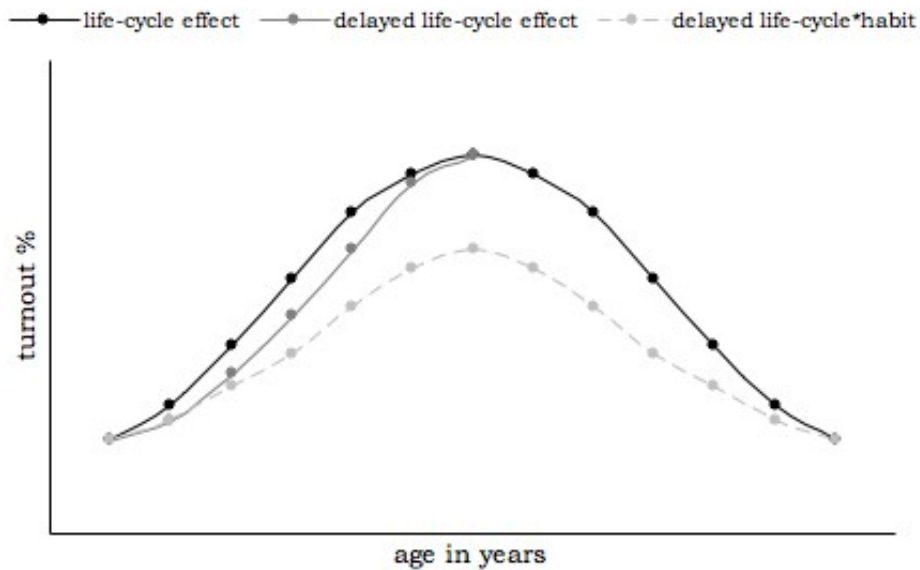
Figure 4.1: The life-cycle of political participation (updated)

How likely it is that delays or disruptions of the life-cycle do not alter people's turnout patterns in later life is an altogether different question. As was pointed out in chapter two, some scholars argue that turning out to vote is a matter of habit (see e.g. Green and Shachar, 2000; Kanazawa, 2000; Plutzer, 2002; Bendor, Diermeier and Ting, 2003; Gerber, Green and Shachar, 2003; Franklin, 2004; Franklin, Lyons and Marsh, 2004; Fowler, 2006; Aldrich, Taylor and Wood, 2007). Experiencing little political activity in the early stages of the life-cycle, according to this theory, decreases the likelihood of turning out to vote in later life. Subsequently, experiencing more and/or extended start-up problems at the beginning of the political life-cycle, makes it highly unlikely that young citizens will develop political habits at a later stage of life. Turnout levels, then, will stay lower during the whole life span causing a continuous decline in overall turnout levels.

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Although the latter is a very plausible scenario, the scope of this chapter is not to test the two competing hypotheses. Whether participation is a matter of aging or a habit acquired at a young age is useful to try to predict future levels of political participation, but it does not provide an answer to the question why turnout levels among young adults have changed overtime. As may be recalled from the introductory chapter, the primary aim of this thesis is to explain observed trends, and not to predict future levels of turnout. The mechanisms that explain the development of participation over the life span are, therefore, only partially useful to answer the research question central in this thesis. Instead, it is much more helpful to concentrate on the dynamics behind the mechanisms.

Delays in the life-cycle, as far as I am concerned, may just as well lead to young people establishing a habit of abstention as characteristics of elections or other social, cultural or historical events do. Whether this is the case or not, however, cannot be assessed since we cannot compare the life span development of voter turnout of contemporary young adults to the life span participation patterns of young people of the past. Today's youth is only just experiencing the early stages of their political life-cycle. The future participation levels of these young citizens are only to be guessed at.

Summarizing, the main argument put forward in this chapter (and indirectly also in the remainder of this thesis) is that it seems reasonable to expect that these days due to a delay in the timing of certain life-cycle events a higher proportion of young people compared to a couple of decades ago is still in education, is not married, has not yet established a family, has not started their first real job, is not a home owner, etc. If the mechanisms of the life-cycle model work as expected, this should have an unfavourable effect on youth turnout levels through time. More

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sharply put: if the movement of several characteristics of the political life-cycle to a higher average age does *not* translate into changes in turnout patterns of young people, we have serious reasons to doubt the over-time validity of the life-cycle model.

Since it is possible to see how indicators of the life-cycle (education, marital status, home ownership, etc.) differ in their influence on the probability of turning out to vote for young people of the past and contemporary youth, the impact of later maturation on youth voter turnout can fairly easily be tested.

Summarizing, the following hypotheses will be assessed:

- *Hypothesis 1: Life-cycle events monitoring the transition from the first to the middle stage of the political life-cycle have gradually moved to a higher average age.*

- *Hypothesis 2: The over-time movement of political life-cycle indicators to a higher average age has a negative effect on the turnout levels of young adults and should, thus, at least in part, be able to explain rapidly declining turnout trends among this age group.*

The above hypotheses should first and foremost be seen as a test of the over-time validity of the life-cycle model by linking it to some very well-documented trends in the age distribution of some of its most important indicators. The later maturation hypothesis is by no means considered to give a full explanation for the observed trends in youth voter turnout. There are two reasons why effects of later maturation on youth voter turnout are expected to be small. First of all, it is generally known that individual level demographics such as the ones central

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in the life-cycle model only marginally influence voter turnout. On top of this, the explanatory value of such individual level variables diminishes over-time (Pennings, 2002). Secondly, as pointed out in chapter two, there are several alternative explanations for declining turnout levels among young voters. Changes in media habits, associational membership, and values, but also changes in electoral rules and the competitiveness of elections are examples of such alternative explanations. The same goes for attitudinal indicators such as e.g. political knowledge, political interest, political efficacy, trust, etc. Such alternatives should be included in a fully specified model of turnout. The aim of this chapter is, however, not to explain as much variation as possible, but to provide the best possible test of the later maturation hypothesis. Subsequent chapters will focus on the alternative explanations.

Before turning to the empirical assessment of the hypothesis central in this chapter, it should be noted that despite frequent references to the life-cycle model in the literature, relatively little is known about the influence that each possible life event has on individual's levels of turnout. As mentioned in the literature review in chapter two, empirical research often uses age as a proxy for the life-cycle stage a respondent is in. Frequently mentioned obstacles of involvement in politics in young life are: being in education, finding a partner, establishing a career, finding a partner, and high mobility. People are considered to enter the middle life-cycle stage through leaving the parental home, marriage (or cohabitation), starting a family and home ownership. Before turning to a description of the data and the analyses, we will briefly review the way each single life-cycle event is expected to influence voter turnout. The acquisition of an 'adult role' is what ties the events together.

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Leaving school is one of the first steps towards entering the adult world. Being in school, from a theoretical perspective, thus, is seen as a first stage life-cycle characteristic: a start-up problem that causes these citizens to be too pre-occupied with externalities to get involved in political affairs (Wolfinger and Rosenstone, 1980; Strate et al., 1989; Jankowski and Strate, 1995; Highton and Wolfinger, 2001). Empirical research paints a different picture, however. Studies that have researched the effect of 'being in education' on individual level turnout, find a positive and significant relationship between the two variables (Wolfinger and Rosenstone, 1980; Highton and Wolfinger, 2001; Tenn, 2007). An explanation for this finding is that young people that are still in school find themselves in a much more stimulating environment than their non school-going peers. Since theory and empirical findings contradict one another, the direction of the hypothesized effect between having a student status or not and turnout can be twofold.

At some point after leaving high school most people *leave the parental home* (Elder, 1985). Some take up a temporary residence in the city where they study, others settle down more permanently. Not many studies have researched the effect of leaving the parental home on turnout. From an adult role perspective, leaving the parental home should foster turnout. Highton and Wolfinger (2001), nonetheless, found turnout among those that left the parental home to be lower than among those that had not taken the adult step of moving out. Controlling for confounding factors such as residential stability (discussed in more detail below), the relationship between leaving the parental home and turnout is, however, positive.

Settling down in a community goes hand in hand with *residential stability*. Students especially are not considered to be tied to one place. This is parti-cularly

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problematic in countries where electoral registration is the responsibility of the voter (Highton and Wolfinger, 2001). The need to constantly re-register is a burden that often leads to people abstaining. In this chapter, which solely focuses on Great Britain, residential stability may thus be of lesser importance for youth voter turnout as the voter registration process is in the hands of the government. Home ownership, just like residential stability, is considered to strengthen community ties (Lane, 1959; Jankowski and Strate, 1995).

After leaving school *getting a job* is often the next step towards assuming adult roles (Lane, 1959; Elder, 1975; Jankowski and Strate, 1995). The work environment is considered a place of political socialization in various ways – both direct and indirect (Sigel, 1989). Certain jobs bring citizens directly in touch with socio-political issues. Having a job, secondly, puts certain demands on citizens (e.g. time-consciousness, punctuality, ability to follow written instructions, etc.). Moreover, certain occupations come with a certain status. This status brings with it a diversity of resources, skills, knowledge and prestige. The demands of joining the work force may either trigger political interest directly, or – just like occupational status – increase skills that are useful for participation in politics as well (see also Verba and Nie, 1972 and Brady, Verba and Schlozman, 1995). The work environment, lastly, is also considered to influence political interest because workers are easily mobilized. These mobilization efforts can be expected to trigger interest in socio-political issues. Overall, in the long run, having a job is therefore expected to boost turnout.

Marriage and starting a family, lastly, are also considered to boost turnout in the long run (Elder, 1975, 1985). Stoker and Jennings (1995) consider two ways in which marital transitions are considered to affect participation. Firstly, marriage

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leads to changes in life circumstances. It often has practical consequences such as changing styles of living, places of residence and perhaps even employment and occupation. The second perspective focuses on the mediating function of a spouse. Partners can learn from and influence each other. In other words, married citizens may benefit from the potential motivation of a politically active spouse. Denver (2008) adds a third explanation by arguing that married citizens adhere to more traditional values. This may lead to married people to be more likely to conform to the idea of good citizenship and consider voting and political engagement a civic duty. In this study marriage and cohabitation are treated as one. First, both social and legal boundaries between cohabitation and marriage are fuzzy (see Thornton, Axinn and Xie, 2007, p. 80-81). Second, practical consequences as well as benefits of a politically active spouse are present in a similar fashion among both cohabiting and married couples. Having children – to conclude with – increases the awareness of social needs, such as education, health, playgrounds, and even the responsibility to perform as a citizen model (Lane, 1959). It can also be interpreted as a sign of stability, and therefore, stronger links to the community.

For all the above-mentioned events discussed a distinction needs to be made between short term and long term effects. Although leaving education, moving out of the parental home, starting a full-time job, residential stability, home ownership, marriage and having children all boost turnout in the long run, the short-term effects are likely to be exactly the opposite. Transitions in and out of new roles lead to a period of lesser stability. Attention will be deflected away from politics and political participation will thus be discouraged instead of encouraged (see Kinder, 2006, p. 1097, but also Stoker and Jennings, 1995, p. 425).

4.2   Data

The aim of this to chapter is to assess the extent to which later maturation can explain the over-time decline in turnout levels among young citizens as observed in chapter three. Panel data, allowing for the following of the same respondents through time, would be most suited to track the impact of life-cycle changes on turnout and distinguish different age effects (Hooghe, 2004, p. 336; Glenn, 2005). To my knowledge, there is however no such panel data available that contains the relevant indicators and is composed of sufficient waves to allow for a relatively large time dimension. I, therefore, rely on the best alternative to assess my hypotheses: individual level repeated cross-sectional election surveys.

Apart from the presence of a trend that can be explained, a requirement with regard to the data is that a fair amount of life-cycle indicators is included. Ideally, we would like to know whether young respondents have left education, whether they have a partner, have a full-time job, live away from their parents, have residential stablility, and own their own home. Attempts to create a multi-country data set based on repeated cross-section election surveys stranded because of an insufficient number of available life-cycle indicators. The effort did show that from the countries researched in the previous chapter, Great Britain stands head and shoulders above the other countries when it comes to the inclusion of life-cycle indicators in the election surveys – only an indicator keeping track of whether a respondent left the parental home or not is missing.

Though not perfect, British data allow for the best possible alternative to investigate the later maturation hypothesis. Moreover, from the ten countries for which the age gap was investigated, Great Britain is the one where over-time trends

resembled those of Canada most. After an almost completely stable pattern in the age gap, from the 1990s onwards a widening trend becomes evident. Although turnout levels of older voters declined as well, the shift was clearly caused a by a steeper decline in turnout among younger voters (see the graph for Great Britain in figure 3.1). The question that merits an answer is how this steep(er) decline in turnout among young voters can be explained. Put another way, we should ask ourselves what it is that causes young people these days to turn out at lower levels than their parents and grandparents did when they were young?

The central hypothesis of this chapter focuses on the effects of later maturation, i.e. life-cycle events taking place at a higher average age. Due to later maturation the proportion of young adults that, let us say, by the age of 35 that has acquired a diversity of adult roles has declined. Since the acquisition of adult roles – according to the life-cycle theory – is thought to be positively related to voter turnout, later maturation among young adults can be expected to cause a drop in turnout among this age group.

Table 4.1 provides an overview of the life-cycle indicators available in all 12 British Election Studies conducted from 1964 to 2005.[14] Appendix A, in addition, includes an overview of the exact studies used as well as their origin. All life-cycle indicators that would ideally be included are available, with the exception of a variable that identifies whether a young respondent still lives in with his or her parents or not.

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[14]Summary statistics of all indicators included in this chapter can be found in appendix B.

	1964	1966	1970	feb 1974	oct 1974	1979	1983	1987	1992	1997	2001	2005
Age (0 = 18 - 1 = 35 years)												
Not in education (0, 1 = left education)												
Married/cohabiting (0, 1 = married/cohabiting)												
Children (0, 1 = has child(ren))				M					M			
Home ownership (0, 1 = owns home)		M										
Residential stability (in years)							M		M		M (1/3)	
Works (0, 1 = has job)												

note: M indicates variable is missing; () indicates the proportion of the sample for which the indicator is missing if the variable is not completely missing

Table 4.1: Availability of life-cycle indicators, BES 1964-2005

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The variable 'not in education' is based on a question asking the respondent's age when leaving (full-time) education. In some instances, a separate category was included for those still in education. For the earlier election years, however, the question concerning the age at which the respondent left education referred to primary or secondary education only. In these instances, a proxy was calculated based on the age and educational level of the respondent. For all respondents with a post-secondary educational level, three years were added to the age the respondent left secondary education. Three is the minimum number of years it takes to complete a bachelor degree in Great Britain and the measure, therefore, is a fairly conservative estimate of the period a respondent was in post-secondary education. If a respondent was younger than the computed school leaving age or had an age equal to it, he or she was counted to still be in education.

It should be noted that no respondents were identified as being in education anymore in both 1964 and 1966. The lack of respondents in education in these election years is not as peculiar as may seem at first sight. In the 1964 and 1966 elections the minimum voting age in Great Britain was still 21 years. The fact that there are, therefore, no respondents under the age of 21 included in the election surveys in these two years is probably what accounts for the lack of respondents in education.

Whether a respondent has children is a question that is only asked in the earlier election years. In subsequent years, instead, the number of young people in the household was enquired after. Usually, the threshold was put at the age of 18 years, but two instances the question referred to young people aged less than 16 (1987) or less than 15 (1983) years. When dealing with young respondents, it is impossible to distinguish between siblings and own children with a question

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phrased like this. To avoid this mix-up, only children in the household of married, cohabiting, divorced, widowed, or separated respondents where counted as being the respondent's own. No references to children are available for the February 1974 and 1983 elections.

A question asking after the respondent's marital status was used to create a dummy variable identifying those respondents that were either married or cohabiting with their partner. The dichotomous variable referring to home ownership, was derived from a question asking the respondent whether their home was owned or rented. A question on the respondent's job status was used to identify the respondents with a (full-time) job.

A measure of residential stability of respondents, lastly, is based on a question asking the respondent after the number of years he or she lived in the neighborhood or area. This question was, however, missing from the 1983 and 1992 questionnaire and was only posed to two-thirds of the respondents in 2001.

4.3 Comparing life-cycle's

In order to assess the later maturation hypothesis, the first thing that needs to be established is whether it is indeed true that there are over-time changes in maturation. There are various suggestions to this in the literature (see e.g. Pirie and Worcester, 1998; Billari and Wilson, 2001; European Commission, 2001*b*; Billari and Kohler, 2002; Furstenberg, Jr. et al., 2003; Kennedy, 2004; OECD, 2007), but most research focuses on one or two life-cycle indicators at the time. Moreover, there are relatively little comparative studies and even fewer that combine compare trends between countries over a substantial period of time. In this section a

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broader overview of over-time changes in life-cycle events will be provided for the British case at least.

The first and most simple way to get an indication of whether we are looking in the right direction to explain the over-time turnout pattern of young people in Britain is by assessing changes in participation patterns over the life span. For this purpose turnout was plotted by age group for the time span for which data is available (i.e. 1964-2005). Turnout was averaged per age-group for both the period before and after 1990. This is the year after which turnout began to drop drastically in Great Britain, especially so among younger voters.
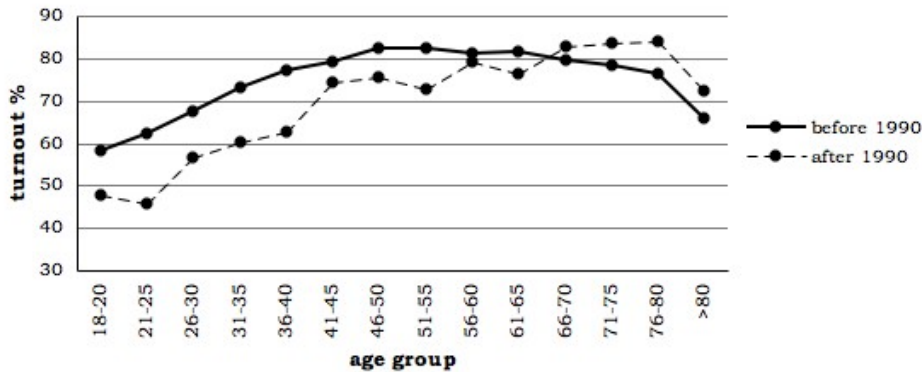
Figure 4.2: Turnout by age group before and after 1990, BES 1964-2005

Figure 4.2 clearly shows that life span participation patterns have changed over-time. Not only does turnout begin to climb from a much lower level after 1990, it also does so until a higher age than before. Although an interesting fact in itself, the latter finding is not very relevant to the central question of this thesis. The observation that there are clear over-time differences in the turnout levels of young voters is an encouraging finding with regard to the hypothesis that is

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assessed in this chapter. Whether these differences in turnout may or may not be caused by changes maturation patterns we can, however, not tell from figure 4.2.

Calculating period differences, we see that in the elections from 1992 up until 2005 the average turnout of young citizens (aged 35 years or less) was 53,9%. During the elections from 1964 to 1987 this average was still 66,2%, meaning that the change in average turnout of young voters before and after 1990 was 12,3 percentage points (t=32,71; p<.0001). We will return to this average difference later on in this and the next chapter chapter.

A second and more direct way to investigate over-time changes in maturation is to look at over-time changes in scores on life-cycle indicators. For this purpose a maturation index was created based on the life-cycle indicators available in the British Election Studies from 1964 to 2005.[15] One point each could be scored for having the following characteristics:

- *Having left education*

- *Being married or cohabiting*

- *Having children*

- *Owning a home*

- *Having long residential stability (>3 years)*[16]

- *Having a job*

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[15]Different indexes were constructed. The choice for a six item index is prompted by theoretical arguments discussed above and empirical reasons: A maturation index consisting of the six items proposed yields a larger Cronbach's α than both a five scale index that leaves out having left education, and four scale index leaving out having left education and working (.39 versus .30 and .21 respectively). Moreover, some of the variables not included in the four and five item indexes do reach statistical significance in the models presented below. Models estimated with the four and five item index are included in the appendix B for comparison (see tables B.16 and B.17).

[16]Since the variable measuring residential stability was categorical in 1964, 1966 and 1970 the cut-off was placed at 2 years in these election years.

As such, the maturation index is a seven point variable ranging from 0 to 6 where a higher score indicates a higher level of maturation. To investigate over-time changes in maturation, the average scores (in %) on the maturation index were plotted by age group. The two lines in figure 4.3 represents the average scores before and after 1990.
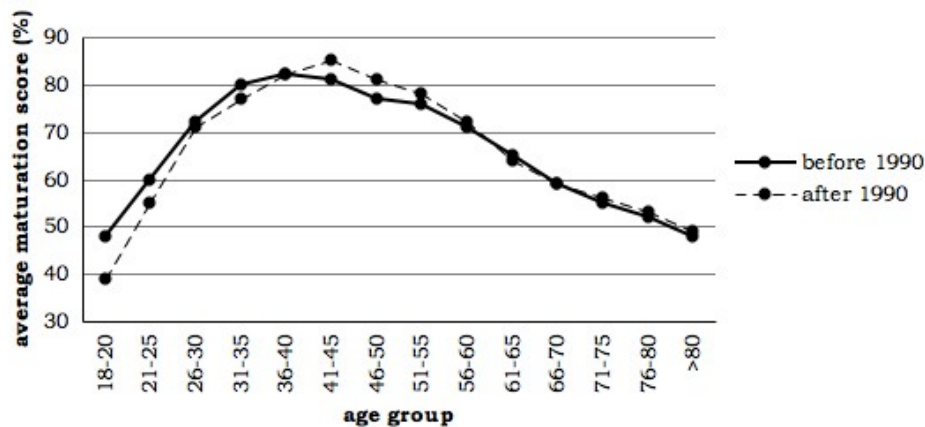
Figure 4.3: Average maturation score by age group before and after 1990, BES 1964-2005

Focusing on the youngest age groups, as hypothesized, a difference in levels of maturation can indeed be observed through time. Not only do young people after 1990 have a lower average score than young adults in the 1960s, 1970s and 1980s, it also takes young citizens in the later two decades roughly 5 more years to reach the maturation peak. The mean maturation score of young respondents (aged 35 years or less) is 4,5 percentage point lower after 1990 than before this year (67,2% versus 62,2%). This difference is statistically significant (t=26,98; p<.0001). Based on the findings in this section hypothesis one can be confirmed. The political life-cycle has indeed changed over-time and it did so in the expected direction.

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Overall, young adults nowadays mature at a different pace than their parents and grandparents when they were young. Societal trends that have long been regarded conventional wisdom are hereby assessed in conjunction and confirmed. Young people, nowadays, have lower starting levels of maturation and it also takes them more time to reach the maturation peak.

Although the observations in this section are no proof that later maturation leads to declining turnout patterns among young voters, the findings in figure 4.3 are encouraging. We can see a clear difference in maturation levels before and after 1990, just as we find a clear shift in turnout patterns among young voters from this point onwards (see figure 3.1 for Britain in chapter three). The next step is to identify in how far changes in the life-cycle indicators can explain over-time turnout trends among younger voters in Britain

4.4 Turnout by life-cycle indicators

Although national election surveys are designed to include a representative sample of the electorate as a whole, subsequent analyses will be performed on a young subset of the electorate only.[17] There are several reasons for doing so. Firstly, recent trends in the age gap are mostly caused by changes in the turnout pattern of young voters. Hence, it makes sense to try to understand what makes the participation patterns of today's young adults different from young adults of the past.

Secondly, the later maturation hypothesis central to this chapter applies to young voters only. Although the hypothesis assumes that certain life-cycle events

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[17]Models based on a representative sample of the whole electorate, are estimated for the sake of comparison in the framework of the next chapter (see appendix C).

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are experienced at a later average age, which may suggest increasing the upper age bound, the more important assumption is that the proportion of young citizens that has matured by a certain age will have dropped through time because of life-cycle delays. We found evidence for this in the previous section. What needs to be assessed at this point is whether the drop in the proportion of 'mature' young adults can explain (part of) the turnout decline for this age group. This, at least, is what we would expect based on the life-cycle theory.

Focusing on young people alone, thirdly, eliminates some problems regarding the age variable. Previously it was established that it was not only the first stage of the life-cycle that has changed: a larger proportion of senior citizens was found to be active after 1990 than in the years before. This interesting observation is, however, not related to either the research puzzle or the later maturation hypothesis. It is therefore is better to avoid the risk of finding mixed effects and focus on young adults only.

Below, several analyses will be presented. Individual level turnout is the dependent variable in all models. Since this variable has a dichotomous nature, and therefore violates assumptions of OLS regression, logit analyses will be applied (see Long, 1997; Powers and Xie, 2000; Long and Freese, 2006). Because it is reasonable to expect that the standard errors for given election years are related to one another, robust standard errors clustered by election are specified. By clustering the standard errors not only the assumption of identically distributed standard errors is relaxed (as is the case when estimating 'ordinary' Huber-White robust standard errors), but also the assumption of independence of the observations (Gould, Pitblado and Sribney, 2006, p. 12-13; Stata Corporation, 2007*b*, p. 268-276). To put it simply, clustered standard errors allow for a degree of dependence between

the standard errors: a violation of assumptions that is very likely to occur when pooled individual level cross-sectional data is used.

The analyses presented below consist of three steps. In the first step, a model will be estimated with the young subset of the electorate (those aged 35 years or less) including age and a period dummy that identifies the elections taken place after 1990 as the independent variables. This is the time point from which turnout among young adults started to decline rapidly.

In the next step the maturation index is added to the model. The relationship between the index variable and turnout is expected to be positive: the higher the level of maturation, the higher the likelihood that a respondent will turn out to vote. In the third step the maturation index will be replaced with the separate life-cycle indicators. This is done because we cannot assume all indicators to influence turnout equally. By estimating a model with the individual life-cycle indicators the differences between the indicators become apparent. Each of the individual life-cycle indicators on which the maturation index is based is expected to be positively related to turnout.

The focus of this chapter is on two trends simultaneously. Our first interest is to explain youth turnout trends through time. The second goal is to explain turnout differences between younger and older voters. To serve this second purpose, both model two and three will be estimated twice: once as described above and once adding a variable that measures the average turnout of older voters (aged more than 35 years). This variable, thus, is a constant within a certain election year. Through the inclusion of the average turnout of older voters, we can take account of the difference between younger and older voters (see Fieldhouse, Tranmer and Russell (2007) for an example of this technique). If significant, this variable shows

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us that young citizen's turnout is partly a function of processes that are going on in the electorate at large. In other words, the turnout levels of young voters in this case largely follow the turnout pattern of older voters. Including the average turnout of older voters, moreover, makes it possible to establish whether life-cycle changes influence turnout among young voters regardless of other factors that influence turnout levels. The variable is expected to be highly significant as the previous chapter showed that turnout levels of different generations often move in conjunction, especially so in Great Britain.

Both the coefficient for the age variable and the coefficient for the period dummy should become smaller once the life-cycle indicators are included in the model. The life-cycle model predicts that turnout increases with age, due to certain events taking place during the life span of most of these citizens. Controlling for such events should therefore reduce the impact of the variable age itself. A similar logic applies for the period dummy. If part of the difference in young adult's turnout levels before and after 1990 is to be explained by later maturation or life-cycle delays, adding life-cycle indicators to the model should reduce the magnitude of the period effect. In a perfectly specified model, the coefficients for both age and the period dummy should even be explained away. This, however, is not likely to happen as we will not estimate a fully specified model of voter turnout in this chapter.

There are no theoretical reasons to expect an increased influence of life-cycle events on youth turnout through time. Moreover, expectations regarding the impact of life-cycle events on the period dummy should not be exaggerated for three reasons. First, we are dealing with simple socio-economic background indicators. Second, the trend towards later maturation has been a gradual process and not

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something that can be specifically linked to the period before and after 1990. Lastly, as identified in chapter two, there are many other theoretical explanations for youth turnout decline.

As mentioned before, analyses will be performed on a subset of the electorate aged 35 years or less. The choice for this specific age cut-off is based on the following considerations: When plotting average scores on the maturation index in figure 4.3, one can establish that the average score of those aged 31 to 35 is about 7 percentage points higher than the average score for people in the 26 to 30 category. Drawing the line at the age of 30 is, thus, perhaps too early. Although maturation does not reach its peak until the age of 41 to 45, a cut-off above the age of 35 would probably start to get too much out of line with earlier research. Moreover, it might endanger the conception of being 'young' – although this is obviously a subjective matter.

As shown in figure 4.1 not all indicators of interest are available in all election years. Because this missing variable problem affects the robustness of the results, the choice was made to impute the missing data through a multiple imputation method. Doing so yields a constant N over all models, which increases comparability. Appendix B describes the considerations and the details of the imputation process. Moreover, the appendix shows the results of the models in this chapter as estimated before missing data was imputed. Lastly, in order facilitate comparability between the different models once more all variables were standardized to vary between 0 and 1.

Table 4.2 shows the results of logistic regression analyses. Model 1 is the base model from which we can detect the impact of life-cycle changes on young adults' voter turnout. It shows no particularities. The age variable is positive and

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	model 1	model 2a	model 2b	model 3a	model 3b
	b/(se)	b/(se)	b/(se)	b/(se)	b/(se)
Age	0.786***	0.380***	0.410***	0.586***	0.655***
	(0.113)	(0.120)	(0.104)	(0.125)	(0.105)
Post 1990	-0.539**	-0.473*	-0.117	-0.551**	-0.182
	(0.254)	(0.253)	(0.135)	(0.260)	(0.130)
Maturation index		1.083***	1.000***		
		(0.250)	(0.233)		
Not in education				-0.250***	-0.300***
				(0.084)	(0.089)
Married				0.156*	0.164*
				(0.083)	(0.090)
Children				0.032	-0.046
				(0.076)	(0.071)
Home ownership				0.557***	0.558***
				(0.098)	(0.093)
Residential stability				0.042	0.033
				(0.156)	(0.160)
Works				0.123**	0.109*
				(0.058)	(0.061)
Average turnout >35			7.781***		8.212***
			(1.397)		(1.420)
Constant	0.276***	-0.233	-6.372***	0.102	-6.366***
	(0.069)	(0.143)	(1.180)	(0.134)	(1.194)
Log-likelihood	-6362.74	-6313.45	-6229.97	-6261.48	-6170.66
Pseudo R^2	0.021	0.029	0.042	0.037	0.050
N	9762	9762	9762	9762	9762

note: b coefficients from logit analyses with robust s.e.'s clustered by election
in parentheses; * $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table 4.2: Turnout by life-cycle indicators for young voters aged 35 years or less,
BES 1964-2005

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significant, the period dummy negative and significant. Adding the maturation index to the model, we find that this indicator has a positive and significant effect on individual level voter turnout. This is in line with the life-cycle hypothesis.

Using the separate life-cycle indicators instead of the maturation index in model 3a, we can identify variation in the impact of the different indicators. Home ownership is accountable for the largest share of the impact of the maturation index, followed by having left education, being married or cohabiting, and work. Contradictory to the theoretical expectations of the life-cycle model, leaving education has a negative effect on young people's turnout. According to the life-cycle argument, being in education is one of the start-up problems characteristic of the early stages of life. Leaving education should, therefore, boost turnout. Instead, the analyses in table 4.2 indicate the existence a negative and significant relationship between being not being in education and individual level turnout. Although contradictory to the life-cycle hypothesis, these results are in line with the research of Wolfinger and Rosenstone 1980; Highton and Wolfinger 2001 and Tenn 2007, who find a positive relationship between being in education and turnout. People that are still in school find themselves in a much more stimulating environment than their non school-going peers, hence the negative relationship between leaving education and turnout.

Working and being married or cohabiting were also found to have the expected positive effect on turnout. The magnitude of the coefficients is smallest for having a job, which is also only weakly significant. Two life-cycle indicators that do not reach statistical significance are having children and residential stability. That the latter variable shows up not being significant is not entirely surprising as we already established above that residential stability is more likely to play a role in

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countries where voter registration is in the hands of the citizens. This is not the case in Great Britain.

Adding average turnout of older voters in models 2b and 3b does not change much for the variables described above. No directions change and all variables – except for work – remain statistically significant. This is encouraging news for the later maturation hypothesis. The coefficient for average turnout of older voters is, however, significant in both models. This means that, apart from being guided by maturation, turnout among young voters is also a function of trends in the electorate at large. This finding is not surprising. In the previous chapter we already established that younger and older voter's turnout levels often moved in similar directions, especially so in Great Britain. Since all variables were standardized to vary between 0 and 1 the magnitudes of the coefficients can be compared. Both model 2b and 3b show that the average turnout of older voters explains the largest share of the turnout among young voters. In the next chapter we will dig deeper and take a look at what factors may explain youth turnout patterns in addition to the indicators modelled here.

As hypothesized the magnitude of the age variable drops with the inclusion of a variable or variables that measure life-cycle events that are otherwise captured by the age variable itself.[18] The difference in magnitude between models 1 and 3 is smaller than the difference in magnitude between models 1 and 2. It thus seems that it is rather the interplay between different life-cycle events that accounts for the age effect than that each single life-cycle event is of significant importance. The

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[18]Table B.18 shows what happens when birth cohorts instead of an age variable are modelled. We see that with every birth cohort after those born in the 1950s turnout decreases. Maturation explains part of the turnout levels of the 1960s, the 1970s, and the 1980s birth cohort (see model 2a).

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age variable remains statistically significant at the $p<.01$ level in all instances, meaning that there remain some age effects among young voters that are not captured by the life-cycle events modelled. As mentioned above, it was however not expected that this variable would become insignificant as we neither include all possible life-cycle indicators nor estimate a fully specified model of youth voter turnout beyond the life-cycle explanation.

The period dummy, lastly, drops marginally in magnitude after the inclusion of the maturation index in model 2a and increases slightly after the inclusion of the separate life-cycle events in model 3a. In the models including the average turnout of older voters, the period dummy is explained away entirely.[19] This means that maturation does not explain a substantial part of the pre/post 1990 difference in turnout among younger voters, but that other trends not captured in the model do. We will return to the predictive power of the maturation index later in this and the next chapter.

The findings from this chapter do not necessarily contradict the later maturation hypothesis. On the contrary, maturation has a positive and significant effect on turnout and we know that average levels of maturation have gone down through time. This allows us to conclude that later maturation plays a part in the turnout decline among younger voters in recent decades.[20] The pre/post 1990 difference, however, is mostly explained by events affecting the electorate at large, as can be read from the highly significant coefficient for the average turnout of older voters.

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[19]When using dummy's for each decade instead of a pre/post 1990 variable, we see that the maturation index seems to do a somewhat better job at explaining turnout levels in the 2000s (see model 2a in table B.19).

[20]Models not presented in this chapter show that the influence of maturation on youth turnout is constant through time. An interaction effect between the maturation index and the period dummy does not reach statistical significance (see table B.20 in appendix B).

The pseudo R^2 (McFadden) for the different models is low indeed, with only 2 to 5% of the variation in the models explained. Since the models presented are far from fully specified, such a low fit between the observed data and the estimated regression line can be expected. Better specification is something that will be worked in the next chapter. Also, the type of variables modelled here are known to have an indirect effect on turnout only and this may also partially explain the low amount of variance explained. The R^2-statistics should, however, not be interpreted as a measure of the (weak) influence of maturation on turnout (King, 1986).

Since coefficients of logit analyses are difficult to interpret, predicted probabilities were calculated to get a clearer idea of the fit of the models. A first way to assess the impact of later maturation on turnout is to see how much higher turnout would have been had the average maturation score of young adults not gone down after 1990. Calculating these differences, earlier we saw that the average maturation score of young citizens went down from .670 before 1990 to .622 after 1990. If the average maturation score had stayed at .67, turnout after 1990 would have been 1,3 percentage point higher based on model 2a (Pr(y=1) of .556 versus .543). This means that 1,3 percent of the 12,3 percentage point turnout difference among young voters before and after 1990 can be explained by later maturation. This is roughly 10% of the pre/post 1990 turnout gap.

Also interesting is to see what levels of turnout the models presented in this chapter predict for people with different levels of maturation. Figure 4.4 displays the expected positive relationship between maturation and turnout based on model 2a. Predicted turnout levels after 1990 are lower than those before 1990 for all levels of maturation. While the gap in turnout among young voters before and

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after 1990 was 12,3%, model 2a predicts an average turnout difference of 11,2%. Based on this we can conclude that model 2a predicts approximately 9% of the turnout gap before and after 1990. This is along the lines of what we found above.
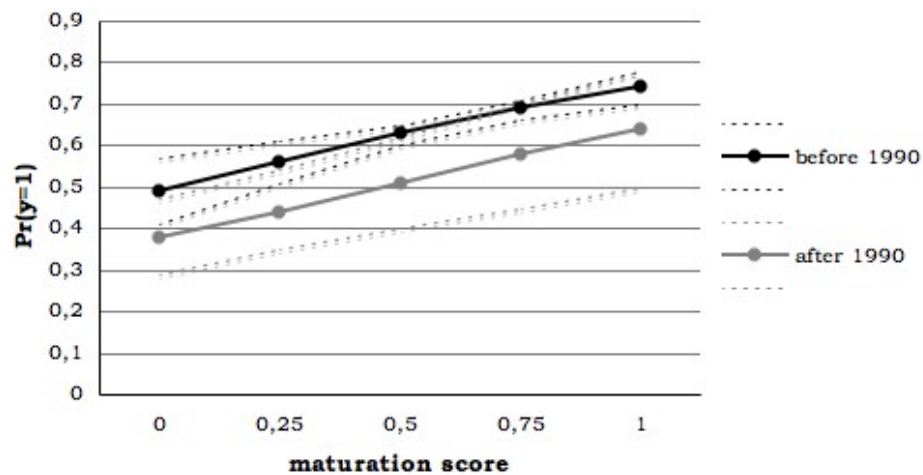
Figure 4.4: Predicted probability of turnout based on model 2a, BES 1964-2005

All in all, the findings in this chapter point towards the confirmation of hypothesis two. Changes in maturation can indeed explain part of the turnout decline among young voters. The explanatory power of later maturation may not be exceptionally large, but this was also expected based on theoretical assumptions. Later maturation, here based on six relatively simple socio-demographic indicators, is found to explain 9 to 10% of the turnout difference among young voters before and after 1990 in Great Britain.

4.5   Conclusion and discussion

According to the life-cycle theory, turnout increases as citizens age and experience certain life-cycle events. Findings in the sociological literature as well as circumstantial evidence suggest that over the past decades many life-cycle events have moved to a higher average age. The aim of this chapter has been to assess the impact of such later maturation on turnout levels of young adults. With this a previously overlooked explanation of turnout decline among young voters was put to the test.

Using data from the British Election Studies, an index of maturation characteristics was created. Average scores of young people on this maturation index were found to decline over-time, indicating evidence of later maturation. Maturation itself – as expected based on the life-cycle explanation to age differences in voter turnout – was found to be positively related to turnout. Combining the two facts, we can conclude that later maturation has a negative impact on the turnout levels of young citizens. Fewer young people nowadays have gone through life-cycle events that are of importance for turnout. This has a negative effect on the turnout levels of this age group.

That maturation is a significant indicator of turnout, does not automatically imply that later maturation explains a substantial part of youth turnout decline. Nonetheless, around 9-10% of the turnout difference before and after 1990 in Britain was found to be explained through later maturation. Turnout levels among older voters, indeed, play a more important role for turnout among young adults than maturation does. It remains to be seen if the differences between younger and older voters can be better explained through alternative factors such as other

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resource and mobilization factors, attitudinal variables, and characteristics of elections. One of the aims of the next chapter is to see whether we can better pin point what makes younger voters different from older voters in a better specified model of youth voter turnout.

Not all life-cycle indicators assessed in this chapter were found to have an equal impact on youth turnout in elections. Home ownership and having left education were found to be the most important indicators. The latter variable, however, had an unexpected impact on turnout among young adults. While the life-cycle model predicts that being in education leads to lower turnout levels, it was actually leaving school that was found to have a negative effect on turnout. This finding is in line with previous research that finds there to be a positive relationship between going to school and turnout in elections as students are argued to be more easily mobilized to participate in politics that their non-school going peers. Having a job and being married were also found to have a significant effect on turnout. In all models estimated the maturation index, however, outperformed the separate life-cycle indicators. This testifies to the importance of the interplay between different life-cycle events.

Naturally, the results from this chapter apply to Great Britain only. The life-cycle model is, however, regarded as quasi universal and age patterns in political participation tend to be largely the same in Western democracies. In this sense the findings in this chapter could be regarded as illustrative of processes that are taking place in other countries as well. That said, we do not know too much about the between-country differences in the way in which citizens mature. At the individual level comparisons between countries are, however, hard to accomplish due to a lack

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of indicators. Later on in this thesis, however, we will put the later maturation to the test in a country-comparative setting as we move to the aggregate level.

Although the percentage of variance explained by the models was found to be rather small, analyses show that life-cycle delays can indeed account for part of the decline in turnout among young adults in Britain over the last decades. The life-cycle model – with these findings in mind – is behaving exactly as expected. Previous research, therefore, seems to have failed to link certain logical consequences of societal trends to turnout decline among young voters. The next step is to see whether the later maturation hypothesis still holds after adding alternative explanations for declining youth voter turnout to the analyses.

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Chapter 5

Later maturation versus alternative explanations of youth turnout decline

This thesis aims to contribute to the literature on youth voter turnout in several ways. The main innovation of this research is the formulation and assessment of a new hypothesis to explain over-time changes in youth turnout levels. This later maturation hypothesis was described and has been put to the test in the previous chapter. It was demonstrated that the consequences of later maturation can indeed account for part of the turnout decline among young voters in Great Britain. This turnout decline among young adults, in its turn, is the motor behind the widening age gap between younger and older voters.

The later maturation hypothesis is, however, certainly not the only theoretical explanation to turnout change among young people through time (see figure 2.2). The goal of the current chapter is to assess the extent to which these alternative theories play a role in the turnout decline among young adults in Great Britain. In addition, this chapter explores if and to what extent later maturation is still accountable for youth turnout decline after taking into account these alternative

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explanations. Although some overlap between later maturation and other explanations of declining youth voter turnout is expected to exist, there is no reason why the later maturation hypothesis and others should be mutually exclusive.

Following the previous chapter, hypotheses will be assessed with individual level repeated cross-sectional election surveys from Great Britain. This country witnessed a widening of the age gap. Although a function of turnout among both younger and older voters, movements of the age gap are mostly set in motion by changing turnout levels among young voters. The British Election Studies used for this chapter include both life-cycle variables and the relevant alternative indicators (see appendix A for an overview of the studies used as well as their origin). This allows for the best possible comparison of the various explanations of youth turnout decline.

Three groups of indicators are central in this chapter: resource and mobilization variables, campaign-related variables, and electoral competitiveness variables. Each of these groups of indicators will be modelled against the life-cycle indicators from the previous chapter in order to test the robustness of the later maturation hypothesis under more demanding circumstances.

Because a larger number of variables is used and more hypotheses need to be described, the set up of this chapter is slightly different from the previous one. After a brief recap of the theoretical framework discussed in chapter two, the three groups of variables identified above will be discussed one at the time in different sections. In each section relevant working hypotheses are identified and data will be described. Accordingly, the cluster of indicators central in the section will be modeled against indicators of later maturation as used and described in the

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previous chapter. The chapter ends with the empirical assessment of a full model of voter turnout in which variables from all three clusters are brought together.

The findings of this chapter show that – as expected based on the literature – other factors than maturation indeed play a role in youth voter turnout. Political interest and strength of party identification play an important role in turnout among young adults, just as turnout in previous elections and perceived differences between parties do. Perhaps somewhat surprisingly attendance of religious services is also found to play a large role in the turnout decline among young Brits.

Notwithstanding the the importance of these factors for turnout, maturation is among the most important indicators of turnout even in a fully specified model of voter turnout. This finding, thus, confirms the results of the analyses in of the previous chapter that life-cycle delays play a role in the over-time decline in turnout among young voters in Britain. Even in better specified circumstances, however, average turnout among older voters remains by far the strongest explanatory factor of youth turnout. This indicates that young people's decision to turn out to vote or abstain is very sensitive to turnout trends in the electorate at large.

5.1 Turnout decline among young voters: a brief recap of theoretical explanations

In chapter two theoretical explanations for turnout decline among young voters were reviewed. The first and foremost observation was that experts and public opinion alike blame youth turnout decline on the alienation, disengagement, disinterest, apathy, cynicism, and scepticism of young citizens from and towards electoral politics and its actors. The question remains, however: What is it that causes contemporary young adults to feel so detached from electoral politics?Several hy-

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potheses have been put forward and the aim of this section is to identify those hypotheses that can be assessed with data from the British Election Studies that will be used in this chapter.

Wattenberg (2008) links the disinterest and knowledge gap of young adults to changes in the media landscape. Commercialization of the media has had consequences for both the content and form of all items broadcasted. This, in its turn, has lead to a different socialization experience of contemporary young adults and can subsequently explain the growing disinterest and lack of knowledge among young people in (electoral) politics. At the individual level this hypothesis can be assessed through indicators on the use of media for the collection of political information. Unfortunately, the British Election Studies do not include such indicators in an over-time comparable fashion. Tests of the influence of the media on turnout decline among young citizens will therefore have to be left to the future when more appropriate data is available.

At the societal level, decreasing party loyalties and declining social capital are mentioned as two factors that can account for youth turnout decline. Inglehart (1997) argues that social and economic prosperity have lead to a shift of priorities. Political parties are still polarized along cleavages that were present at the time these parties were established. Young citizens, however, have moved on and are interested in different issues. This leads them to have difficulties identifying with electoral politics and its actors. Questions regarding strength of party identification can be used to grasp how youth turnout levels may have changed through time because of changes in party attachment.

Putnam (2000), on the other hand, links declining youth voter turnout to the decline of associational life. With this decline in social capital, political partic-

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ipation is deprived of one of its most important mobilizing factors. The British Election Studies generally do not include many questions on associational life of respondents, which makes it difficult to assess this hypothesis at the individual level in this chapter. Church attendance and union membership are the only two association-related indicators included on a regular basis in the British Election Studies. They will be included in later analyses.

Demographic changes in Western Europe are also mentioned as influencing youth participation levels. Due to the obsolescence of Western societies, the political weight of older voters has increased over time. Their larger number makes older citizens more visible to political actors and institutions, which, in its turn, puts an emphasis on the issues that older cohorts find important (Schmitter and Trechsel, 2004; Kohli and Künemund, 2005; Topf, 1995*b*). Young people and the issues they are interested in, thus, appear to be increasingly overlooked by political actors. In order to assess this hypothesis, we would need information on the extent to which parties focus on different sub groups of their electorate. This type of information naturally not available in the British Election Studies as these studies are designed with a focus on voters and abstainers. It would, however, make an interesting research project in itself and should be considered as a possible future undertaking.

Resource and mobilization variables:	1964	1966	1970	feb 1974	oct 1974	1979	1983	1987	1992	1997	2001	2005
Gender *(0, 1 = male)*												
Educational level *(0 = low, 0,5 = middle, 1 = high)*											*	
Income *(0 = low, 0,5 = middle, 1 = high)*												
Social class *(0 = not middle class, 1 = middle class)*		M	(1/2)									
Religion *(0 = not religious, 1 = religious)*				M								
Church attendance *(0 = never, 1 = several times a week)*				M	M						M	M
Union membership *(0, 1 = member)*		M										

note: continued on next page

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	1964	1966	1970	feb 1974	oct 1974	1979	1983	1987	1992	1997	2001	2005
Campaign-related variables:												
Retrospective eco sit (self) *(0 = worse off now, 0,5 = same, 1 = better off now)*								M				
Prospective eco sit (self) *(0 = worse off future, 0,5 = same, 1 = better off future)*								M	M			
Political interest *(0 = not interested, 1 = very much much interested)*							M	M	M			
Strength party i.d. *(0 = no pid, 1 = very strong pid)*												
Perceived party difference *(0 = a great deal, 1 = not much)*											M (2/3)	
Voted in last election? $(t-1)$ *(0 = did not vote, 1 = voted)*											M (1/6)	
Young initiation *(0 = 1st vote at >21 years, 1 = 1st vote at >18 years)*												
Competitiveness variables:												
Margin of victory (const. level) *(0 = 1 - 1 = 75%)*												
Margin of victory (country level) *(0 = 1 - 1 = 15%)*												
Majority status (country level) *(0 = 2 - 1 = 15%)*												

note: continued from last page; M indicates variable is missing; () indicates the proportion of the sample for which the indicator is missing if the variable is not completely missing; * indicates variable is not available for all respondents

Table 5.1: Availability of alternative indicators, BES 1964-2005

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Lastly, the 'withdrawal of the state' hypothesis stipulates that young people's declining turnout levels can be explained due to nations states increasingly loosing power to political institution at different levels (i.e. to regional governments and/or the European Union). Although this trend affects the motivation of all voters, especially young people who have not yet established the habit to vote are vulnerable to abstention because of this trend (Gauthier, 2003; Pirie and Worcester, 1998; O'Toole, 2004; Henn, Weinstein and Wring, 2002). Although this hypothesis is difficult to test at the individual level in a single country, the lesson to learn is that over-time changes in the political institutional environment also need to be taken into account.

Table 5.1 provides an overview of the availability of indicators central in this chapter in the twelve British Election Studies carried out between 1964 and 2005. In the following sections these variables will be discussed in groups as we focus on clusters of resource and mobilization variables, campaign-related factors and measures of political competitiveness. Since assessment of hypotheses depends on the availability and measurement of data, precise working hypotheses will not be formulated until later in the different sections.

As in the previous chapter, all models estimated are adjusted for sampling errors and over-reporting of turnout. Moreover, all variables have been standardized to range between 0 and 1 in order to increase comparability and missing values were dealt with through a multiple imputation method (see both the previous chapter and appendix B for more information). Appendix C includes the models of this chapters as estimated before the missing data was imputed.

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5.2 Later maturation versus (other) resource and mobilization factors

Starting with resource and mobilization factors, gender, educational level, income, social class, religion, church attendance, and union membership are considered. These indicators are present in practically all individual level analyses of voter turnout. To understand their influence on electoral participation, we have to go back to the resource model of political participation originally developed by Verba and Nie (1972). The basic idea behind this model is that political participation is an act dominated by resources, particularly time, money and skills. Money, of course, being of lesser importance with regard to the act of voting than with regard to, for example, buying or boycotting products for political reasons or making a campaign donation. Simply put, those with high levels of education, a high income, and a high social status etc. are more likely to have a wider range of resources and are, thus, more likely to turn out to vote (Brady, Verba and Schlozman, 1995, p. 273).

The resource model of political participation in later years has been joined by the mobilization model that centres around the idea that citizens are mobilized to participate in politics by parties, candidates, interest groups and new social movements (Rosenstone and Hansen, 1993). Politicians and parties (e.g.) mobilize citizens because it is in their best interest to encourage people to turn out to vote. Mobilization usually takes place through social networks and is mainly focused on reducing the costs of political participation by providing cues to process political information, arranging transportation to the polling booth, etc.

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It is only a small step from the mobilization model to the sociological model (see Stolle and Hooghe, 2004; Hooghe, 2004; Stolle, Hooghe and Micheletti, 2005; and Putnam, 2000). This model assumes that people participate in politics because their family, friends, etc. mobilize them to do so. Associational life, therefore, is a crucial element to turnout according to the sociological model. In the end it is a sense of duty that explains why people comply with the pressure of their peers to participate in politics. People vote because they think it is their moral obligation to do so.

In this section, the following resource variables are considered: gender, educational level, income and social class. Because of their different role in society (e.g. being the breadwinner, having the right to vote) men have long been considered to have more resources and are, therefore, known to turn out more than women. Recent research suggests that the gender gap in turnout has gradually disappeared through the demographical replacement of the electorate as with every new electoral cohort entering the electorate, the gender gap has become smaller (see e.g. Inglehart and Norris, 2003; Childs, 2004). Especially among young people – the sub-group of the electorate of interest in this chapter – we would thus expect to find gender differences in turnout not to exist.

Educational level was reduced to a three scale variable identifying respondents with a low (primary school only), middle (secondary education) and high (post-secondary) educational level. For the year 2001 the difference between secondary and post-secondary educational level could only be made for respondents included in the top-up sample (roughly 700 out of 3000 respondents). Given the high number of respondents overall, this is not expected to cause any problems. For 2005 people with a low educational level could not be identified based on questions

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referring to the educational level. A proxy is used by coding everyone leaving school at the age of 15 or earlier as having a low educational level. Education increases citizen's political resources as higher educated people eventually are considered to have more time, money and skills to participate in politics. In fact, education is one of the most constant and strongest indicators of individual level voter turnout (Sondheimer and Green, 2010).

Lacking a measurement of personal income, we have to rely on household income for our measurement of personal wealth and resources. Household income is perhaps not the best indicator to measure income among young people as we do not know whether such young respondents are living independently or not. It is therefore not entirely clear whether we measure young people's own income or that of their entire family. On the other hand, household income is perhaps much more indicative of the economic class and status of young respondents that still live at home than personal income is (Blais and Loewen, 2009). Household income, available in all election years, was recoded into a scale ranging from 'low' to 'high'. Income has repeatedly been proven to be positively related to voter turnout.

Social class is the last resource variable included in the analyses. The idea is that citizens with white collar jobs have more resources which should increase their probability of turning out to vote. Variables referring to the respondent's own perception of social class (not included in 1966, available for half of the sample in 1970) have been recoded into a dummy identifying respondents that indicate they belong to the middle class.[21] People identifying with the middle class are expected to vote more compared to those belonging to the working class or compared to those that feel they do not belong to any social class.

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[21]Upper class is not a category in most British Election Studies.

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Turning to mobilization and socialization factors of voter turnout religion, church attendance, and union membership are examined. Religion, firstly, is a dichotomous variable identifying respondents that indicate they belong to a religion. The variable was not included in the election study for the February 1974 elections. Church attendance, on the other hand, is a seven point semi-interval variable ranging from 'never attends religious services/not religious' to 'attends religious services several times a week'. In both instances, a positive relationship with voter turnout is expected. The two variables practically measure the same thing: however, the mobilization and socialization characteristics of religion are better captured with the church attendance variable. Church attendance is missing from the British Election Studies in the following election years: February 1974, 2001 and 2005.

Union membership, lastly, is available in all election surveys and was recoded into a dummy identifying the union members. Union members are generally thought to be mobilized to participate in politics. Therefore, a positive relationship with turnout is expected. In how far this relationship will be statistically significant for young people is a different question, however. It is generally known that union membership is in decline, particularly among young voters.

Although they are not direct life-cycle indicators, some of the variables considered in this section (educational level, income and union membership) have a clear link with the different life-cycle stages. If young citizens, for example, have a high educational level they are more likely to have spent a lot of time in education. An increase in income just like union membership are only expected when the transition from the first to the second stage of the political life-cycle is set in motion.

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Therefore, these variables may influence the way the life-cycle indicators from the previous chapters behave. For example, the impact of the maturation index variable on turnout among young adults could decrease after the inclusion of resource and mobilization variables because some of the maturation effects overlap with the newly included variables. Table 5.2 summarizes the expectations with regard to the performance of the background variables. Both the direction of the effect on individual level turnout itself as well as possible effects on the performance of the life-cycle indicators are listed.

Variable	Expected effect on turnout	Expected effect on maturation
Gender	n.s.	none
Educational level	positive	weakening
Household income	positive	weakening
Middle class	positive	none
Religious	positive	none
Church attendance	positive	none
Union membership	positive	weakening

Table 5.2: Later maturation versus (other) resource and mobilization indicators: expected effects

All analyses in this chapter will be presented in a similar fashion. As pointed out above, this chapter serves two aims. The first one is to assess what indicators other than the life-cycle variables central in the previous chapter can account for the decline in youth voter turnout. In doing so, we want to better explain the pre/post 1990 turnout difference among young British voters and increase our understanding of the ways in which younger voter's turnout is distinct from turnout levels of the rest of the electorate. The second aim of the analyses in this

chapter is to investigate the performance of the later maturation hypothesis when it is competing with alternative explanations.

Starting from the models estimated in the previous chapter, each regression table presented here includes models 2a and 3a from table 4.2 in chapter four. Model 2a is the model that includes the maturation index, whereas in model 3a the separate life-cycle indicators were used. The average turnout of voters aged more than 35 years is not included in these models. This is because we saw that the inclusion of this variable resulted in the period dummy no longer being statistically significant. Since explaining the pre/post 1990 turnout difference among young voters in Great Britain is one of the aims of this chapter, we need to be able to see what variables other than older voter's turnout levels influence this over-time turnout difference. It is therefore important to not yet include the average turnout of older voters as the variance to be explained in the pre/post 1990 turnout difference among young voters would immediately disappear. Towards the end of the chapter, when a fully specified model of youth voter turnout is estimated we will return to average turnout of older voters.

In order to test how the resource and mobilization variables central in this section perform in competition with the later maturation hypothesis, two new models are estimated below (see table 5.3). In model 4a the resource and mobilization variables are added to model 2a from the previous chapter, in model 4b this cluster of variables is added to model 3a from the previous chapter.

Turning to the results of the analyses, we see that – contrary to expectations – gender does show to have a (weakly) statistically significant effect on voter turnout among young adults in model 4a (but not in model 4b). Moreover, it also has a

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	model 2a	model 4a	model 3a	model 4b
	b/(se)	b/(se)	b/(se)	b/(se)
Age	0.380***	0.320***	0.586***	0.488***
	(0.120)	(0.120)	(0.125)	(0.123)
Post 1990	-0.473*	-0.302	-0.551**	-0.359
	(0.253)	(0.226)	(0.260)	(0.225)
Maturation index	1.083***	0.869***		
	(0.250)	(0.272)		
Not in education			-0.250***	-0.105
			(0.084)	(0.095)
Married/cohabiting			0.156*	0.089
			(0.083)	(0.085)
Children			0.032	0.054
			(0.076)	(0.069)
Home ownership			0.557***	0.433***
			(0.098)	(0.097)
Residential stability			0.042	0.175
			(0.156)	(0.157)
Works			0.123**	0.034
			(0.058)	(0.081)
Gender		-0.129*		-0.123
		(0.071)		(0.076)
Educational level		0.506***		0.420***
		(0.134)		(0.137)
Religious		0.096		0.091
		(0.078)		(0.072)
Church attendance		0.696***		0.677***
		(0.102)		(0.097)
Union membership		0.261***		0.282***
		(0.090)		(0.091)
Household income		0.402***		0.340**
		(0.133)		(0.136)
Middle class		0.128**		0.084
		(0.063)		(0.067)
Constant	-0.233	-0.787***	0.102	-0.487***
	(0.143)	(0.169)	(0.134)	(0.160)
Log-likelihood	-6313.45	-6181.25	-6261.48	-6159.56
Pseudo R^2	0.029	0.050	0.037	0.053
N	9762	9762	9762	9762

note: b coefficients from logit analyses with robust s.e.'s clustered
by election in parentheses; * $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table 5.3: Turnout by later maturation versus resources and mobilization indicators for young voters aged 35 years or less, BES 1964-2005

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negative sign meaning that young men are less likely to turn out to vote than women. This is an interesting observation, however, it is beyond the scope of this research to try to explain this finding.

Educational level, as expected has a highly significant and positive impact on turnout. Church attendance is, however, the most important background variable among young voters in Britain. In this respect it is unfortunate that the British Election Studies have not included other indicators of associational life on a regular basis as it would be interesting to see to what extent participation in other societal organizations mobilizes and socializes citizens to turn out to vote.

Considering oneself to be part of the middle class is also positively and significantly related to turnout among young adults (in model 4a only though), just as union membership and household income are. This leaves only the variable identifying a respondent to be religious (or not) not to turn up significant. The overlap with church attendance most likely plays a role in this.

All resource and mobilization variables perform largely the same way in the model with the maturation index and in the model with the separate life-cycle indicators. The only exceptions are the variables 'gender' and 'middle class' that loose statistical significance in model 4b. The same two variables were already found to be only weakly significant in the model including the maturation index (model 4a).

In support of the later maturation hypothesis, the maturation index is still a strong and significant indicator of turnout among young adults after the inclusion of resource and mobilization variables. When separate life-cycle events are used, however, most indicators of maturation lose statistical significance after the inclusion of resource and mobilization factors. As we will find throughout the remainder

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of the chapter as well, only home ownership remains statistically significant. Most notably, having left education – while being highly significant in model 4a – no longer has a significant effect on youth voter turnout after the inclusion of resource and mobilization variables. This is most likely because the effect of the variable is cancelled out by the inclusion of the educational level of the respondent. Being married and working also lose statistical significance after the inclusion of these variables. These two indicators were however less significant in the first place (see model 3a).

Perhaps surprisingly, the period dummy immediately looses its statistical significance after the inclusion of the resource and mobilization variables. This indicates that although before and after 1990 differences in turnout among young voters are not totally captured by the life-cycle events alone, relatively simple background indicators taken together can. Rubenson et al. (2004) also found socio-demographic factors to play an important role in explaining the 2000 age gap in voter turnout in Canada.

5.3   Later maturation versus campaign-related factors

In this section the impact of campaign-related factors on turnout will be considered. These are largely (but not necessarily) short term factors that are thought to be taken into consideration by the voter in order to decide whether to turn out to vote or not in the forthcoming election. The following variables are discussed: political interest, strength of party identification, perceived party differences, turnout at previous elections, retrospective evaluation of the personal economic situation and, lastly, prospective evaluation of the personal economic situation. Young initi-

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ation is also included in this section, even though it is neither a campaign-related variable nor does it refer to short term effects. The indicator seems to fit this cluster of variables better than the other two discussed in this chapter, however.

To get an insight into the way the above-mentioned indicators are related to voter turnout, we have to refer back to rational choice models of political participation. These models, whose origins lie in the 1950s, come in different forms. They all stress the fact that there is a decisive cost-benefit factor to voting (whereby benefits should outweigh cost in order for a person to turn out to vote), but mainly disagree on the type of benefits voting brings. The neo-classical rational choice approach, developed by Anthony Downs (1957), assumes that people are driven by economic self-interest. In other words, it is desired, concrete benefits that guide people in their choice to vote or abstain. To rightly estimate the perceived benefits of voting implies that the voter has accurate information on the political system, the policy positions of the parties and/or candidates, etc. If the perceived benefits outweigh the costs of voting, called utility maximizing in rational choice jargon, it is assumed that people will make the trip to the polling booth.

However, what concrete benefits can a rational citizen expect to gain from voting when it is widely known that the chance that a single vote will influence the outcome of an election is virtually non-existent? Taking the effort to register, making the trip to the polling booth, informing oneself, etc. are all costs of voting that, according to the neo-classical rational choice approach, no rational voter should want to involve himself in. Nevertheless, millions of people do in fact turn out to vote in elections.

A great deal of ink has been spilled trying to resolve this riddle. Of the many theoretical explanations put forward (for overviews see Andrain and Apter, 1995;

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Laver, 1997; Blais, 2000), perhaps the most widely known is the rational choice structural approach put forward by Riker and Ordeshook (1968). According to this adaption of the original Downsian rational choice approach, people are driven to vote by values, norms and socio-political structures. Citizens may get something out of casting a vote by fulfilling a civic duty, affirming a partisan choice, etc. This intrinsic satisfaction of voting leads to non-material and non-outcome dependent benefits that give a 'rational' explanation to the act of voting despite the almost non-existing chance of single-handedly influencing the outcome of the election.[22]

From intrinsic satisfaction it is a small step to the psychological model of voter turnout, which centers around the psychological involvement of people in the process of voting. The higher this involvement, the more likely a citizen is considered to turn out to vote. Very much in line with the rational choice structural approach, the psychological model assumes that those who are e.g. interested in politics will receive greater satisfaction or benefits from voting. Moreover, those that are interested in politics are also more likely to know more about it. As such it is relatively easy to become politically informed and make a cost-benefit calculation of turnout. All these factors are considered to boost turnout. As mentioned in chapter two, the last word has not been said about the causal direction of the relationship between concepts such as political interest and political knowledge. Interest provides and incentive to acquire political knowledge, however, someone who has political knowledge is more likely to be interested in politics as well

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[22]See here the difference between broad and narrow definitions of the concept of political rationality. Some scholars claim that the rational choice structural approach is not a 'pure' rational choice approach as it includes more elements than economic costs and benefits (see e.g. Blais, 2000; Blais, Young and Lapp, 2000).

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(Rubenson et al., 2004, p. 417; Howe, 2003, p. 22; Brady, Verba and Schlozman, 1995, p. 271).

Psychological involvement in politics and elections can be measured with the British Election Studies through a variable that indicates the amount of interest a respondent claims to have in politics. Where possible interest in politics in general was used as an indicator, however, in some instances interest in the political campaign was used as a proxy. A four point scale was constructed ranging from respondents claiming to have 'no political interest' to those indicating to be 'very much' interested in politics. No questions on political interest were included in the election surveys of 1983, 1987, and 1992. A positive relationship is expected to exist between political interest and turnout.

Individual level political indicators such as strength of party identification and perceived party differences can be linked to voter turnout in a similar way as psychological variables. A person who identifies with a party is much more likely to be interested in and knowledgeable about what is going on in politics. Therefore the information costs for such a person are lower, which increases the likelihood of turnout. The way in which a respondent identifies with a political party is measured with a four point scale that runs from 'no party identification' to 'a very strong party identification'.

The manner in which respondents perceive differences between political parties is measured with a three point scale variable that runs from 'a great deal of difference' to 'not much difference'. Perceived differences between parties can arguably both boost and decrease turnout. The greater the differences between the parties, the clearer the options are for the voter and the easier it is for a citizen to decide to turn out to vote or not. On the other hand, diversity can lead to complexity

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and higher information costs, which in its turn should decrease turnout. At the aggregate level, similar arguments exist with regard to the number of parties that run in an election. This will be discussed in more detail in the next chapter.

Turnout in the previous election (t-1) is the last short term political indicator the be assessed in this chapter. Past behaviour predicts current behaviour as those who have already made a cost-benefit calculation in the past will have fewer difficulties doing so in the future. The variable measuring previous turnout has a dichotomous nature, identifying those respondents that voted in the previous parliamentary election.

Young initiation, lastly, is also included in the analysis. The variable takes into account the long term effects of the lowering of the voting age and identifies those people that came of age after the lowering of the minimum voting age to 18 years in 1969. Along the lines of the political learning perspective, the idea is that those who were socialized when the minimum voting age was still up at 21 had a higher likelihood of turning out to vote in their first elections and therefore also in subsequent ones. Given the way in which it is coded, the young initiation variable should have a negative impact on youth voter turnout.

The third group of short term factors considered in this section are related to the economy. That the (perception of) the national economic situation has an impact on how citizens vote is a fairly uncontested assumption. However, one's perceived personal economic situation can obviously also have an impact on whether someone turns out to vote or not.

Part of a government's job is to manage the nation's economy. Experiencing economic strain, therefore, may make citizens blame the government for their situation and mobilize them to the polling booth to vote the government out of

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office (Schlozman and Verba, 1979, p. 12-19; Lipset, 1969, p. 187). In other words, those that perceive the economic situation pessimistically will turn out to vote in order to punish the incumbent. The benefits of voting in this case outweigh the costs and citizens will turn out to vote. The alternative hypothesis stipulates that economic suffering withholds people from participating in politics. Someone who has, for example, just lost his job is more likely to be pre-occupied with personal economic well-being than with remote concerns like politics. Economic strain in this sense is argued to reduce a person's capacity to participate in politics (Rosenstone, 1982). In this instance, the costs outweigh the benefits and a rational citizen will choose not to turn out and vote.

There are two questions that need further discussion. The first is: do voters look forward or do they look back? In the first instance, voters will decide to turn out based on their expectations. These expectations are based on citizen's expertise and information on e.g. policies that are on offer. The purely retrospective voter will look at the successes and failures of both government and opposition and base their decision to turn out on this (van der Brug, van der Eijk and Franklin, 2007, p. 3). There seems to be a general consensus that both prospective and retrospective elements of economic evaluation play a role in turnout (Evans, 2004, p. 136).

The other question is whether citizens decide to turn out to vote based on the state of their own finances or based on that of the nation's economy. Unfortunately, however, the British Election Studies only include questions on the respondent's perception of the national economic situation in half of the studies conducted between 1964 and 2005. We will take into account the influence of the national

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economic situation in the next chapter where the analysis shifts to the aggregate level.

The British Elections Studies held between 1964 and 2005 do include the respondents retrospective and prospective evaluation of the personal economic situation. Retrospective evaluation is measured with a three point scale variable that ranges from 'worse off now' to 'better off now' with 'things have stayed the same' as the middle category. The other economic indicator measures the prospective economic evaluation of the respondent's personal situation. The variable has the same categories as the other economic indicator, but then oriented towards the future. As discussed above, both variables can be argued to either have a positive or a negative effect on individual level turnout. Retrospective economic evaluation is not available in the 1987 British election survey; the prospective economic evaluation variable is not available for 1987 and 1992.

Now that the relation between the different political and economic indicators and turnout has been discussed, what influence can these factors be expected to have on the behaviour of the life-cycle indicators modelled in the previous chapter? Since political interest is clearly linked to the later maturation hypothesis, adding this variable to the models from the previous chapter may weaken the effect of the life-cycle indicators. Life events such as finishing education, getting married, having children, buying a house, starting a first job, etc. are namely thought to trigger political interest, which in its turn is supposed to boost turnout. On the same token, if voting is a habit previous turnout may overrule the negative effects of later maturation on turnout among young adults.

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Variable	Expected effect on turnout	Expected effect on maturation
Interest	positive	weakening
Party i.d. strength	positive	none
Perceived party difference	pos. or neg.	none
Voted at t-1	positive	none or weakening
Young initiation	negative	none
Retrospective perception of personal eco. sit.	pos. or neg.	none
Prospective perception of personal eco. sit.	pos. or neg.	none

Table 5.4: Later maturation versus campaign-related indicators: expected effects

With regard to the other variables, there are no real indications that individual level political indicators and economic indicators would interfere in any sort of way with the performance of the life-cycle variables from the previous chapter. Table 5.4 gives an overview of the expected effects of short term campaign-related variables on turnout as well as on the performance of life-cycle indicators.

As in the previous section, the indicators central here are added to models 2a and 3a from the previous chapter. This way it is not only possible to see what indicators other than the life-cycle indicators have an impact on youth voter turnout, it also provides an impression of how well the later maturation hypothesis behaves in better specified circumstances. Moreover, it allows us to see whether campaign-related factors can explain more of the pre/post turnout difference among young voters in Britain. Table 5.5 shows the results of the logit analyses.

Political interest, strength of party identification and turnout in previous elections all turn up positive and significant. This is as expected. The coefficient for the respondent's perception of the differences between political parties is negative. The more positive the value of the variable, the smaller the respondent perceives differences between the parties to be. A negative coefficient thus implies

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	model 2a	model 5a	model 3a	model 5b
	b/(se)	b/(se)	b/(se)	b/(se)
Age	0.380***	-0.384*	0.586***	-0.231
	(0.120)	(0.202)	(0.125)	(0.197)
Post 1990	-0.473*	-0.268	-0.551**	-0.314
	(0.253)	(0.267)	(0.260)	(0.269)
Maturation index	1.083***	0.951***		
	(0.250)	(0.277)		
Not in education			-0.250***	-0.035
			(0.084)	(0.112)
Married/cohabiting			0.156*	0.077
			(0.083)	(0.105)
Children			0.032	0.073
			(0.076)	(0.086)
Home ownership			0.557***	0.427***
			(0.098)	(0.105)
Residential stability			0.042	-0.033
			(0.156)	(0.232)
Works			0.123**	0.063
			(0.058)	(0.073)
Interest		1.354***		1.273***
		(0.203)		(0.209)
Strength party id		1.296***		1.326***
		(0.123)		(0.115)
Perceived party differences		-0.480***		-0.454***
		(0.145)		(0.139)
Voted $t-1$		0.990***		0.984***
		(0.105)		(0.106)
Young initiation		-0.045		-0.083
		(0.222)		(0.218)
Retrospective eco. evaluation		0.121		0.095
		(0.100)		(0.103)
Prospective eco. evaluation		-0.033		-0.001
		(0.103)		(0.101)
Constant	-0.233	-1.553***	0.102	-1.289***
	(0.143)	(0.311)	(0.134)	(0.299)
Log-likelihood	-6313.45	-5509.74	-6261.48	-5495.72
Pseudo R^2	0.029	0.152	0.037	0.154
N	9762	9762	9762	9762

note: b coefficients from logit analyses with robust s.e.'s clustered
by election in parentheses; * $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table 5.5: Turnout by later maturation versus campaign indicators for young voters aged 35 years or less, BES 1964-2005

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that the smaller the respondent perceives the differences between the parties, the lower turnout will be. Apparently similarity increases complexity. High complexity implies higher information costs, and these costs – in their turn – appear to be the reason young voters are less inclined to turn out to vote when the differences between parties are perceived to be small.

Neither of the variables tapping the influence of economic evaluation on turnout reaches statistical significance. Being socialized after the lowering of the voting age – as tapped with the variable 'young initiation' – is not found to have an impact on youth voter turnout either.

The maturation index remains highly significant after the inclusion of the campaign-related indicators (see model 5a). In the model with the separate life-cycle indicators (model 5b) the variables having left education, work, and being married/cohabiting are no longer statistically significant after the inclusion of short-term campaign indicators. This is exactly as we noted in the previous section with the resource and mobilization variables. Comparing the magnitude of the coefficients, we see that political interest, party identification, and turnout at previous elections each play a large role in youth voter turnout. Political interest and party i.d. are stronger predictors than maturation and previous turnout, the latter two being about as important. These findings are in line with the work of Blais and Loewen (2009, p. 6) who find that political factors exert more influence on the decision of young Canadians to turn out or abstain than socio-demographic factors do.

As in the last section, the period dummy looses statistical significance after the inclusion of the variables of interest in the section. This indicates that the campaign-related factors modelled here also play a role in the turnout decline

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among younger voters before and after 1990 in Britain. Also interesting is the fact that the variable age becomes much less significant after including political interest, party i.d., perceived differences between the parties and turnout at previous elections. Lastly, it should be noted that the inclusion of campaign-related indicators gives a real boost to the pseudo R^2. The explained variance goes up from 3-4% to 15% when this cluster of indicators is included.

5.4 Later maturation versus competitiveness indicators

The last group of indicators to be discussed in this chapter are non-individual political indicators that capture part of the characteristics of elections. Although such contextual indicators are more commonly included in aggregate level analyses, there is evidence that political behaviour at the individual level is also influenced by characteristics of elections – especially by the competitiveness of these elections (see e.g. Franklin, 2004 and Fieldhouse, Tranmer and Russell, 2007).

The idea that competitiveness of elections is related to turnout of individuals finds its origin in rational choice theory. In this section two concepts related to electoral competitiveness are central: the closeness of the race and the likelihood of coalition formation. Starting with the latter, when the probability that a coalition will have to be formed after an election is high voters can anticipate that the chances that policies of personal importance will be implemented are slimmer. Therefore, when the probability of coalition formation is high, turnout should arguably be lower (Franklin, 2004, p. 112). The likelihood of coalition formation is measured by calculating the majority status of the largest party. This is the simple difference between the vote share of the largest party and 50 percent.

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The degree of closeness of an election is related to the likelihood that votes can affect an election's outcome. The closer the race, the higher the probability that a single vote will make the difference and thus the higher turnout will be.[23] The closeness of elections can be measured in more than one way. The most frequently used option is to calculate the simple difference between the vote share of the first party and the vote share of the second party, further referred to as the margin of the victory. Although this measure oversimplifies the notion of closeness in a multi-party setting, it performs well in (quasi) two-party systems like the British one.[24] The margin of the victory at the national level is computed based on data from the UK Electoral Commission (Tetteh, 2008, p. 11).

Although national level competitiveness measures are usually considered to suffice in PR systems, this is not the case in countries with single-member districts. As Johnston, Matthews and Bittner (2007) and Blais and Lago (2009) point out, voters in first past the post systems are likely to (also) take into account the closeness of the race in their constituency when deciding to turn out to vote or not. Measures of the closeness of the race at the constituency level should, therefore, be modelled alongside the very same measures at the national level.

Since the British Election Studies contain information on the constituency a respondent lives in, the impact of competitiveness at the constituency level on individual level voter turnout can indeed be modelled. In order to obtain constituency level measures of competitiveness, in a first step data on the vote

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[23]As Franklin (2004, p. 112) points out, voters do not, of course, take into account the *actual* closeness of the race, but the *expected* closeness. Nonetheless, ex-post measures of the closeness of the race are much more often used than ex-ante measures based on opinion poll data as the latter are harder to find.

[24]Different measures of the closeness of elections were tried (for a useful overview see Endersby, Galatas and Rackaway, 2002; Grofman and Selb, 2009). None of the alternative measures, however, outperformed the simple difference measure of competitiveness.

shares of parties at the constituency level was gathered for each election year. These vote shares are available from the following sources: Caramani (2000); Crewe and Fox (1984); Morgan (2001); Electoral Commission (2006). In the next step, information on the competitiveness of the elections at the constituency level was merged with the individual level data from the British Election Studies.

Just as for the national level, margin of the victory at the constituency level is measured through the simple difference between the vote share of the first and the second party. After merging individual and constituency level data, competitiveness indicators become available for almost all of the respondents in the on average 200-250 constituencies included in each of the twelve waves of the British Election Studies used for this chapter.[25]

Table 5.4 summarizes the expected directions of the relationship between the competitiveness measures and turnout. There are no indications from the literature that competitiveness of elections in any sort of way influences the way in which life-cycle events influence voter turnout.

Variable	Expected effect on turnout	Expected effect on maturation
Margin of victory country level	negative	none
Margin of victory constituency level level	negative	none
Majority status country level	negative	none

Table 5.6: Later maturation versus competitiveness indicators: expected effects

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[25]Note that the sample size will nonetheless drop slightly with the inclusion of the competitiveness indicators as full information is missing in some election years due to discrepancies between the different sources.

Table 5.7 shows the results of the logit analyses in which the competitiveness indicators are modelled against the maturation indicators. Neither in the model with the competitiveness indicators, nor in the model with the separate life-cycle indicators do any of the measures of competitiveness reach statistical significance.

The inclusion of measures of competitiveness does not render changes in the performance of the later maturation indicators. In fact, contrary to findings elsewhere in this chapter, the separate life-cycle indicators remain performing as before after the inclusion of alternative indicators of turnout (see model 6b).

This findings in this section seem to contradict the relationship between competitiveness and turnout that others have established. There are several reasons why the results of this study may differ from others.

First, although various studies have established a relationship between competitiveness of elections and voter turnout, there tends to be variation in the level of analysis. Some studies have studied the impact of competitiveness at the aggregate level focussing on general turnout levels (see e.g. Blais and Dobrzynska 1998 and Franklin, Lyons and Marsh 2004). In other instances the impact of competitiveness on turnout was assessed using cohort-years as the level of analysis (Franklin and Wessels, 2002). The variation in the level of analysis renders a true comparison difficult.

	model 2a	model 6a	model 3a	model 6b
	b/(se)	b/(se)	b/(se)	b/(se)
Age	0.380***	0.371***	0.586***	0.581***
	(0.120)	(0.120)	(0.125)	(0.119)
Post 1990	-0.473*	-0.420	-0.551**	-0.493*
	(0.253)	(0.258)	(0.260)	(0.256)
Maturation index	1.083***	1.079***		
	(0.250)	(0.240)		
Not in education			-0.250***	-0.266***
			(0.084)	(0.084)
Married/cohabiting			0.156*	0.126
			(0.083)	(0.084)
Children			0.032	0.053
			(0.076)	(0.082)
Home ownership			0.557***	0.569***
			(0.098)	(0.093)
Residential stability			0.042	-0.097
			(0.156)	(0.171)
Works			0.123**	0.129**
			(0.058)	(0.058)
Margin of the victory (const. level)		-0.186		-0.111
		(0.136)		(0.142)
Margin of the victory (country level)		-0.006		-0.112
		(0.164)		(0.165)
Majority status (country level)		-0.374		-0.488
		(0.344)		(0.352)
Constant	-0.233	-0.010	0.102	0.437**
	(0.143)	(0.185)	(0.134)	(0.188)
Log-likelihood	-6313.45	-6267.20	-6261.48	-6213.33
Pseudo R^2	0.029	0.030	0.037	0.038
N	9762	9704	9762	9704

note: b coefficients from logit analyses with robust s.e.'s clustered
by election in parentheses; * $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table 5.7: Turnout by later maturation versus competitiveness indicators for young voters aged 35 years or less, BES 1964-2005

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With reference to the studies that did research the relationship between competitiveness and turnout at the individual level, two differences stand out. First, there is variation in the choice of countries where the impact of electoral competitiveness on individual level turnout is measured. Mark Franklin (2004, chapter six) reports is findings based on the German Election Studies. Fieldhouse, Tranmer and Russell (2007), on the other hand, base their findings on the European Social Survey of 2002 including 22 countries.[26]

In this chapter, data from the British Election Studies was used. As was established in chapter two, turnout patterns among young voters differ greatly from one country to another. This may be a reason why different variables turn up significant and others do not.

Although Fieldhouse et al. find electoral competitiveness to have an impact on youth voter turnout with a model that bears great similarities to the one estimated in this chapter, Franklin uses a different approach to research the relationship between competitiveness and youth voter turnout. Taking a random sample of the electorate as a whole (instead of a young sub set), he uses an interaction term to establish the effect of electoral competitiveness on youth voter turnout. The different approach taken in this chapter can, however, not account for the dissimilarities in the findings.

Just as in table 5.7, the two measures of electoral competitiveness (majority status and margin of the victory) are not found to have a statistically significant impact on turnout of (new) voters when random samples of the British electorate as

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[26]Although Great Britain is included in this study, between-country differences are not a focal point of this research.

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a whole are used (see table C.20 in appendix C).[27] Since new voters only constitute a small part of the electoral and are often underrepresented in election studies, the very same model was repeated with an interaction term identifying those voters aged 35 years or less. In this model, the interaction between young voters and majority status is found to be weakly significant (see table C.21).

The findings in appendix C boost confidence in the results of the models in this chapter. In the next chapter we will assess whether indicators of electoral competitiveness influence turnout better when it is researched at the aggregate level.

5.5 Later maturation versus alternatives: bringing everything together

In the previous sections different explanations for turnout (decline) among young voters were discussed and modelled against the later maturation hypothesis as assessed in the previous chapter. The impact of such resource and mobilization variables, campaign-related variables and indicators of electoral competitiveness on individual level turnout among young voters in Britain was found to vary. In this section, we will bring all alternatives together to see how the indicators behave in an environment that is as fully specified as possible based on the British Election Studies from 1964 to 2005.

Central throughout this thesis is the hypothesis that later maturation may explain part of the turnout decline among young voters over time. In the previ-

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[27]The models presented in table C.20 and C.21 build on the models in which all previously significant indicators are brought together. These models are presented in the next section of this chapter. While estimating the models attention was paid to staying as true as possible to the models from Franklin (2004, chapter six).

ous chapter we established that although the later maturation hypothesis cannot explain all of the pre/post 1990 turnout differences among young voters it was found to explain roughly 9-10% of the turnout decline among young voters in this period. The question that remained was, however, whether the later maturation hypothesis would still hold under better specified circumstances. Moreover, we were interested to see what characteristics of voters or characteristics of elections could better explain the turnout difference among young voters before and after 1990 and also aimed to see whether we could better specify what distinguishes young voters from older voters.

The current chapter addresses this question by modelling life-cycle indicators against alternative explanations of voter turnout. In this last section, all findings from previous sections are brought together. Instead of running a final analysis with all possible variables, I focus on those variables that were statistically significant in the previous analyses of this chapter. Tables 5.8 and 5.10 show the results of the final analyses. The models in table 5.8 are run without the average turnout of older voters excluded, whereas the models in table 5.10 do include the average turnout of those aged more than 35 years.

Starting with table 5.8, five models are presented. Models 1, 2a and 3a were estimated in the previous chapter. They form the basis on which comparisons can be made. In models 7a and 7b all resource and mobilization variables, campaign-related variables, and indicators of electoral competitiveness that were previously found to be statistically significant are added to model 2a and 3a respectively.

The resource and mobilization variables all behave pretty much as before. We still find a gender gap in turnout, with men voting less than women. Education, as expected, has a positive and significant effect on turnout. Church attendance

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and union membership are also still found to be positively related to youth voter turnout. Social class and household income, on the other hand, are not longer found to reach statistical significance in the fully specified models.

Confirming the results from section 5.3, political interest, strength of party identification and turnout in previous elections have a positive and significant on voter turnout even in better specified circumstances. The perceived difference between the parties is also still found to influence turnout levels among young voters.

Judging by the magnitude of the coefficients (see model 7a), political interest and party identification explain most of the variance in turnout among young voters. Next in line are the maturation index and turnout in previous elections. These two variables more or less have the same impact on youth voter turnout. As we established in the previous models in this chapter, when using separate life-cycle indicators instead of the maturation index (see model 7b) the only life-cycle event indicator that remains significant under better specified circumstances is home ownership.

Overall, including alternative indicators of voter turnout boosts the pseudo R^2 significantly from 3-4% in the models with the maturation variables alone to 17% in the fully specified models. The log-likelihood also decreases as the models become better specified.

The results in this section confirm that our earlier findings regarding the later maturation hypothesis are robust. Later maturation explains part of the turnout decline among young voters after 1990 in Britain even when controlling for other explanatory factors of youth voter turnout. These other factors play a role in the turnout decline among young British voters as well, however.

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	model 1	model 2a	model 7a	model 3a	model 7b
	b/(se)	b/(se)	b/(se)	b/(se)	b/(se)
Age	0.786***	0.380***	-0.400**	0.586***	-0.226
	(0.113)	(0.120)	(0.159)	(0.125)	(0.166)
Post 1990	-0.539**	-0.473*	-0.160	-0.551**	-0.211
	(0.254)	(0.253)	(0.198)	(0.260)	(0.199)
Maturation index		1.083***	0.882***		
		(0.250)	(0.307)		
Not in education				-0.250***	0.009
				(0.084)	(0.129)
Married/cohabiting				0.156*	0.049
				(0.083)	(0.096)
Children				0.032	0.055
				(0.076)	(0.083)
Home ownership				0.557***	0.368***
				(0.098)	(0.109)
Residential stability				0.042	0.105
				(0.156)	(0.220)
Works				0.123**	0.078
				(0.058)	(0.097)
Gender			-0.239***		-0.240***
			(0.072)		(0.078)
Educational level			0.368**		0.291
			(0.178)		(0.177)
Church attendance			0.666***		0.658***
			(0.120)		(0.119)
Union membership			0.189**		0.199**
			(0.089)		(0.093)
Household income			0.192		0.154
			(0.149)		(0.150)
Middle class			-0.082		-0.115
			(0.073)		(0.077)
Interest			1.321***		1.273***
			(0.174)		(0.181)
Strength party id			1.339***		1.357***
			(0.122)		(0.115)
Perceived party difference			-0.449***		-0.430***
			(0.147)		(0.143)
Voted (t-1)			0.945***		0.946***
			(0.113)		(0.114)
Constant	0.276***	-0.233	-1.838***	0.102	-1.610***
	(0.069)	(0.143)	(0.274)	(0.134)	(0.286)
Log-likelihood	-6362.74	-6313.45	-5446.52	-6261.48	-5440.37
Pseudo R^2	0.021	0.029	0.163	0.037	0.164
N	9762	9762	9762	9762	9762

note: b coefficients from logit analyses with robust s.e.'s clustered by election in parentheses;
* $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table 5.8: Turnout by later maturation versus alternatives for young voters aged 35 years or less - mean turnout older votes excluded, BES 1964-2005

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In order to give an impression of the magnitude of the impact of later maturation on turnout decline among young British voters in comparison to other predictors, table 5.9 shows predicted probabilities calculated based on model 7a. The second and third column from the left show the average scores of the five most important variables from model 7a in table 5.8 both before and after 1990.[28] Moving to the right, the table shows how much higher turnout would have been in the post 1990 years had these five indicators stayed at their pre-1990 average. Comparing this to the predicted probability of turnout based on the post-1990 average scores, we can establish the impact each variable has on the 12,3 percentage point pre/post 1990 turnout decline among young voters (see section 4.3 of the previous chapter).

Variable	Average score		Pr(y=1) after 1990			
	before 1990	after 1990	with <'90 mean score	with >'90 mean score	difference in %	% gap (12,3%) explained
Maturation index	,670	,622	,654	,645	0,9	7,3
Political interest	,590	,579	,647	,643	0,4	3,3
Party id strength	,535	,430	,655	,623	3,2	26,0
Perceived party diff.	,413	,463	,652	,647	0,5	4,1
Church attendance	,240	,094	,657	,635	2,2	17,9
Total			**,657**	**,583**	**7,4**	**60,2**

note: based on the five variables with the largest slope coefficient in model 7a.

Table 5.9: Explaining turnout decline among young British voters after 1990

Going from low to high, we see that political interest accounts for 3,3% of the turnout difference among young Brits before and after 1990. This may seem surprisingly low given the large magnitude of the slope coefficient for this variable, but makes sense in light of the fact that the average political interest among young citizens has hardly declined. Next, we see that perceived differences between parties (up with 5 percentage points) accounts for 4,1% of the turnout gap.

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[28]Turnout at previous elections is left out of consideration for tautological reasons.

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Later maturation is the third most important variable accounting for 7,3% of the pre/post 1990 turnout difference among young voters before and after 1990. Before any controls were included, later maturation was found to explain between 9 and 10% of the turnout gap (see previous chapter). Although the effect of later maturation is slightly weaker in a more fully specified model of youth voter turnout, the index is still among the more important predictors of turnout decline in Great Britain.

The list is topped, however, by church attendance and strength of party iden- tification. The magnitude of the slope coefficient for church attendance is not exceptionally large. Nonetheless, in combination with a stark decline in those who attend religious services regularly, church attendance accounts for 17,9% of the drop in turnout among young British voters. Strength of party identification has also declined much after 1990. Moreover, the slope coefficient for this variable is large. It is therefore not surprising that strength of party identification accounts for a quarter of the difference in turnout among young voters before and after 1990. Taking everything together, the five variables reported here (*later matura- tion, political interest, strength of party identification, perceived party differences, and church attendance*) account for over 60% of the drop in youth voter turnout after 1990 in Great Britain.

This leaves us with one question that still needs to be answered: can we better explain in what way young people are different from older voters with a better specified model of voter turnout? In order to attempt to answer this question, the models in table 5.8 were estimated once again this time including the average turnout of older voters. If we are able to better put a finger on the differences

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between older and younger voters, the magnitude of the coefficient of this variable should decrease after the inclusion of alternative indicators of youth voter turnout.

Table 5.10 shows the results of this exercise. Models 1, 2b, and 3b are taken from the previous chapter. Models 8a and 8b are the same as models 7a and 7b in this chapter, but also include the mean turnout among older voters. The first thing to notice is that the inclusion of this variable does not change all that much. Those variables that were significant in models 7a and 7b are still significant in models 8a and 8b. Average turnout among older voters is, however, still a very strong indicator of youth voter turnout even when alternative indicators to maturation are modelled. In fact, it still is the variable that whose slope coefficient is largest in magnitude when explaining young adults' voter turnout. This implies that turnout levels among young voters are largely a function of the turnout levels among older voters.

Although controlling for other factors reduces the impact of older voters turnout levels on those of young adults, it seems that the British Election Studies do not seem to allow us to put a finger on what it is exactly that makes the two age groups distinct. This conclusion is also confirmed by the non-significant interaction terms in table C.20 and C.21 (see appendix C) in which models similar to the ones in this section are estimated on a sample of the whole electorate. We will return to the implication of this finding in the conclusion of this thesis.

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	model 1	model 2b	model 8a	model 3b	model 8b
	b/(se)	b/(se)	b/(se)	b/(se)	b/(se)
Age	0.786***	0.410***	-0.371**	0.655***	-0.166
	(0.113)	(0.104)	(0.150)	(0.105)	(0.150)
Post 1990	-0.539**	-0.117	0.086	-0.182	0.043
	(0.254)	(0.135)	(0.132)	(0.130)	(0.127)
Maturation index		1.000***	0.856***		
		(0.233)	(0.310)		
Not in education				-0.300***	-0.031
				(0.089)	(0.132)
Married/cohabiting				0.164*	0.065
				(0.090)	(0.101)
Children				-0.046	-0.002
				(0.071)	(0.087)
Home ownership				0.558***	0.383***
				(0.093)	(0.111)
Residential stability				0.033	0.116
				(0.160)	(0.228)
Works				0.109*	0.076
				(0.061)	(0.095)
Gender			-0.244***		-0.249***
			(0.074)		(0.080)
Educational level			0.397**		0.314*
			(0.173)		(0.175)
Church attendance			0.498***		0.481***
			(0.108)		(0.108)
Union membership			0.176**		0.182**
			(0.086)		(0.088)
Household income			0.156		0.104
			(0.142)		(0.145)
Middle class			-0.067		-0.105
			(0.071)		(0.076)
Interest			1.339***		1.285***
			(0.163)		(0.168)
Strength party id			1.312***		1.332***
			(0.120)		(0.113)
Perceived party difference			-0.425***		-0.404***
			(0.143)		(0.137)
Voted (t-1)			0.945***		0.947***
			(0.113)		(0.114)
Average turnout ≤35		7.781***	5.892***	8.212***	6.216***
		(1.397)	(1.514)	(1.420)	(1.473)
Constant	0.276***	-6.372***	-6.479***	-6.366***	-6.480***
	(0.069)	(1.180)	(1.185)	(1.194)	(1.179)
Log-likelihood	-6362.74	-6229.97	-5409.12	-6170.66	-5399.44
Pseudo R^2	0.021	0.042	0.169	0.050	0.171
N	9762	9762	9762	9762	9762

note: b coefficients from logit analyses with robust s.e.'s clustered by election in parentheses;
* $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table 5.10: Turnout by later maturation versus alternatives for young voters aged 35 years or less - mean turnout older votes included, BES 1964-2005

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5.6   Conclusion and discussion

Just as the previous one this chapter centred around the idea that delays in experiencing certain life-cycle events that are considered to be important for political participation may partly explain turnout decline among young voters. Whereas the previous chapter concentrated on providing the best possible test of the later maturation hypothesis, the aim of this chapter was to assess its robustness and validity under more demanding circumstances. In addition, the chapter was aimed at identifying other indicators of youth voter turnout – specifically those variables that could explain part of the turnout difference before and after 1990 that was not yet explained away in the previous chapter.

Starting with the first question, the later maturation hypothesis has passed the test. Delays experiencing life-cycle events cannot fully explain the pre/post 1990 turnout difference among young British voters. Nonetheless, we can conclude that later maturation indeed plays a role in the turnout decline among young voters in Britain in recent decades. Maturation is among the most important indicators of youth voter turnout. It is positively related to turnout. Since we established in the previous chapter that a smaller proportion of young people nowadays matures by the age of 35, later maturation can thus be concluded to have a negative effect on youth voter turnout. The impact of maturation on turnout among young voters is robust under various circumstances. In the most fully specified model possible based on the British Election Studies from 1964 to 2005, later maturation explains 7.5% of turnout decline among young British voters after 1990.

From all life-cycle indicators modelled, home ownership proves to be the most important indicator. This result is somewhat surprising as the literature hardly

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pays attention to the impact of owning a home on (youth) turnout. Nonetheless, the result is robust over all models estimated in this chapter.

As far as alternative indicators are concerned, attendance of religious services and strength of party identification were found to be among the strongest predictors of youth voter turnout. Next in line are maturation, perceived differences between the parties and political interest. Turnout at previous elections also plays a role in turnout decline. Modelling a combination of maturation, resource, mobilization, and campaign-related factors explains the steep decline in turnout among young British voters before and after 1990. Nonetheless, the most important indicator of youth turnout is the average turnout among older voters. This indicates that youth turnout patterns largely mirror trends that are going on in the electorate at large.

Chapter 6

Shifting perspectives: the age gap at the aggregate level

In the previous two chapters the age gap in voter turnout has been approached from an individual level perspective. While voting and abstention are indeed individual acts, the phenomena are also frequently researched at the aggregate level. In this chapter the focus shifts from the individual to the aggregate level. In doing so it aims to assess explanations for the age gap in voter turnout not only in a longitudinal but also in a country-comparative way. Using time-series cross-sectional analysis, the impact of both characteristics of voters and characteristics of elections on the age gap are assessed. As throughout earlier chapters of this thesis, the later maturation hypothesis will once again take a central position. By changing the level of analysis, the robustness of the hypothesis can be examined.

This chapter starts with a summary of trends in the age gap. Subsequently, the literature will be reviewed to see what aggregate level indicators can possibly explain over time trends in the turnout difference between younger and older voters. After describing the data and discussing methodological issues, hypotheses will be assessed using time-series cross-section analyses. Based on data for 106

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elections in 10 countries, the analyses in this chapter show that both characteristics of voters and characteristics of elections play a role in trends in the age gap in voter turnout.

6.1 A summary of trends in the age gap

This thesis departed from the observation that in Canada and Great Britain turnout levels among young adults are declining much more rapidly than the turnout levels of older age groups. Consequentially, the age gap in voter turnout in these countries is widening. In chapter three it was established that the trend towards a widening generational divide is not generic. Figure 6.1 summarizes trends in the age gap voter turnout in two graphs: one for countries with an ever bigger growing gap and one for countries in which the age gap is relatively stable or shows no observable trend. The age gap is defined as the difference between the average turnout level of younger (aged $\leq$35 years) and older voters (aged >35 years). Notice, however, that throughout this chapter - as opposed to chapter three - the more positive the score, the larger the turnout difference, and the higher the age gap.

From the ten advanced industrial democracies for which continuous election studies are available, there are five countries that have experienced a widening of the age gap throughout the years: Canada, Denmark, Great Britain, Norway, and the United States. The pattern of over-time trends was, however, not identical in all five countries. In both Norway and Great Britain the age gap was relatively stable until the 1990s, whereas after this year the turnout differences between younger and older voters started to increase. In Canada, the widening trend set in about a decade earlier than in Norway and Great Britain. In Denmark, the

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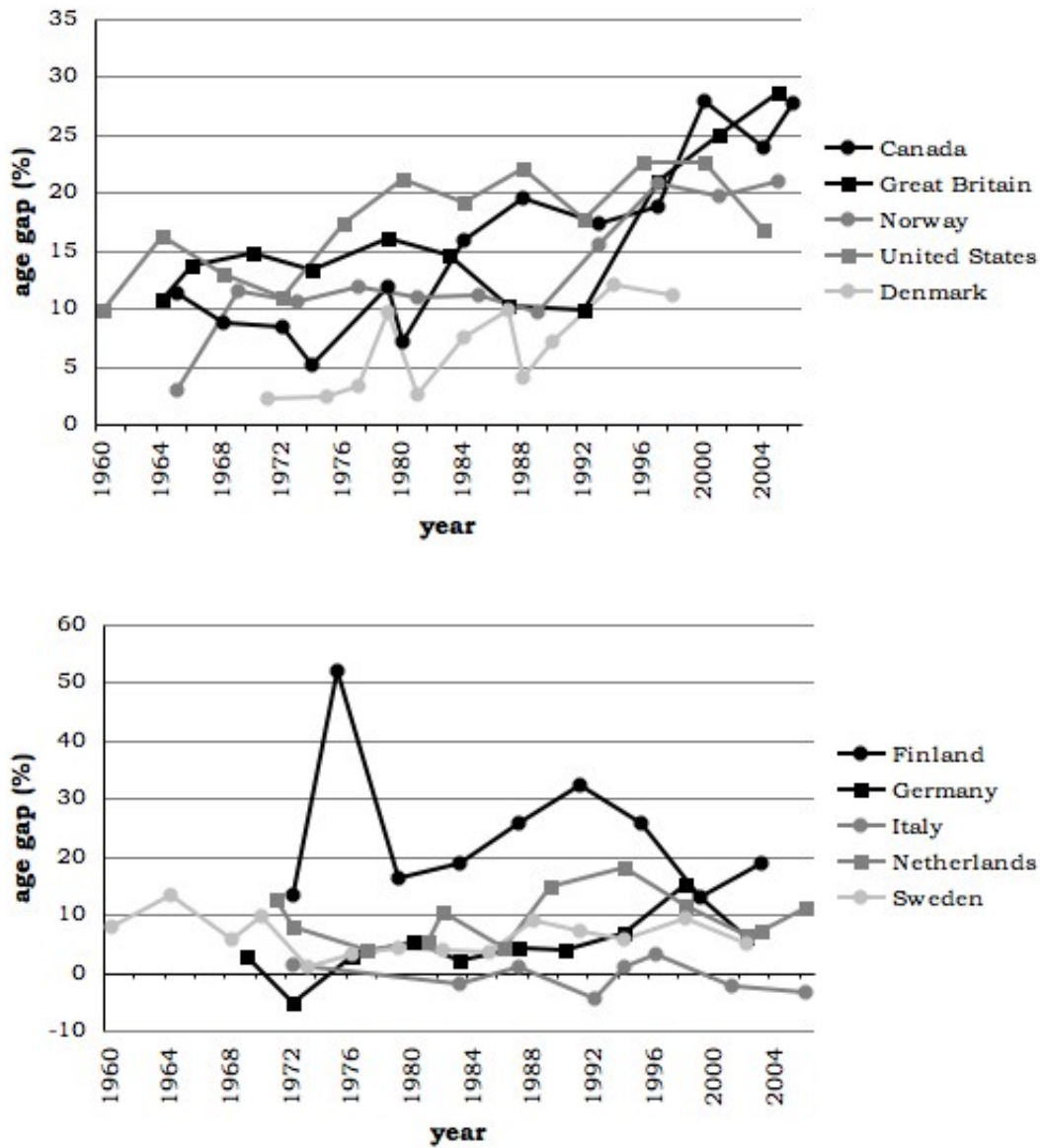
Figure 6.1: The age gap in turnout for ten Western democracies, 1960s-2000s

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difference in turnout between younger and older voters has also widened over time. The gap is, however, smaller than in the other four countries. In the United States, lastly, the widening of the age gap was more gradual and the trend line therefore shows a relatively linear pattern.

Finland is an outlier in the set of countries under research here.[29] First of all, turnout differences between younger and older voters reached a peak between the 1970s and 1990, which is earlier than the increase in the age gap in voter turnout found in any of the other countries. Another way in which Finland is an extreme case is in the non-linearity of the over-time trend. The age gap widens from the early 1970s to the early 1990s, but after this we find that turnout levels among younger and older voters move in each other's direction. The difference in turnout among younger and older voters is still a good 20 percentage points though. In the last election recorded, the Finnish age gap seems to widen again.

This leaves us with four countries in which the age gap is (relatively) stable over time: Germany, Italy, the Netherlands and Sweden. In Germany there seems to be a trend towards a widening of the age gap, however, when drawing a line from the first to the last data point we find an almost straight line. Italy reportedly has the smallest age gap of all countries. It repeatedly has years in which the average turnout of young voters is even higher than the average turnout of older voters. Sweden and the Netherlands, respectively, hold a place between the Italian and German extremes.

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[29]The year 1975 is an outlier within an outlier. After weighting for over-reporting in turnout, the average turnout among young voters in this year was over 50 percentage points lower than among older citizens. This difference is an effect of a reported turnout of 100% among older voters. The latter distorts the weighting process and I have, therefore chosen to use the unweighted turnout difference for this election year in the subsequent analyses.

Two questions rise from the findings discussed here: What can explain over-time trends in the age gap and how do we account for the between-country differences? The remainder of this chapter attempts to address these two questions from an aggregate level perspective.

6.2 Trends in the age gap through time and space: a theoretical explanation

Voter turnout can be explained by numerous factors. Roughly speaking, characteristics of individuals, societal characteristics, and characteristics of elections can arguably affect turnout levels (Franklin, 2004; Fieldhouse, Tranmer and Russell, 2007). Aggregate level research of voter turnout usually focuses on societal and electoral characteristics as explanatory factors. When it comes to over-time trends in turnout among young citizens and these young citizens' share in over-time trends in the age gap, the characteristics of voters themselves should however not be over-looked.

6.2.1 Changes in characteristics of voters

In the life-cycle model of political participation it is argued that young adults vote less than older age groups because they are faced with 'start-up' problems: pre-occupations outside the political sphere that lead to low attachment to civic life. In terms of the life-cycle theory, turnout decline among young voters indicates that today's young people face more or extended start-up problems than their parents and grandparents did when they grew up (Kimberlee, 2002, p. 87).

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Throughout this thesis it has been argued that there are reasons to believe that the shape of the political life-cycle as it has so far been perceived may no longer fit with reality. Seemingly facing more and/or extended start-up problems than young people of previous generations, political participation patterns of today's youth can be expected to have been affected.

The later maturation hypothesis explains young people's abstention by arguing that different generations experience certain life-cycle events at a different average age. Because this average age has increased overtime, as people stay in school longer, start their first job later, postpone marriage, put off starting a family, etc., a larger proportion of young citizens can be expected to abstain. More sharply put: if the movement of several characteristics of the political life-cycle to a higher average age does *not* translate into changes in turnout patterns of young people, we would have serious reasons to doubt the over-time validity of the life-cycle model.

As we saw in the previous chapters, at the individual level later maturation indeed explains part of the over-time decline in turnout levels among young adults in Great Britain. The main focus of this chapter is to test validity of the later maturation hypothesis when it is assessed at the aggregate level. In doing so the robustness of the hypothesis can be assessed.

6.2.2   Changes in characteristics of elections

Although one of the central claims of this chapter is that characteristics of voters deserve to be given consideration in aggregate level research on youth voter turnout, other explanatory factors of turnout change among young adults can be

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identified in the literature. Since over-time movements in the age gap are largely accounted for by changes in young voters' turnout levels, these alternative explanations need to be considered as well.

In chapter two of this thesis, the idea of voting as a habit has been addressed. Contrary to the life-cycle mechanism, in which participation is considered to vary over the life span, the habitual voting approach contends that people learn the habit of either voting or non-voting in the early stages of their adult life. Butler and Stokes (1974) found that after 13 years (i.e. three elections) citizen's likelihood to vote for a certain party stabilizes. After this, the chance that someone will vote for a different party decreases significantly. The same cut-off point can be used with reference to political participation. People establish the habit of voting or non-voting within the first three elections they experience, from the fourth election onwards chances decrease that people will deviate from their habit (Franklin, 2004; Franklin, Lyons and Marsh, 2004).

In short, in every election certain short term factors are thought to influence young citizen's turnout levels more than the turnout levels among older voters as the latter group has already established a habit to vote or abstain. These short term factors are related to the features of particular elections. Franklin (2004) and Franklin, Lyons and Marsh (2004) have repeatedly argued for the importance of electoral competition in this respect. High stake elections tend to attract more voters than elections where the outcome already is a foregone conclusion. Measures of electoral competitiveness such as closeness of the race, margin of the victory, and party polarization are considered to especially influence young voters that are not yet set in their political ways (Franklin, 2004, p. 112-114).

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The idea that the decision (not) to participate in politics is a by-product of the political system in which people live, is one that is prevalent in the study of voter turnout. Especially in cross-national research of voting behavior, the political-institutional context has proven a strong indicator of explaining differences in levels of voter turnout (see, for example, Gray and Caul, 2000; Norris, 2002; Franklin, 2004). The battery of political and institutional variables used in turnout research is vast and largely comprises four clusters of variables related to the electoral system, the party system, legal rules and vote facilitating rules (see Blais and Dobrzynska, 1998; Blais, Massicotte and Dobrzynska, 2003; Geys, 2006; Blais, 2007 for useful overviews). To what extent can these political-institutional indicators – apart from the measures of political competitiveness discussed above – be related to the age gap in voter turnout?[30]

By far the most often used institutional variable in comparative research of voter turnout is the electoral system. The idea is that the more proportional electoral systems are, the higher feelings of efficacy and motivation among voters will be (Norris, 2002, p. 64; Gray and Caul, 2000, p. 1096). In proportional systems, as the term suggests, the distribution between the number of votes a party receives and the allocated number of seats in parliament is much more proportional than in majoritarian or plurality systems (Geys, 2006, p. 650-651). Since the translation of votes into seats is so much less precise in these latter two electoral systems, the number of wasted votes is higher (Evans, 2004, p. 157; Franklin, 2004, p. 15). This, in its turn, decreases the probability of a voter influencing the outcome of elections.

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[30]Legal rules that determine who can vote or who has to vote (as under compulsory voting) will not be considered here due to a lack of variation in the sample under research.

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However, there is also a mobilisation component to the influence of the electoral system on voter turnout. Under PR systems districts are much more likely to be competitive, with multiple members running for office. This leads parties to have a higher incentive to campaign and mobilize people in all districts. In plurality and majoritarian systems, with their much more common single-member districts, parties might more easily give up on trying to do so (Blais, 2006, p. 113; Geys, 2006, p. 651; Evans, 2004, p. 157). Counterarguments are that majoritarian electoral systems are easier to understand for voters. Also, PR systems often lead to coalition governments, which decreases the probability that a voter's policy preferences will be implemented. Nonetheless, numerous studies have confirmed that voter turnout is indeed higher in more proportional systems (Blais and Carty, 1990, p. 179; Geys, 2006, p. 651).

Many other electoral system or party system indicators used in comparative research on voter turnout can be directly linked to the above discussion. (Dis)proportionality, district magnitude, district size, and district competitiveness were already touched upon. The number of parties or candidates was also brought up. The more parties there are, the higher the number of options a voter will have, the more likely it is that a voter will find a party he or she can identify with, and the more parties will mobilise people to turn out and vote. On the other hand, fractionalisation leads to complexity and increased information costs. Also, chances of the formation of coalition governments is higher, which in its turn decreases the chances that the party of one's choice will be in government or will be able to implement its policies (Blais, 2006, p. 118; Geys, 2006, p. 649-650; Evans, 2004, p. 158-159). As can be seen, these are familiar arguments. It is, therefore, not clear whether it is the electoral system or the party system that plays a role

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here, since it is widely known that PR systems produce more parties than majoritarian or plurality systems (Norris, 2002, p. 69; Blais, 2006, p. 118). Party system features, such as, the size of the largest party (i.e. its majority status), the saliency of elections, polarisation, and whether coalitions are formed, on the same token have a direct link with the electoral system.

Another group of political institutional variables focuses on the responsiveness of the political system. Whether the legislature can dismiss the executive (dubbed executive responsiveness) differs between political systems. In parliamentary systems the head of government (the prime minister, premier, or chancellor) is selected and can be dismissed by the legislature. In presidential systems, on the other hand, the head of government is chosen by the people and cannot be sent home by the representative legislature (Franklin, 2004, p. 232; Norris, 2002, p. 72). Another way to assess the responsiveness of a system is by looking at the number of legislative chambers a political system has. Where power is shared between two chambers, the lower house will have a less decisive role because it does not take decisions single-handedly (Gray and Caul, 2000, p. 1097; Blais, 2000, p. 114). Also, the greater the party discipline, the higher the transparency for the voter and the more likely he or she is to turn out to vote.

Vote facilitating rules, lastly, can also be seen as institutional measures to motivate and mobilise people. Examples are holiday or weekend voting; postal, proxy, advance, or e-voting; the placement of special polling booths (for example in/around shopping centres); and spreading elections over a couple of days. All these provisions are aimed at lowering the costs of voting.

Since political institutional features – other than short term factors related to electoral competitiveness – are known to be particularly stable over time, it is

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difficult to relate them to over-time trends in the age gap. Also, both younger and older voters need to deal with the same provisions. Nonetheless, electoral system features, party system features, and vote facilitating rules may account for some of the between-country differences and will therefore be included as control variables.

Although short term characteristics of elections can be argued to influence the age gap in voter turnout, most other political institutional variables are not expected to do so. Systemic features such as proportionality and responsiveness of the electoral system, as well as vote facilitating rules are exceptionally stable over time. Hence, it is difficult to see how these factors should influence the turnout changes among young voters that cause movements of the age gap.

6.2.3 Hypotheses

Summarizing, two core hypotheses can be identified to explain over-time differences in the age gap. The first focuses on differences in the timing at which different generations face life-cycle events that are considered to boost political participation. The second hypothesis explains the turnout difference between younger and older voters by focusing on short term characteristics of elections. These short term influences – mainly measures of electoral competitiveness – are thought to particularly influence the turnout patterns of young adults as they are not yet set in their political ways. The following hypotheses will be assessed:

- *Hypothesis 1: The later young adults mature, the wider the age gap.*

- *Hypothesis 2: The more competitive elections are, the smaller the age gap.*

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Because political institutional indicators play such a vital role in explaining between-country differences in voter turnout, electoral system features, party system features, and vote facilitating rules will be modelled in the analyses presented below. The following hypotheses are assessed regarding the relationship of these factors with the age gap in voter turnout:

- *Hypothesis 3: The more proportional an electoral system is, the smaller the age gap.*

- *Hypothesis 4: The more responsive a political system is, the smaller the age gap.*

- *Hypothesis 5: The more vote facilitating rules, the smaller the age gap.*

Since the main interest of this thesis is in assessing the validity of the later maturation hypothesis, characteristics of elections will mostly be treated as control factors. Especially long term characteristics are expected to explain between-country differences rather than the age gap.

6.3 Data and methods

6.3.1 Data

The analyses in this chapter are based on an aggregate level data including information on 112 elections held in ten countries between 1960 and 2006: Canada, Denmark, Finland, Germany, Great Britain, Italy, the Netherlands, Norway, Sweden and the United States. These are the ten Western democracies for which election studies have more or less continuously been conducted since the 1960s and 1970s onwards. Election studies were necessary to be able to calculate the

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dependent variable in all analyses: the age gap in voter turnout. This age gap is calculated by subtracting the average turnout of young voters (aged $\leq$35 years) from the average turnout of older voters (aged >35 years) in each election year.

The independent variables used in the analyses presented below come from different sources. Measures from Franklin (2004) - who kindly made his data set available - were taken as a point of departure. Maturation is measured through average years of schooling in the population aged 15 years or over, mean age of women at first childbirth, and mean age of women (below the age of 50) at first marriage.

Electoral competition is measured through a number of indicators. Majority status refers to the difference between the vote share of the largest party and 50 percent. Margin of the victory is measured as the simple difference between the vote share of the first and the second party. Both measures come from Franklin (2004) and were supplemented by the record of recent elections published on a yearly basis in the European Journal of Political Research. Polarization was calculated as the distance between the most left and the most right party position at the time of the election (see Crepaz, 1990; Franklin, 2004). Party positions were taken from the Comparative Manifesto's Project (Budge et al., 2001; Klingemann et al., 2006).[31]

A number of indicators take account of electoral system and party system features. Electoral systems were classified into proportional or majoritarian/plural/ mixed using the Franklin (2004) data, and where necessary supplemented by data from the Institute for Democracy and Electoral Assistance (IDEA). Data

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[31]For a discussion of the pro's and con's of using the Comparative Manifesto Data to refer to party positions, I refer to Benoit, Laver and Mikhaylov (2009).

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on (dis)proportionality was taken from Gallagher and Mitchell (2008) who use the least suares measure of disproportionality between votes and seats as defined by Laakso and Taagepera (1979). The same source was consulted for the measure of effective number of parties (ENEP).

Responsiveness of the electoral system is measured through bicameralism and party discipline. Both are dichotomous variables: one identifies countries where power is shared between two houses; the other identifies countries with a strong party discipline.

The ease of voting through vote facilitating rules, lastly, is measured through the presence or absence of mail, advance and proxy voting. The variable assumes the value 0 when none of the options is available, 0.33 when one option is available, 0.66 when two options are available and 1 when all three are available (see Blais, Massicotte and Dobrzynska, 2003). Appendix D contains a description of the variables used for the analyses in this chapter as well as refers to their origin.

6.3.2   Methodological issues

The nature and complexity of the data used in this chapter supposes several problematic features. Time-series cross-sectional (TSCS) data is characterized by repeated observations in fixed units. For the data used here, the countries are the units and the elections that take place within those countries are the repeated observations. The spatial and temporal properties of the data make that we should be careful to use techniques such as ordinary least squares (OLS) regression analysis, because assumptions regarding the independence and distribution of errors for this method are likely to be violated. Violation of assumptions makes OLS

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inefficient, but more importantly, it increases the risk of incorrect standard errors being reported (Baum, 2006; McDaniel, 2007).

Three types of errors may occur (for a discussion see Stimson, 1985; Beck and Katz, 1995; Beck, 2001; Baum, 2006). The first is panel heteroskedasticity, meaning that the variance of the errors may differ from country to country. Secondly, we run the risk of temporal correlation. The width of the age gap usually does not differ too much from year to year within a country. In accordance with the idea that past behavior predicts present behavior, much of the age gap at a given election can therefore be predicted from magnitude of the age gap at previous at the previous election (Franklin, 2004, p. 126). Lastly, spatial correlation can cause problems. This occurs when errors for one country are correlated with the errors for other countries.

Over the past decades, several methods have been developed to deal with time-series cross-sectional data. The problem of panel heteroskedasticity will be dealt with by calculating panel corrected standard error's. This is done based on the assumption that the disturbances are by default heteroskedastic and contemporaneously correlated across panels. Temporal and spatial correlation, moreover, can be modelled by including dichotomous variables tracking the different periods and countries (Beck, 2001, p. 1261). This least squares dummy variable estimation, also known as fixed effects, allows for unit heterogeneity in the intercepts, while 'fixing' country differences in the estimation of the parameters of the independent variables. Fixed effects models thus assume that slope coefficients are constant over both units and time (Baum, 2006, p. 220). Because tests for first order serial correlation (Wooldridge, 2002, p. 282-283; Drukker, 2003) indicate that such temporal correlation is indeed a problem in the data, Prais-Winsten models are

estimated. This transformation allows the estimation of time-series regressions in the presence of auto-correlated errors (Stata Corporation, 2007*a*, p. 337-338).

Post-estimation tests for autocorrelation and panel heteroskedasticity will be used to compare the behaviour of the different models estimated in this chapter.

6.4 Results

The analyses in this section serve two aims. After summarizing trends in the age gap through time and space in the beginning of this chapter, two research questions were identified: What can explain over-time trends in the age gap and how do we account for the between-country differences? Two potential explanations for over-time movements of the age gap were discerned from the literature. The first focusses on differences in life-cycle patterns between generations, the second on the competitiveness of elections. To single out between-country differences, electoral system features, party system features, and vote facilitating rules are modelled as well.

In order to track over-time changes in the age gap, a time trend variable was created. This trend variable ranges from 0 for the first available election in a country to 1 for the last available election in a country. For example, if there are 11 election years in a country, the first year is coded as 0, the next year as .1, the tenth year as .9 and the last year as 1, etc. If independent variables in the regression model explain over-time trends perfectly, this trend variable should be explained away.

Since the Comparative Manifesto Data set used to calculate the polarization of the party system – with the exception of the UK – runs to 2003, the analyses

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in this section comprise elections up until this election year only. This means the base sample size is reduced from 112 to 106 elections.

Two models are presented in this this section. Table 6.1 gives the results of GLS regression models with panel corrected standard errors that are further corrected for time-serial dependencies. The models also include country dummies as excluding these leads to models that are heteroskedastic (analyses not shown here). Table 6.2 shows models estimated in a similar fashion to those in table 6.1 this time including a lagged dependent variable. In both cases, the Netherlands is chosen as the reference category with regard to the country dummies because it holds a median position with reference to trends in the age gap. If independent variables in the model explain between-country differences in trends in the age gap, the country dummies should become statistically insignificant.

Although estimated with slightly different techniques both tables include the same models. Model 1 only includes the time trend variable and country dummies. It is the base model against which all later models can be compared. In a second step, maturation variables are added to the model. The next model, model 3, includes measures of political competitiveness. In the last model (model 4) electoral system features, party system features, and vote facilitating rules are added. This latter group of variables mostly serves as control and is expected to explain between-country differences rather than the age gap.

Model one in table 6.1 shows the time trend variable to be positive and significant. This is as expected. Although not all countries evidenced the exact same trend, overall, the age gap in turnout has widened. Adding maturation indicators in model two results in two positive and significant variables. Both average years of schooling and average age at first childbirth have the expected effect on the age

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	model 1	model 2	model 3	model 4
	b/(se)	b/(se)	b/(se)	b/(se)
Time trend	8.212***	-1.653	-1.298	-1.332
	(0.953)	(2.849)	(2.840)	(2.808)
Average years of schooling		1.624***	1.689***	1.694***
		(0.516)	(0.515)	(0.560)
Average age at 1st child		1.241*	1.106*	1.118*
		(0.654)	(0.661)	(0.639)
Majority status			0.039	0.074
			(0.122)	(0.168)
Margin of the victory			0.064	0.069
			(0.078)	(0.078)
Polarisation			0.016	0.012
			(0.051)	(0.053)
PR-system				0.000
				(0.000)
Disproportionality				0.028
				(0.069)
Eff. number of parties				-0.255
				(1.047)
Bicameralism				-41.276**
				(16.185)
Party discipline				6.644
				(4.955)
Ease of voting				-0.764
				(19.452)
Canada	5.167**	4.173*	3.677	3.304
	(2.212)	(2.269)	(2.519)	(2.664)
Denmark	-3.198	-1.857	-2.945	-44.233***
	(2.442)	(2.832)	(2.970)	(15.321)
Finland	9.377***	11.312***	10.838***	-30.498*
	(3.604)	(3.498)	(3.420)	(15.770)
Germany	-5.281**	-5.184**	-5.050**	-5.146**
	(2.347)	(2.392)	(2.494)	(2.577)
Italy	-9.519***	-6.303**	-6.548**	0.000
	(2.519)	(2.660)	(2.617)	(0.000)
Norway	3.118	5.291*	4.332	4.351
	(2.598)	(2.837)	(2.965)	(2.937)
Sweden	-3.331	-3.108	-4.237	-4.141
	(2.264)	(2.397)	(3.021)	(3.018)
United Kingdom	6.463**	9.677***	9.655***	9.220***
	(2.800)	(3.091)	(3.184)	(3.314)
United States	8.128***	8.330***	8.417**	14.367***
	(2.236)	(3.133)	(3.399)	(5.370)
Constant	5.573***	-36.798**	-35.267**	0.000
	(1.817)	(16.224)	(15.957)	(0.000)
R^2	0.580	0.620	0.641	0.644
χ^2	405.9	419.1	485.0	531.7
p	0.000	0.000	0.000	0.000
ρ	.257	.239	.206	.199
Breusch-Godfrey test (3 df)	9.20**	9.58**	9.42**	9.2**
ARCH test (3 df)	4.03	5.17	5.32	4.94
N	106	106	106	106

note: *b* coefficients from Prais-Winsten analysis with pcse in parentheses;
reference category: the Netherlands; * $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table 6.1: Modelling the age gap in voter turnout (without lagged dependent variable), 1960s-2000s

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gap. The higher the number of years citizens spends in school, the wider the age gap. On the same token, the higher the average age at first childbirth, the wider the age gap. Because mean age of marriage and mean age at childbirth are highly correlated (r=.83) they were not modelled simultaneously.[32]

In model three, indicators of electoral competitiveness are added. None of the measures modelled reaches statistical significance. Although majority status, margin of the victory and polarization have been shown to be related to turnout in general, the model presented here provides no evidence that these variables are related to the turnout differences between younger and older voters as well. Hypothesis two, therefore, needs to be rejected. Analyses not presented here show that modelling competitiveness measures alone (i.e. without indicators of maturation) does not change much, although the majority status variable does reach statistical significance. Analyses in appendix D show that majority status does have an impact on levels of turnout among older voters (see model 3 in table D.3).

Including electoral system features, party system features, and vote facilitating rules in model four, does not change anything about the findings in the previous models. The maturation indicators are still statistically significant, unlike the measures of electoral competitiveness. Interestingly enough, the dichotomous variable identifying countries with a proportional electoral system, is dropped from the model due to collinearity. Most likely the lack of variance between the country dummies and the electoral system variable plays a role here.

The only additional variable turning up statistically significant in model 4 is bicameralism. The variable has an unexpected direction, however. Where power is

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[32]Analyses not presented here (see table D.1 in appendix D) show that mean the mean age at the first marriage does not reach statistical significance if it is modelled instead of the mean age at first childbirth. The electoral system – instead – does reach statistical significance.

shared between two legislative chambers, turnout is expected to be lower, since the lower house is assumed to play a less decisive role in decision-making. Although this goes for both younger and older voters, low turnout among young voters results in a wider age gap. According to model four, however, the presence of a bicameral system leads to a smaller age gap. Perhaps not too much should be made of these results as the variable can also be seen as a dummy variable singling out Denmark and Finlandsince these are the only two countries with a unicameral system.

The measure comprising vote facilitating rules shows to be negatively related to the age gap. The more voting is facilitated, the smaller the age gap. This is following our expectations: however, the variable does not manage to reach statistical significance here.

As far as the between-country differences are concerned, each subsequent model seems to do a better job at explaining these. The last model including electoral system features, party system features, and vote facilitating rules does the best job as this model shows the largest amount of non-significant country dummies of all the models presented in table 6.1.

Focussing on model fit and post-estimation test, we see that the explained variance between the four different models does not differ greatly. The R^2 goes up from .58 to .64 from model one to model four. Panel corrected standard errors and country-dummies take care of the heteroskedastic nature of the data as is indicated by the ARCH tests that show none of the models has significant problems of this kind (Kennedy, 2003, p. 147). The Durbin-Watson test for first-order autocorrelation (as indicated by ρ) indicates the absence of such a problem (see Baum, 2006, p. 156-157). The Breusch-Godfrey test, on the other hand, does

indicate problems with higher order autocorrelation (Kennedy, 2003, p. 149; Baum, 2006, p. 156).

Although coefficients remain unbiased in the presence of autocorrelation, this violation of assumptions does render the estimated standard errors to be biased. This leads to an increased chance of rejecting the null hypothesis even if it is in fact true (type I error). In order to try to get a grip on this problems, the models in table 6.1 are estimated again this time adding a lagged dependent variable to the right hand side of the regression equation. This models are shown in table 6.2.

Starting with the post-estimation statistics, we see that including a lagged dependent variable solves the problem of higher order autocorrelation. The Breusch-Godfrey test statistics indicate that the margin of error is 5%, which is reasonable given the sample size.

Comparing coefficients between the models in table 6.1 and table 6.2, we see that the variable measuring the average age of women at the birth of their first child looses significance after the inclusion on measures of electoral competitiveness in model 2. Bicameralism no longer reaches statistical significance when modelled alongside a lagged dependent variable (model 4). Apart from these two exceptions, none of the other variables included in the models of table 6.1 changes statistical significance with the inclusion of a lagged dependent variable on the right hand side.

Somewhat surprising perhaps, the lagged dependent variable does not turn up statistically significant. This is most likely due to the fact that the time trend variable and the previous age gap variable overlap.

Just as in table 6.1 the time trend variable looses statistical significance after the inclusion of the later maturation variables. Moreover, between-country differ-

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	model 1 b/(se)	model 2 b/(se)	model 3 b/(se)	model 4 b/(se)
Time trend	7.079***	-1.016	-0.395	-0.332
	(1.511)	(3.570)	(3.595)	(3.584)
Average years of schooling		1.070**	1.117**	1.299**
		(0.536)	(0.534)	(0.563)
Average age at 1st child		1.296*	1.131	1.039
		(0.706)	(0.762)	(0.745)
Majority status			0.010	0.186
			(0.128)	(0.172)
Margin of the victory			0.068	0.117
			(0.079)	(0.079)
Polarisation			0.018	0.008
			(0.054)	(0.056)
PR-system				0.000
				(0.000)
Disproportionality				0.005
				(0.064)
Eff. number of parties				-1.320
				(1.083)
Bicameralism				2.500
				(5.427)
Party discipline				6.238
				(4.877)
Ease of voting				-7.120
				(20.396)
Previous age gap	0.230	0.136	0.145	0.192
	(0.150)	(0.154)	(0.154)	(0.159)
Canada	4.834**	5.004**	4.085*	2.976
	(1.926)	(2.075)	(2.440)	(2.602)
Denmark	-1.575	-0.084	-1.366	0.000
	(2.168)	(2.596)	(2.806)	(0.000)
Finland	8.323**	10.753***	10.285***	11.880***
	(3.498)	(3.786)	(3.812)	(4.087)
Germany	-3.638	-3.691	-3.874	-4.112
	(2.297)	(2.444)	(2.652)	(2.721)
Italy	-7.456***	-6.261**	-6.477**	0.000
	(2.788)	(2.711)	(2.770)	(0.000)
Norway	4.137**	6.514**	5.178*	4.937*
	(1.871)	(2.538)	(2.829)	(2.732)
Sweden	-2.228	-1.772	-3.418	-3.465
	(2.054)	(2.244)	(2.917)	(2.804)
United Kingdom	6.028**	9.790***	9.224***	8.214**
	(2.457)	(3.116)	(3.276)	(3.449)
United States	7.644***	9.934***	9.367***	13.655**
	(2.004)	(3.022)	(3.398)	(5.652)
Constant	3.196*	-35.782*	-33.002*	-34.729*
	(1.677)	(18.466)	(19.217)	(19.022)
R^2	0.695	0.696	0.707	0.715
χ^2	1853.2	51.1	1787.1	67.7
p	0.000	0.000	0.000	0.000
Breusch-Godfrey test (3 df)	4.49	6,86*	7,00*	7,46*
ARCH test (3 df)	5.35	4,49	4,75	4,48
N	96	96	96	96

note: b coefficients from Prais-Winsten analysis with pcse in parentheses;
reference category: the Netherlands; * $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table 6.2: Modelling the age gap in voter turnout (with lagged dependent variable), 1960s-2000s

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ences seem to be affected mostly by systemic variables as is indicated by some of the country dummies loosing statistical significance in model 4.

The results in this chapter provide support for the later maturation hypothesis also when it is assessed at the aggregate level. Nonetheless, there are several reasons why we should be careful not to exaggerate in the interpretation of the findings from this chapter. First, the later maturation hypothesis is assessed through solely two indicators. In an ideal situation indicators of average age at first home ownership, average age when leaving the parental home, average age at first full time job, etc. should also be included in the analyses. Future research could focus on attempting to gather such information in a cross-country and cross-time fashion.

A second word of caution is related to the relatively low n of this study. Even though all information on the age gap that seems to be available at this point in time is included in this chapter, increasing the sample size would boost confidence in the results.

6.5 Conclusion and discussion

Recent research suggests that in some countries, such as Canada and Great Britain, turnout among young adults is declining rapidly. It does so at a much faster pace than the turnout decline among older voters. As a result, the age gap in voter turnout becomes wider. Chapter three of this thesis already showed that the trend towards a widening generational divide is not generic. Using national elections studies conducted between the 1960s-1970s and 2006, this earlier chapter showed that five out of ten countries under research evidence a widening of the age gap: Canada, Denmark, Great Britain, Norway, and the United States. The pattern

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of over-time trends was, however, not exactly identical in all five countries, and differed both in magnitude and with regard to the time point in which the age gap began to widen. From the remaining five countries, four – Germany, Italy, the Netherlands and Sweden – showed a (relatively) stable difference in turnout levels among younger and older voters. Finland, lastly, showed a pattern of its own with an age gap that is both high in magnitude and goes both up and down over time.

These descriptive findings prompt two questions: What can explain over-time trends in the age gap and how do we account for the between-country differences? Taking the literature on age differences in political participation as a point of departure, two core hypotheses were identified. The first focused on characteristics of voters, by arguing that the political life-course differs between generations. Due to higher educational levels, young people nowadays spend more time in school, have extended co-habitation with – as well as longer financial dependence on – their parents, and consequently face postponed full entry into the labour market. This trend towards later maturation – in terms of the life-cycle model – should result in lower turnout among young voters and can therefore be argued to explain the widening of the age gap.

The second hypothesis focused on characteristics of elections. Rooted in the idea that voting is a habit acquired in early adulthood, short term factors such as electoral competitiveness arguably have an impact on turnout levels of young citizens. The higher the stake in the elections, the more likely it is that young adults will be prompted to turn out to vote. Older voters, however, are considered more immune to such factors as they have already established the habit to vote or abstain. Since movements of the age gap are largely accounted for by changes

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in young voter's turnout levels, characteristics of elections could explain trends in the age gap.

Based on data on 106 elections held in Western democracies between the 1960s-1970s and 2003, this chapter shows that later maturation indeed has a positive effect on the age gap. The later young people mature, the larger the turnout difference between younger and older voters. Measures of electoral competitiveness were, however, not found to have a significant effect on the age gap. The political-institutional context, lastly, was found to reduce between-country differences.

This chapter, thus, provides support for a novel hypothesis explaining turnout decline among young voters and turnout differences between young adults and older voters. Fully rooted in the life-cycle and cohort/generation models of political participation, the later maturation hypothesis makes a case for linking the effects of a postponement in the time at which life-cycle events are experienced to a decline in political participation among young voters. Individual level findings can now be strengthened with results from aggregate level analyses. What weight should exactly be given to the results from the individual level and the aggregate level analyses is something that will be touched upon in the concluding chapter.

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Chapter 7

Conclusion and discussion

That young people turn out at lower levels than older voters is a well-established fact. Literature from the first half of this decade suggests, however, that in some countries the turnout difference between younger and older voters has increased. This widening of the age gap is caused by rapidly declining turnout levels among young voters. Although turnout decreases among older voters as well, the pace with which the younger half of the electorate abstains is much higher.

The trends described are well-documented for Canada and the literature suggests that similar patterns in age differences in voter turnout are apparent in Great Britain. Whether other advanced industrial democracies have experienced similar changes in the turnout difference between younger and older voters – up until now – was not clear however. Moreover, systematic research on what factors can account for these over-time differences in the age gap was lacking. Starting from these observations this thesis has aimed to answer the following central research question: What are the trends in the age gap in voter turnout between younger and older citizens, and how can these trends be explained?

Using the above-mentioned Canadian research as a point of departure, several sub-questions were identified. The first interest of this thesis was to see whether

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we could find evidence of a widening generational divide in other advanced industrial democracies besides Canada. If so, was this pattern also caused by rapidly declining turnout levels among young people? Moreover, what could explain that contemporary youth turns out at much lower levels than their parents and grandparents did when they were young? Possible between-country differences in the gap were considered as well.

In order to assess trends in the age gap in voter turnout, this thesis has sought explanation in both characteristics of voters and characteristics of elections. Particular attention was paid to a novel explanation to youth turnout decline: the later maturation hypothesis. Young people's abstention from politics is often explained by the fact that in early life people face obstacles that prevent them from becoming integrated in society, getting involved in socio-political affairs, and – as a result –participating in politics. As people leave education, leave the parental home, start their first jobs, get married, have children, and settle down, citizens are almost naturally expected to make it to the polling booth.

Over the years, all life-cycle events mentioned are, however, known to have moved to a higher average age. This delay in experiencing certain life-cycle events should have consequences for youth voter turnout. Although fully rooted in widely used theories to explain age differences in voter turnout, the idea that the way in which people age or mature has changed through time has – to my knowledge – never been linked to youth turnout decline before. In this thesis the later maturation hypothesis has been put to the test, contrasted with other explanations of youth turnout decline, and has been assessed at different levels of analysis.

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7.1 Findings

Starting with the first part of the central research question of this thesis, chapter three focused on describing trends in the age gap in voter turnout. Using election studies data from ten Western democracies, the most notable finding was the variety in trends in the age gap between countries. Half of the countries shows signs of an over-time widening of the turnout gap between younger and older voters. Four countries, on the other hand, show to have a fairly stable or even a remarkably stable age gap. Overtime trends in one country – Finland – do not fit any of the above descriptions. Here the age gap is found to be both highly volatile through time and large in magnitude. The fact that the age gap is stable in some countries does not necessarily suggest that overall turnout levels do not go down in these countries. It simply means that the turnout levels of younger and older voters move in the same direction and at the same rate. Nonetheless, the age gap is usually larger in countries that have lower general turnout levels.

Turnout patterns of younger and older voters were largely found to move into the same direction. Young people's turnout levels, however, usually represent a magnified picture of turnout trends in the electorate at large. It are these magnified turnout patterns that cause the age gap to widen or to narrow. Although starting levels of turnout were not found to drop with every new incoming cohort, there indeed seems to be a trend towards a decline in entry turnout levels of cohorts. Overall, the findings from the third chapter prompt three questions: What causes the age gap to widen? Why do incoming cohorts turn out at ever lower levels? What can explain why we observe differences in trends in the age gap from one country to the other?

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Focusing on the first two questions, chapter four of this thesis attempted to provide the best possible test of the later maturation hypothesis. Based on data from the British Elections Studies from 1964 to 2005, it was first established that a larger proportion of young people nowadays indeed has not experienced all life-cycle events that are characteristic for making the transition from the first to the second stage of the political life-cycle. Although the impact of later maturation on youth turnout decline should not be blown out of proportion, maturation was consistently found to be a strong predictor of turnout among young adults. Maturation has a positive effect on turnout of young voters. A smaller proportion of 'mature' young adults, thus, leads to lower turnout levels among this age group. In other words, maturation has always played a role in youth voter turnout. The impact of maturation on youth turnout has not changed through time. What has changed are the levels of maturation.

From the different life-cycle events measured there was one that behaved counter-hypothetically. In the literature, being in education is one of the 'start-up' problems frequently mentioned to keep young people away from the polling booth. Leaving education should thus boost turnout levels. Instead, this thesis showed that leaving education is negatively related to turnout. This finding is in line with earlier research that puts the relationship between student status and voting to the test. Home ownership, being married or cohabiting, and having a job were also found to be positively related to youth voter turnout with the first variable playing the largest role from all life-cycle events mentioned. Residential stability and having children were not found to be significantly related to youth voter turnout. Residential stability, however, mostly plays a role in countries where voter registration is in the hands of the electorate. This is not the case in Great

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Britain as voter registration is a responsibility of the authorities. The fact that having children was found not to play a role in youth voter turnout can perhaps be explained by a high correlation with being married and cohabiting.

From all indicators, the average turnout of older voters explains the largest part of over-time decline in turnout levels among British young voters. This is not surprising in light of the findings from the descriptive chapter that ups and downs in turnout of younger and older voters often go hand in hand. The higher turnout levels among older voters, the higher turnout among younger voters will be. The lower turnout levels among older voters, the lower turnout among young citizens will be. It is also interesting that a combined index of life-cycle events always outperformed the individual life-cycle indicators. This indicates that it is the interplay between different life-cycle events that is important rather than their individual effect.

The next chapter, number five, served two aims simultaneously. The first was to assess the impact of other explanations than the later maturation hypothesis on youth voter turnout. By modelling these alternatives against maturation, moreover, the validity of the later maturation hypothesis was put to the test. Three groups of variables were taken into account: resource and mobilization variables, campaign-related variables, and competitiveness variables. Variables from most groups were found to explain youth voter turnout. Political interest, strength of party identification, and turnout at the previous elections are especially important in this respect. The turnout decline among young British voters after 1990 was best explained by strength of party identification, attendance of religious services, later maturation, the perceived differences between the parties, and political interest.

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Notwithstanding the impact of other variables on youth voter turnout maturation remained a positive and significant indicator of turnout in all models estimated. In fact, it has consistently been found to be among the most important explanatory factors of turnout and was found to explain over 7% of the turnout decline among young voters in Great Britain after 1990.

In the last chapter of this thesis the focus shifted from the individual to the aggregate level. Because of this, the actual age gap could now be used as a dependent variable. As in the previous chapters, the later maturation hypothesis was assessed and contrasted with other possible explanations of the age gap. The latter were mostly indicators of electoral competitiveness. While the life-cycle event indicators immediately explain away the over-time trends in turnout, electoral competitiveness was found not to influence the turnout difference between younger and older voters. Between-country differences were best explained by the political-institutional context.

Comparing results from the individual and aggregate level chapters, there are several reasons why the findings from the aggregate level chapter should not be exaggerated. First of all, due to lack of data availability the test of the later maturation hypothesis is based on fewer indicators than in the individual level chapter. Ideally other indicators of maturation than average years of schooling and average age of women at the birth of their first child should be included in the analyses. Future research should focus on finding time-series cross-section data on indicators such as average age when leaving the parental home, average age when starting the first full-time job, and average age when buying the first house. Only then the individual level and aggregate level analysis become really comparable.

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Another reason not to stretch the findings from the aggregate level chapter is the fact that is analyses are based on a relatively small sample. Although all countries and years for which data was available are included, there are only 106 election-year combinations to work with at the moment. The individual level studies are – obviously – based on larger sample sizes.

Finally, research outside the framework of this thesis largely confirms the findings in the individual level chapters (see Neundorf, Smets and García Albacete, 2009). Analysing the impact of life-cycle events on the development of political interest with a 23 wave panel study, we find that although maturation matters in general the impact that each event has on the development of political interest is very low. These results overlap with the findings in chapter four and five that the separate life-cycle indicators do a worse job at explaining youth voter turnout than the combination of several life-cycle events.

7.2 Implications

If anything, this thesis once again shows that turnout cannot be predicted by a single (set of) variable(s). Various factors play a role, but none of these is *the* factor explaining why youth voter turnout goes down. Previous studies have failed to take into account over-time changes in some of the most frequently mentioned indicators of turnout among younger voters. Highly intuitive, the later maturation hypothesis, deserved attention and empirical assessment. In this thesis it has been established that the movement of certain life-cycle events to a higher average age has and has had a negative impact on youth voter turnout. Later maturation is however not the only explanatory factor of youth political participation. Political interest, strength of party identification, turnout at previous elections,

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perceived differences between political parties, attendance of religious services, but also turnout levels among older voters are important explanatory factors of turnout (decline) among young adults.

What does this imply for the future? As pointed out in figure 4.1, there are two possible scenarios: either young people will catch up and reach the high turnout levels of the generations before them, or – along the lines of the habitual voting approach – abstention in young life will lead to low(er) levels of participation in later life. The first option is probably a slightly naïve interpretation of the life-cycle model of political participation. The life-cycle theory argues that turnout goes up and down when experiencing certain life-cycle events. The literature does not describe what could or should happen if life-cycle patterns change over-time or what happens if young people's starting levels of turnout drop over-time. It is not difficult to imagine, however, that such trends will have an impact on how the life-cycle model behaves. If every incoming cohort has lower starting levels of turnout than the previous one, each new electoral cohort will have to take up turnout levels by an extra notch while aging in order to catch up with previous generations. This is not a very plausible scenario, especially not since we established that younger generations mature at a different pace than older generations did when they were young.

Do the findings in this thesis imply that turnout levels among the generations that are now young will always stay low? I believe there is no denying that an element of habituation plays a role in turnout and I therefore think it is quite plausible that in countries such as Canada and Great Britain we will find that general turnout levels will go down because younger cohorts do not catch up. In fact, I think this is precisely what we have witnessed in these countries. What we

will see is most likely in a combination of the two mechanisms. Young people's turnout levels will catch up to some extent as they age, but on the other hand the first electoral experiences are of crucial importance. If turnout is extremely low in these years, it is almost impossible for cohorts to catch up.

One of the reasons why we worry about youth political participation is because they give us a glimpse of the future functioning of democracy. Low levels of participation are problematic with a view to representation and legitimacy. What could governments do to possibly get more young voters to the polls?

Given that there are various factors that drive young citizens to the polling booth, we cannot assume that reasons of abstention are the same for all non-voters. This has implications for the way in which participation can or should be stimulated. If there is neither a single cause for abstention nor a single factor explaining youth turnout, then it is unreasonable to hope that one single policy change will suddenly encourage all young abstainers to turn out to vote.

When it comes to maturation, we saw that having left education and home ownership were the most influential life-cycle events. Maturation as such is hard to influence, but life-cycle events can be influenced and stimulated one-by-one. It is, for example, not unthinkable for a government to come up with ways to stimulate home ownership among young people. However, the more plausible way to go about is probably to try to stimulate levels of political interest, make young people more knowledgeable about politics so that they can better judge differences between parties, etc. In this respect, I believe it would be interesting to see what a well thought through civic learning program in light of upcoming elections would do to boost youth voter turnout. This could possibly be done in combination with

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lowering the minimum voting age, so that incoming cohorts would be more likely to face their first election when they are still in school.

Research on the effects of civic education show that students are knowledgeable about socio-political issues that affect them directly. The amount of civic education, as well as its recency matter for political knowledge of young citizens. Moreover, they learn best when a variety of issues is touched upon and when current events are discussed regularly (Niemi and Junn, 1998).

Since turnout levels of younger and older voters go hand in hand, an alternative route would be to not only try to increase turnout levels among young voters but rather aim at the electorate as a whole when attempting to stimulate turnout levels.

As far as future directions of research are concerned, this thesis shows the need for more longitudinal data that is aimed at young people specifically. Comparing young voters to young non-voters is crucial to our understanding of the question why young citizens abstain. Election survey data as used in this thesis allows for such a comparison but is simultaneously limited by the fact that young citizens are often underrepresented in these studies.

Qualitative researchers, moreover, have claim that youth research all too often focuses on what politicians, political scientists, journalists and the general public think about politics. The true opinion of young people themselves is ill-grasped in this way. Although surveys with closed questions allow us to touch upon several issues, asking young people about their opinion in an open ended framework is also highly valuable. Our understanding of what drives young citizens to the polling booth would greatly benefit from mixed-method research.

Appendix A

Description of the data sets used

Several sources were used to construct the data sets with which the analyses in this thesis were performed. Below follows a concise description of the files that were made use of and where they can be found.

Chapter three

National Election Surveys

Canada

- Canadian National Election Study 1965
  Source: ICPSR study number 7225;
  `http://www.icpsr.umich.edu/cocoon/ICPSR/STUDY/07225.xml`

- Canadian Federal Election Study 1968
  Source: ICPSR study number 7009;
  `http://www.icpsr.umich.edu/cocoon/ICPSR/STUDY/07009.xml`

- Canadian National Election Study 1972
  Source: ICPSR study number 7410;
  `http://www.icpsr.umich.edu/cocoon/ICPSR/STUDY/07410.xml`

- Canadian National Election Study 1974
  Source: ICPSR study number 7379;
  `http://www.icpsr.umich.edu/cocoon/ICPSR/STUDY/07379.xml`

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- Canadian National Elections and Quebec Referendum
  Panel Study 1974-1979-1980
  Source: ICPSR study number 8079;
  `http://www.icpsr.umich.edu/cocoon/ICPSR/STUDY/08079.xml`

- Canadian Election Study 1984
  Source: Institute for Social Research; `http://www.isr.yorku.ca/home.html`

- Canadian Election Study 1988
  Source: Institute for Social Research; `http://www.isr.yorku.ca/home.html`

- Canadian Election Study 1993
  Source: Institute for Social Research; `http://www.isr.yorku.ca/home.html`

- Canadian Election Study 1997
  Source: `http://ces-eec.mcgill.ca/`

- Canadian Election Study 2000
  Source: `http://ces-eec.mcgill.ca/`

- Canadian Election Study 2004
  Source: `http://ces-eec.mcgill.ca/`

Denmark

- Cumulative file 1971-1998
  Source: European Voter Database, Zentralarchiv (see Thomassen, 2005);
  `https://info1.za.gesis.org/cei/evoter.asp`

Finland

- Finnish Voter Barometers 1973-1990: Combined Data
  Source: Finnish Social Science Data Archive (FSD 2276);
  `http://www.fsd.uta.fi/english/data/background/elections.html`

- Finnish National Election Study 1991
  Source: Finnish Social Science Data Archive (FSD 1018);
  `http://www.fsd.uta.fi/english/data/background/elections.html`

- Finnish Voter Barometer August-September 1996
  Source: Finnish Social Science Data Archive (FSD 1032);
  `http://www.fsd.uta.fi/english/data/background/elections.html`

- Parliamentary Elections 1999
  Source: Finnish Social Science Data Archive (FSD 1042);
  `http://www.fsd.uta.fi/english/data/background/elections.html`

- Finnish National Election Study 2003
  Source: Finnish Social Science Data Archive (FSD 1260);
  `http://www.fsd.uta.fi/english/data/background/elections.html`

Germany

- Cumulative file 1969-1998
  Source: European Voter Database, Zentralarchiv (see Thomassen, 2005);
  `https://info1.za.gesis.org/cei/evoter.asp`

- German Election Study 2002
  Source: Comparative Study of Electoral Systems database;
  `http://www.cses.org`

Great Britain

- Cumulative file 1964-2001
  Source: European Voter Database, Zentralarchiv;
  `https://info1.za.gesis.org/cei/evoter.asp`

- British Election Study 2005
  Source: `http://www.essex.ac.uk/bes/Default.htm`

Italy

- Italian National Election Study 1972
  Source: ITANES/Istituto Carlo Cattaneo;
  `http://www.itanes.org`

- Italian National Election Study 1985
  Source: ITANES/Istituto Carlo Cattaneo;
  `http://www.itanes.org`

- Italian National Election Study 1990
  Source: ITANES/Istituto Carlo Cattaneo;
  `http://www.itanes.org`

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- Italian National Election Study 1992
  Source: ITANES/Istituto Carlo Cattaneo;
  `http://www.itanes.org`

- Italian National Election Study 1994
  Source: ITANES/Istituto Carlo Cattaneo;
  `http://www.itanes.org`

- Italian National Election Study 1996
  Source: ITANES/Istituto Carlo Cattaneo;
  `http://www.itanes.org`

- Italian National Election Study 2001
  Source: ITANES/Istituto Carlo Cattaneo;
  `http://www.itanes.org`

- Italian National Election Study 2006
  Source: ITANES/Istituto Carlo Cattaneo;
  `http://www.itanes.org`

The Netherlands

- Cumulative file 1971-1998
  Source: European Voter Database, Zentralarchiv;
  `https://info1.za.gesis.org/cei/evoter.asp`

- Dutch Parliamentary Election Study 1989
  Source: Data Archiving and Networked Services (DANS) / Steinmetz archive;
  `http://www.dans.knaw.nl`

- Dutch Parliamentary Election Study 2002-2003
  Source: Data Archiving and Networked Services (DANS) / Steinmetz archive;
  `http://www.dans.knaw.nl`

- Dutch Parliamentary Election Study 2006
  Source: Data Archiving and Networked Services (DANS) / Steinmetz archive;
  `http://www.dans.knaw.nl`

Norway

- Cumulative file 1965-1997
  Source: European Voter Database, Zentralarchiv;
  `https://info1.za.gesis.org/cei/evoter.asp`

- Norwegian Election Study 2001
  Source: Comparative Study of Electoral Systems database;
  `http://www.cses.org`

- Norwegian Election Study 2005
  Source: Norwegian Social Science Data Services (NSD);
  `http://www.nsd.uib.no/nsd/english/index.html`

Sweden

- Cumulative file 1960-1998
  Source: European Voter Database, Zentralarchiv;
  `https://info1.za.gesis.org/cei/evoter.asp`

- Swedish Election Study 2002
  Source: Comparative Study of Electoral Systems database;
  `http://www.cses.org`

United States

- American National Election Studies, cumulative file 1948-2004
  Source: `http://www.electionstudies.org`

Other data bases

- IDEA Voter Turnout Database
  Source: `http://www.idea.int/vt`

- McDonald & Popkin's United States Elections Project Data
  Source: `http://elections.gmu.edu/voter_turnout.htm`

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Chapter four and five

Great Britain

•Political Change in Britain 1963-1970
study number: 044
•Political Change in Britain 1969-1970
study number: 1093
•British Election Study February 1974 - Cross-Section Survey
study number: 359
•British Election Study October 1974 - Cross-Section Survey
study number: 666
•British Election Study May 1979 - Cross-Section Survey
study number: 1533
•British General Election Study 1983 - Cross-Section Survey
study number: 2005
•British General Election Study 1987 - Cross-Section Survey
study number: 2568
•British General Election Study 1992 - Cross-Section Survey
study number: 2981
•British General Election Study 1997 - Cross-Section Survey
study number: 3887
•British General Election Study 2001 - Cross-Section Survey
study number: 4619
Source: All available from `https://www.data-archive.ac.uk`

•British General Election Study 2005
Source: `http://www.essex.ac.uk/bes/2005/Survey%20with%20Mailback.htm`

Appendix B

Additional information and analyses chapter four

B.1 A note on the multiple imputation of missing data

Handling missing data raises both conceptual difficulties and computational challenges. The default way in which most statistical packages approach the missing values problem – through listwise deletion or complete case analyses – can yield bias, is inefficient, and is therefore considered unreliable. In general, two approaches to handling missing data are recommended in the literature: maximum likelihood (ML) and multiple imputation (MI) (Schafer and Graham, 2002; Raghunathan, 2004).

There are different types of missing data. Unit non-response occurs when the entire data collection procedure fails because respondents e.g. refuse to participate. Item non-response occurs when data is partially missing because a respondent e.g. did not answer all questions in the survey. Although part of the missing data problem in the fourth and fifth chapter of this thesis is due to item non-response, the more pressing problem is that certain variables were simply not included in certain waves of the British Election Studies. Using listwise deletion causes the sample size in the analyses in the fourth and fifth chapter to vary between 9762 and 2589. This renders comparison of results between the different models difficult.

Table B.1 below lists all the variables used in the analyses for the fourth and the fifth chapter, their N, the percentage of missing values (as a proportion of a total N of 9762), and the main reason for the lack of data. If no reason is given, data is missing due to item non-response. The variable with the largest percentage of missing values is political interest, which was not measured in 4 out of 12 election surveys.

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Variable	n	% of Missing values	Reason for missingness	Imputation command
Vote	9762			
Age (standardized)	9762			
Post 1990 dummy	9762			
Maturation index (standardized)	5211	46.62	see indicators below	passively
In education	9692	.72		logit/auglogit
Married	9758	.04		logit
Child(ren)	7630	21.84	n.i. in 1974 (feb), 1992	logit
Home ownership	9182	5.94	n.i. in 1966	logit
Residential stability (standardized)	6785	30.5	n.i. in 1983, 1992; only posed to 1/2 of the sample in 2001	regress
Works	9755	.07		logit
Average turnout >35 years (st.)	9762			
Gender	9762			
Educational level (standardized)	9551	2.16		mlogit/auglogit
Household income (standardized)	8511	12.81		mlogit
Middle class	8203	15.97	n.i. in 1966; only posed to 1/2 of the sample in 1970	logit
Religious	8741	10.46	n.i. in 1974 (feb)	logit
Church attendance (standardized)	6765	30.7	n.i. in 1974 (feb and oct), 2001, 2005	ologit
Union membership	8838	9.47	n.i. in 1966	logit
Political interest (standardized)	5976	38.78	n.i. in 1983, 1987, 1992	ologit
Party i.d. strength (standardized)	9261	5.13		ologit
Perceived party difference (st.)	8875	9.09	only posed to 2/3 of the sample in 2001	ologit
Voted in previous elections? (t-1)	7793	20.17	only posed to 1/6 of the sample in 2001	logit
Young initiation	9762			
Retrospective eco. evaluation (st.)	8312	14.85	n.i. in 1987	mlogit
Prospective eco. evaluation (st.)	6935	28.96	n.i. in 1987, 1992	mlogit

Note: n.i. = not included; maturation index is an additive scale - there is no election year in which the percentage of missing values actually reaches 47%

Table B.1: Missing data in chapter four and five

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The higher percentage of missing values on the maturation index is misleading as there is no single year in which indeed such a high number of indicators is missing. The percentage, therefore, is an effect of the variable being an additive scale.

The percentage of missing values in the sample used is quite high for certain variables. This calls for an imputation method with a high level of efficiency. Suppose Q is a real value and $\hat{Q}$ an estimated value. While treating missing data in a sample we want to make sure that the bias between estimated and the true values is small. Moreover, we want the variance and standard deviation of the estimated values to be small. Bias and variance are often combined into one measure called mean square error, which is the squared distance $(\hat{Q}-Q)^2$ between the estimated and the real values over repeated samples. The mean square error is equal to the squared bias plus the variance. Bias, variance, and the mean error describe the behaviour of an estimate. However, we also want to be confident about the measures of uncertainty that we report and estimate the true Q with a probability of a certain predefined rate (Schafer and Graham, 2002, p. 149).

Multiple imputation (MI) is a method for handling missing data that solves the problem of uncertainty that many single imputation methods face. MI replaces each missing value by a list of $m>1$ simulated values and as such produces m plausible alternative versions of the complete data set. Each of the m data sets is estimated in the same fashion by a complete data method. Estimates of parameters of interest are subsequently averaged to give a single estimate. Standard errors are computed according to the 'Rubin rules' (see below), allowing for between- and within-imputation components of variation in the parameter estimates.

MI does not need many rounds of estimation to reach a high level of efficiency. Rubin (1987) developed with the following way to calculate the efficiency of an estimate based on an m number of imputation (see equation B.1):

$$eff = (1 + \lambda/m)^{-1} \tag{B.1}$$

where the efficiency is a function of the rate of the missing information (λ) and the number of imputations (m). For example, with roughly 40% of missing information (as is the case with political interest), $m = 5$ imputations will yield results that are $100/(1 + .08) = 92.6\%$ efficient. A rule of thumb for selection of the number of imputation rounds is that the confidence coefficient for the worst-case parameter (in this case political interest) should be at least 95% (Royston, 2004, p. 239). This means that in this particular case more than five rounds of imputation are desirable. Seven rounds of imputation yield an efficiency of 95% for the political interest variable. Therefore, m is set to seven for the imputation procedure used to handle missing data for the data set used in chapter four and five of this thesis.

The `ice` command in Stata is used to execute the multiple imputation process (see Royston, 2004, 2005*a*,*b*).

As mentioned above, multiple imputation creates a small number of data sets (in this case seven), each of which has the missing values suitably imputed (the most right-hand column in table B.1 shows the imputation command for each variable). The next step is to analyze each complete data set independently and summarize the results of these independent estimations. Coefficients are simply averaged. Summarizing the standard errors requires a bit more work (see equation B.2 taken from Rubin (1987)):

$$s = \sqrt{\bar{u}_m + \frac{m+1}{m} b_m} \qquad \text{(B.2)}$$

where $\bar{u}_m$ is the mean of the standard error's, and b_m is the variance of the estimates across the imputations. The `micombine` command in Stata combines the estimates from the m analyses using Rubin's rules (Royston, 2004, 2005*a*,*b*).

B.2   Summary statistics chapter four

Summary statistics pooled data set (1964-2005) - before imputation

Variable	Mean	Std. Dev.	Min.	Max.	N
Vote	0.754	0.431	0	1	9762
Age (standardized)	0.539	0.297	0	1	9762
Post 1990 dummy	0.346	0.476	0	1	9762
Maturation index (standardized)	0.662	0.221	0	1	5211
Not in education (standardized)	0.945	0.227	0	1	9692
Married	0.603	0.489	0	1	9758
Children	0.455	0.498	0	1	7630
Home ownership	0.601	0.49	0	1	9182
Residential stability (standardized)	0.147	0.215	0	1	6785
Works	0.700	0.458	0	1	9755
Average turnout >35 years (proportion)	0.784	0.037	0.681	0.823	9762

Table B.2: Summary statistics chapter five BES 1964-2005, subsample ≤35 years

Summary statistics by election year - before imputation

Variable	Mean	Std. Dev.	Min.	Max.	N
Vote	0.842	0.365	0	1	438
Age (standardized)	0.596	0.258	0.18	1	438
Post 1990 dummy	0	0	0	0	438
Maturation index (standardized)	0.728	0.163	0.333	1	414
Not in education (standardized)	1	0	1	1	434
Married	0.788	0.409	0	1	438
Children	0.616	0.487	0	1	438
Home ownership	0.452	0.498	0	1	434
Residential stability (standardized)	0.476	0.378	0	1	423
Works	0.686	0.465	0	1	433
Average turnout >35 years (proportion)	0.799	0	0.799	0.799	438

note: no respondents identified as being in education

Table B.3: Summary statistics chapter five BES 1964, subsample ≤35 years

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Variable	Mean	Std. Dev.	Min.	Max.	N
Vote	0.761	0.427	0	1	543
Age (standardized)	0.558	0.255	0.18	1	543
Post 1990 dummy	0	0	0	0	543
Maturation index (standardized)					0
Not in education (standardized)	1	0	1	1	535
Married	0.777	0.417	0	1	543
Children	0.632	0.483	0	1	543
Home ownership					0
Residential stability (standardized)	0.42	0.385	0	1	529
Works	0.696	0.46	0	1	543
Average turnout >35 years (proportion)	0.801	0	0.801	0.801	543

note: no respondents identified as being in education; home ownership not included

Table B.4: Summary statistics chapter five BES 1966, subsample ≤35 years

Variable	Mean	Std. Dev.	Min.	Max.	N
Vote	0.744	0.437	0	1	602
Age (standardized)	0.454	0.301	0	1	602
Post 1990 dummy	0	0	0	0	602
Maturation index (standardized)	0.578	0.171	0	1	597
Not in education (standardized)	0.942	0.235	0	1	599
Married	0.618	0.486	0	1	602
Children	0.047	0.211	0	1	602
Home ownership	0.477	0.5	0	1	602
Residential stability (standardized)	0.198	0.181	0	0.714	600
Works	0.706	0.456	0	1	602
Average turnout >35 years (proportion)	0.778	0	0.778	0.778	602

Table B.5: Summary statistics chapter five BES 1970, subsample ≤35 years

Variable	Mean	Std. Dev.	Min.	Max.	N
Vote	0.830	0.376	0	1	743
Age (standardized)	0.524	0.276	0	1	743
Post 1990 dummy	0	0	0	0	743
Maturation index (standardized)					0
Not in education (standardized)	0.96	0.197	0	1	742
Married	0.669	0.471	0	1	743
Children					0
Home ownership	0.506	0.5	0	1	743
Residential stability (standardized)	0.053	0.069	0	0.344	735
Works	0.729	0.445	0	1	743
Average turnout >35 years (proportion)	0.823	0	0.823	0.823	743

note: children not included

Table B.6: Summary statistics chapter five BES 1974 (Feb.), subsample ≤35 years

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Variable	Mean	Std. Dev.	Min.	Max.	N
Vote	0.783	0.412	0	1	789
Age (standardized)	0.51	0.285	0	1	789
Post 1990 dummy	0	0	0	0	789
Maturation index (standardized)	0.666	0.203	0	1	764
Not in education (standardized)	0.962	0.192	0	1	786
Married	0.703	0.457	0	1	789
Children	0.552	0.498	0	1	785
Home ownership	0.523	0.5	0	1	776
Residential stability (standardized)	0.052	0.066	0	0.344	780
Works	0.734	0.442	0	1	789
Average turnout >35 years (proportion)	0.787	0	0.787	0.787	789

Table B.7: Summary statistics chapter five BES 1974 (Oct.), subsample ≤35 years

Variable	Mean	Std. Dev.	Min.	Max.	N
Vote	0.783	0.413	0	1	631
Age (standardized)	0.574	0.291	0	1	631
Post 1990 dummy	0	0	0	0	631
Maturation index (standardized)	0.787	0.157	0.333	1	462
Not in education (standardized)	0.948	0.223	0	1	631
Married	0.698	0.46	0	1	629
Children	0.806	0.396	0	1	464
Home ownership	0.554	0.497	0	1	628
Residential stability (standardized)	0.108	0.111	0	0.387	631
Works	0.729	0.445	0	1	631
Average turnout >35 years (proportion)	0.817	0	0.817	0.817	631

Table B.8: Summary statistics chapter five BES 1979, subsample ≤35 years

Variable	Mean	Std. Dev.	Min.	Max.	N
Vote	0.765	0.424	0	1	1393
Age (standardized)	0.502	0.314	0	1	1393
Post 1990 dummy	0	0	0	0	1393
Maturation index (standardized)					0
Not in education (standardized)	0.952	0.214	0	1	1390
Married	0.570	0.495	0	1	1392
Children	0.44	0.497	0	1	1377
Home ownership	0.666	0.472	0	1	1385
Residential stability (standardized)					0
Works	0.686	0.464	0	1	1392
Average turnout >35 years (proportion)	0.782	0	0.782	0.782	1393

note: residential stability not included

Table B.9: Summary statistics chapter five BES 1983, subsample ≤35 years

Variable	Mean	Std. Dev.	Min.	Max.	N
Vote	0.815	0.388	0	1	1245
Age (standardized)	0.501	0.303	0	1	1245
Post 1990 dummy	0	0	0	0	1245
Maturation index (standardized)	0.683	0.209	0	1	1189
Not in education (standardized)	0.935	0.246	0	1	1202
Married	0.55	0.498	0	1	1245
Children	0.425	0.495	0	1	1241
Home ownership	0.713	0.453	0	1	1244
Residential stability (standardized)	0.117	0.105	0	0.699	1235
Works	0.714	0.452	0	1	1245
Average turnout >35 years (proportion)	0.789	0	0.789	0.789	1245

Table B.10: Summary statistics chapter five BES 1987, subsample ≤35 years

Variable	Mean	Std. Dev.	Min.	Max.	N
Vote	0.827	0.379	0	1	1136
Age (standardized)	0.539	0.302	0	1	1136
Post 1990 dummy	1	0	1	1	1136
Maturation index (standardized)					0
Not in education (standardized)	0.933	0.25	0	1	1132
Married	0.551	0.498	0	1	1135
Children					0
Home ownership	0.676	0.468	0	1	1133
Residential stability (standardized)					0
Works	0.702	0.458	0	1	1136
Average turnout >35 years (proportion)	0.813	0	0.813	0.813	1136

note: children not included; residential stability not included

Table B.11: Summary statistics chapter five BES 1992, subsample ≤35 years

Variable	Mean	Std. Dev.	Min.	Max.	N
Vote	0.666	0.472	0	1	1078
Age (standardized)	0.583	0.291	0	1	1078
Post 1990 dummy	1	0	1	1	1078
Not in education (standardized)	0.618	0.251	0	1	1073
Married	0.507	0.5	0	1	1078
Children	0.401	0.49	0	1	1078
Home ownership	0.59	0.492	0	1	1074
Residential stability (standardized)	0.089	0.104	0	0.366	1077
Works	0.677	0.468	0	1	1078
Average turnout >35 years (proportion)	0.788	0	0.788	0.788	1078

Table B.12: Summary statistics chapter five BES 1997, subsample ≤35 years

Variable	Mean	Std. Dev.	Min.	Max.	N
Vote	0.545	0.498	0	1	743
Age (standardized)	0.593	0.298	0	1	743
Post 1990 dummy	1	0	1	1	743
Maturation index (standardized)	0.617	0.266	0	1	366
Not in education (standardized)	0.904	0.294	0	1	743
Married	0.502	0.5	0	1	743
Children	0.394	0.489	0	1	743
Home ownership	0.573	0.495	0	1	742
Residential stability (standardized)	0.081	0.097	0	0.505	366
Works	0.65	0.477	0	1	743
Average turnout >35 years (proportion)	0.681	0	0.681	0.681	743

note: residential stability only partially included

Table B.13: Summary statistics chapter five BES 2001, subsample ≤35 years

Variable	Mean	Std. Dev.	Min.	Max.	N
Vote	0.61	0.488	0	1	421
Age (standardized)	0.631	0.283	0	1	421
Post 1990 dummy	1	0	1	1	421
Maturation index (standardized)	0.662	0.252	0	1	346
Not in education (standardized)	0.919	0.273	0	1	421
Married	0.556	0.497	0	1	421
Children	0.457	0.499	0	1	359
Home ownership	0.641	0.48	0	1	421
Residential stability (standardized)	0.09	0.102	0	0.366	409
Works	0.71	0.455	0	1	420
Average turnout >35 years (proportion)	0.714	0	0.714	0.714	421

Table B.14: Summary statistics chapter five BES 2005, subsample ≤35 years

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B.3   Additional models chapter four

	model 1	model 2a	model 2b	model 3a	model 3b
	b/(se)	b/(se)	b/(se)	b/(se)	b/(se)
Age	0.786***	0.443***	0.468***	0.748***	0.758***
	(0.113)	(0.134)	(0.138)	(0.214)	(0.215)
Post 1990	-0.539**	-0.335	-0.120	-0.627***	-0.419***
	(0.254)	(0.219)	(0.127)	(0.181)	(0.094)
Maturation index		1.086***	0.971***		
		(0.308)	(0.286)		
Not in education				-0.285*	-0.299*
				(0.169)	(0.171)
Married				0.186***	0.185***
				(0.066)	(0.068)
Children				-0.064	-0.094
				(0.099)	(0.102)
Home ownership				0.622***	0.623***
				(0.094)	(0.097)
Residential stability				0.338*	0.315
				(0.203)	(0.209)
Works				0.045	0.043
				(0.064)	(0.065)
Average turnout >35			6.496***		4.110***
			(1.707)		(1.490)
Constant	0.276***	-0.282*	-5.374***	0.039	-3.186**
	(0.069)	(0.164)	(1.409)	(0.158)	(1.243)
Log-likelihood	-6362.74	-5751.58	-5708.21	-3335.75	-3326.94
Pseudo R^2	0.021	0.025	0.032	0.046	0.048
N	9762	8969	8969	5211	5211

note: b coefficients from logit analyses with robust s.e.'s clustered
by election in parentheses; * $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table B.15: Turnout by life-cycle indicators for young voters aged 35 years or less, BES 1964-2005 (before imputation of missing indicators)

	model 1 b/(se)	model 2a b/(se)	model 2b b/(se)	model 3a b/(se)	model 3b b/(se)
Age	0.786***	0.388***	0.411***	0.565***	0.620***
	(0.113)	(0.127)	(0.113)	(0.132)	(0.112)
Post 1990	-0.539**	-0.481*	-0.123	-0.544**	-0.174
	(0.254)	(0.252)	(0.133)	(0.255)	(0.126)
Maturation index (4 items)		0.891***	0.835***		
		(0.224)	(0.214)		
Married				0.144*	0.147*
				(0.084)	(0.088)
Children				0.006	-0.071
				(0.071)	(0.064)
Home ownership				0.572***	0.572***
				(0.097)	(0.092)
Residential stability				0.033	0.022
				(0.156)	(0.160)
Average turnout >35			7.803***		8.163***
			(1.423)		(1.398)
Constant	0.276***	-0.033	-6.210***	-0.027	-6.503***
	(0.069)	(0.107)	(1.174)	(0.099)	(1.149)
Log-likelihood	-6362.74	-6308.37	-6224.22	-6266.71	-6176.62
Pseudo R^2	0.021	0.030	0.043	0.036	0.050
N	9762	9762	9762	9762	9762

note: b coefficients from logit analyses with robust s.e.'s clustered
by election in parentheses; * $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table B.16: Turnout by life-cycle indicators for young voters aged 35 years or less, BES 1964-2005 (maturation index with 4 items)

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	model 1	model 2a	model 2b	model 3a	model 3b
	b/(se)	b/(se)	b/(se)	b/(se)	b/(se)
Age	0.786***	0.367***	0.391***	0.543***	0.604***
	(0.113)	(0.117)	(0.102)	(0.130)	(0.110)
Post 1990	-0.539**	-0.475*	-0.118	-0.539**	-0.171
	(0.254)	(0.253)	(0.134)	(0.257)	(0.127)
Maturation index (5 items)		1.067***	1.003***		
		(0.235)	(0.227)		
Married				0.139*	0.144*
				(0.082)	(0.087)
Children				0.022	-0.058
				(0.077)	(0.070)
Home ownership				0.562***	0.565***
				(0.098)	(0.094)
Residential stability				0.032	0.021
				(0.157)	(0.161)
Works				0.085	0.064
				(0.062)	(0.061)
Average turnout >35			7.789***		8.138***
			(1.420)		(1.381)
Constant	0.276***	-0.152	-6.311***	-0.075	-6.520***
	(0.069)	(0.124)	(1.189)	(0.107)	(1.160)
Log-likelihood	-6362.74	-6302.56	-6219.01	-6265.11	-6175.74
Pseudo R^2	0.021	0.031	0.043	0.036	0.050
N	0.276***	-0.152	-6.311***	-0.075	-6.520***

note: b coefficients from logit analyses with robust s.e.'s clustered
by election in parentheses; * $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table B.17: Turnout by life-cycle indicators for young voters aged 35 years or less,
BES 1964-2005 (maturation index with 5 items)

	model 1	model 2a	model 2b	model 3a	model 3b
	b/(se)	b/(se)	b/(se)	b/(se)	b/(se)
Born in 1940s	-0.020	0.029	0.021	-0.010	-0.016
	(0.166)	(0.151)	(0.133)	(0.153)	(0.139)
Born in 1950s	-0.163	-0.056	-0.038	-0.154	-0.127
	(0.155)	(0.141)	(0.138)	(0.162)	(0.159)
Born in 1960s	-0.389***	-0.192*	-0.088	-0.376***	-0.262**
	(0.100)	(0.098)	(0.090)	(0.121)	(0.111)
Born in 1970s	-0.979***	-0.660***	-0.314**	-0.912***	-0.567***
	(0.218)	(0.242)	(0.158)	(0.244)	(0.163)
Born in 1980s	-1.569***	-1.101***	-0.515*	-1.489***	-0.907***
	(0.368)	(0.373)	(0.310)	(0.366)	(0.315)
Post 1990	0.159	0.018	0.069	0.093	0.136
	(0.263)	(0.269)	(0.164)	(0.255)	(0.152)
Maturation index		1.053***	1.153***		
		(0.202)	(0.217)		
Not in education				-0.331***	-0.278***
				(0.106)	(0.096)
Married				0.164*	0.212**
				(0.086)	(0.097)
Children				0.029	0.020
				(0.076)	(0.073)
Home ownership				0.586***	0.586***
				(0.091)	(0.090)
Residential stability				-0.006	0.008
				(0.192)	(0.190)
Works				0.118**	0.123**
				(0.054)	(0.059)
Average turnout >35			6.468***		6.088***
			(0.905)		(0.838)
Constant	0.815***	0.027	-5.201***	0.599***	-4.350***
	(0.069)	(0.156)	(0.805)	(0.155)	(0.740)
Log-likelihood	-6334.17	-6279.49	-6234.68	-6219.16	-6180.31
Pseudo R^2	0.025	0.034	0.041	0.043	0.049
N	9762	9762	9762	9762	9762

note: reference category: born in 1930s; b coefficients from logit analyses with robust s.e.'s clustered by election in parentheses;* p<0.10, ** p<0.05, *** p<0.01

Table B.18: Turnout by life-cycle indicators for young voters aged 35 years or less, BES 1964-2005 (birth cohorts instead of age variable)

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	model1	model 2a	model 2b	model 3a	model 3b
	b/(se)	b/(se)	b/(se)	b/(se)	b/(se)
Age	0.797***	0.411***	0.421***	0.639***	0.654***
	(0.105)	(0.106)	(0.106)	(0.104)	(0.102)
1970s	-0.024	0.039	0.032	-0.016	-0.016
	(0.093)	(0.100)	(0.087)	(0.114)	(0.106)
1980s	-0.005	0.035	0.138	-0.091	0.028
	(0.101)	(0.111)	(0.109)	(0.130)	(0.132)
1990s	-0.113	-0.018	-0.018	-0.169	-0.159
	(0.229)	(0.221)	(0.162)	(0.231)	(0.172)
2000s	-0.995***	-0.876***	-0.153	-1.049***	-0.264
	(0.042)	(0.057)	(0.339)	(0.090)	(0.358)
Maturation index		1.037***	1.001***		
		(0.239)	(0.232)		
Not in education				-0.331***	-0.278***
				(0.106)	(0.096)
Married				0.164*	0.212**
				(0.086)	(0.097)
Children				0.029	0.020
				(0.076)	(0.073)
Home ownership				0.586***	0.586***
				(0.091)	(0.090)
Residential stability				-0.006	0.008
				(0.192)	(0.190)
Works				0.118**	0.123**
				(0.054)	(0.059)
Average turnout >35			6.468***		6.088***
			(0.905)		(0.838)
Constant	0.815***	0.027	-5.201***	0.599***	-4.350***
	(0.069)	(0.156)	(0.805)	(0.155)	(0.740)
Log-likelihood	-6334.17	-6279.49	-6234.68	-6219.16	-6180.31
Pseudo R^2	0.025	0.034	0.041	0.043	0.049
N	9762	9762	9762	9762	9762

note: reference category: 1960s; b coefficients from logit analyses with robust s.e.'s
clustered by election in parentheses;* $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table B.19: Turnout by life-cycle indicators for young voters aged 35 years or less,
BES 1964-2005 (decades instead of period dummy)

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| | **model 1** |
	b/(se)
Age	0.392***
	(0.120)
Post 1990	-0.777***
	(0.215)
Maturation index	0.844***
	(0.284)
*Maturation*Post 1990*	0.483
	(0.424)
Constant	-0.083
	(0.160)
Log-likelihood	-6310.25
Pseudo R^2	0.029
N	9762

note: robust s.e.'s clustered by election in parentheses;
* p<0.10, ** p<0.05, *** p<0.01

Table B.20: Turnout by maturation for young voters aged 35 years or less, BES 1964-2005 (with period*maturation interaction term)

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Appendix C

Additional information and analyses chapter five

C.1   Summary statistics chapter five

Summary statistics pooled data set (1964-2005) - before imputation

Variable	Mean	Std. Dev.	Min.	Max.	N
Gender	0.481	0.5	0	1	9762
Educational level (standardized)	0.553	0.305	0	1	9551
Household income (standardized)	0.478	0.359	0	1	8511
Middle class	0.184	0.387	0	1	8203
Religious	0.587	0.492	0	1	8741
Church attendance (standardized)	0.215	0.301	0	1	6765
Union membership	0.274	0.446	0	1	8838
Interest (standardized)	0.587	0.283	0	1	5976
Party id strength (standardized)	0.525	0.305	0	1	9261
Party difference (standardized)	0.399	0.352	0	1	8875
Voted in previous elections? (t-1)	0.687	0.464	0	1	7793
Retrospective eco. evaluation (st.)	0.452	0.376	0	1	8312
Prospective eco. evaluation (st.)	0.486	0.379	0	1	6935
Margin of the victory const. level (st.)	0.278	0.185	0	1	9700
Margin of the victory country level (st.)	0.519	0.334	0	1	9762
Majority status country level (st.)	0.463	0.213	0	1	9762

Table C.1: Summary statistics chapter six BES 1964-2005, subsample ≤35 years

Summary statistics by election year - before imputation

Variable	Mean	Std. Dev.	Min.	Max.	N
Gender	0.486	0.5	0	1	438
Educational level (standardized)	0.148	0.266	0	1	430
Household income (standardized)	0.5	0.272	0	1	394
Middle class	0.155	0.363	0	1	438
Religious	0.953	0.211	0	1	429
Church attendance (standardized)	0.33	0.29	0	1	434
Union membership	0.249	0.433	0	1	438
Interest (standardized)	0.687	0.257	0.333	1	434
Party id strength (standardized)	0.664	0.301	0	1	428
Party difference (standardized)	0.379	0.408	0	1	413
Voted in previous elections? (t-1)	0.447	0.498	0	1	421
Retrospective eco. evaluation (st.)	0.601	0.317	0	1	435
Prospective eco. evaluation (st.)	0.735	0.328	0	1	379
Margin of the victory const. level (st.)	0.255	0.191	0.018	0.879	430
Margin of the victory country level (st.)	0	0	0	0	438
Majority status country level (st.)	0.308	0	0.308	0.308	438

Table C.2: Summary statistics chapter six BES 1964, subsample ≤35 years

Variable	Mean	Std. Dev.	Min.	Max.	N
Gender	0.521	0.5	0	1	543
Educational level (standardized)	0.235	0.373	0	1	530
Household income (standardized)	0.568	0.259	0	1	479
Middle class					0
Religious	0.956	0.205	0	1	525
Church attendance (standardized)	0.335	0.29	0	1	533
Union membership					0
Interest (standardized)	0.644	0.257	0.333	1	542
Party id strength (standardized)	0.656	0.311	0	1	526
Party difference (standardized)	0.469	0.411	0	1	522
Voted in previous elections? (t-1)	0.779	0.416	0	1	452
Retrospective eco. evaluation (st.)	0.554	0.356	0	1	541
Prospective eco. evaluation (st.)	0.651	0.36	0	1	509
Margin of the victory const. level (st.)	0.266	0.214	0.008	0.941	534
Margin of the victory country level (st.)	0.357	0	0.357	0.357	543
Majority status country level (st.)	0	0	0	0	543

note: social class and union membership not included

Table C.3: Summary statistics chapter six BES 1966, subsample ≤35 years

Variable	Mean	Std. Dev.	Min.	Max.	N
Gender	0.502	0.5	0	1	602
Educational level (standardized)	0.432	0.386	0	1	599
Household income (standardized)	0.579	0.357	0	1	414
Middle class	0.418	0.496	0	1	91
Religious	0.941	0.236	0	1	373
Church attendance (standardized)	0.28	0.281	0	1	373
Union membership	0.38	0.486	0	1	416
Interest (standardized)	0.669	0.258	0.333	1	599
Party id strength (standardized)	0.602	0.324	0	1	583
Party difference (standardized)	0.585	0.398	0	1	580
Voted in previous elections? (t-1)	0.4	0.49	0	1	598
Retrospective eco. evaluation (st.)	0.577	0.369	0	1	590
Prospective eco. evaluation (st.)	0.66	0.343	0	1	558
Margin of the victory const. level (st.)	0.272	0.181	0.006	0.818	591
Margin of the victory country level (st.)	0.143	0	0.143	0.143	602
Majority status country level (st.)	0.154	0	0.154	0.154	602

note: social class only partially included

Table C.4: Summary statistics chapter six BES 1970, subsample ≤35 years

Variable	Mean	Std. Dev.	Min.	Max.	N
Gender	0.494	0.5	0	1	743
Educational level (standardized)	0.649	0.247	0	1	743
Household income (standardized)	0.436	0.307	0	1	659
Middle class	0.403	0.491	0	1	345
Religious					0
Church attendance (standardized)					0
Union membership	0.289	0.454	0	1	737
Interest (standardized)	0.547	0.266	0	1	742
Party id strength (standardized)	0.594	0.299	0	1	688
Party difference (standardized)	0.505	0.404	0	1	732
Voted in previous elections? (t-1)	0.570	0.495	0	1	716
Retrospective eco. evaluation (st.)	0.548	0.415	0	1	731
Prospective eco. evaluation (st.)	0.326	0.332	0	1	707
Margin of the victory const. level (st.)	0.235	0.163	0	0.869	743
Margin of the victory country level (st.)	0	0	0	0	743
Majority status country level (st.)	0.769	0	0.769	0.769	743

note: religion and church attendance not included

Table C.5: Summary statistics chapter six BES 1974 (Feb.), subsample ≤35 years

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Variable	Mean	Std. Dev.	Min.	Max.	N
Gender	0.51	0.5	0	1	789
Educational level (standardized)	0.626	0.245	0	1	787
Household income (standardized)	0.468	0.308	0	1	709
Middle class	0.172	0.378	0	1	785
Religious	0.573	0.495	0	1	787
Church attendance (standardized)					0
Union membership	0.299	0.458	0	1	783
Interest (standardized)	0.553	0.264	0	1	787
Party id strength (standardized)	0.581	0.293	0	1	740
Party difference (standardized)	0.441	0.395	0	1	783
Voted in previous elections? (t-1)	0.796	0.403	0	1	765
Retrospective eco. evaluation (st.)	0.315	0.321	0	1	768
Prospective eco. evaluation (st.)	0.286	0.314	0	1	747
Margin of the victory const. level (st.)	0.248	0.192	0.003	0.915	789
Margin of the victory country level (st.)	0.214	0	0.214	0.214	789
Majority status country level (st.)	0.692	0	0.692	0.692	789

note: church attendance not included

Table C.6: Summary statistics chapter six BES 1974 (Oct.), subsample ≤35 years

Variable	Mean	Std. Dev.	Min.	Max.	N
Gender	0.48	0.5	0	1	631
Educational level (standardized)	0.675	0.25	0	1	629
Household income (standardized)	0.658	0.319	0	1	546
Middle class	0.169	0.375	0	1	616
Religious	0.461	0.499	0	1	625
Church attendance (standardized)	0.295	0.257	0	1	625
Union membership	0.344	0.475	0	1	628
Interest s	0.539	0.261	0	1	630
Party id strength (standardized)	0.536	0.302	0	1	604
Party difference (standardized)	0.475	0.257	0	1	560
Voted in previous elections? (t-1)	0.799	0.401	0	1	482
Retrospective eco. evaluation (st.)	0.261	0.329	0	1	612
Prospective eco. evaluation (st.)	0.274	0.33	0	1	590
Margin of the victory const. level (st.)	0.283	0.181	0.006	1	631
Margin of the victory country level (st.)	0.429	0	0.429	0.429	631
Majority status country level (st.)	0.308	0	0.308	0.308	631

Table C.7: Summary statistics chapter six BES 1979, subsample ≤35 years

Variable	Mean	Std. Dev.	Min.	Max.	N
Gender	0.499	0.5	0	1	1393
Educational level (standardized)	0.684	0.249	0	1	1374
Household income (standardized)	0.475	0.346	0	1	1362
Middle class	0.204	0.403	0	1	1366
Religious	0.589	0.492	0	1	1388
Church attendance (standardized)	0.164	0.277	0	1	1389
Union membership	0.313	0.464	0	1	1310
Interest (standardized)					0
Party id strength (standardized)	0.502	0.302	0	1	1290
Party difference (standardized)	0.283	0.232	0	1	1244
Voted in previous elections? (t-1)	0.784	0.412	0	1	1083
Retrospective eco. evaluation (st.)	0.332	0.33	0	1	1338
Prospective eco. evaluation (st.)	0.356	0.331	0	1	1284
Margin of the victory const. level (st.)	0.253	0.141	0	0.674	1388
Margin of the victory country level (st.)	1	0	1	1	1393
Majority status country level (st.)	0.462	0	0.462	0.462	1393

note: political interest not included

Table C.8: Summary statistics chapter six BES 1983, subsample ≤35 years

Variable	Mean	Std. Dev.	Min.	Max.	N
Gender	0.488	0.5	0	1	1245
Educational level (standardized)	0.607	0.218	0	1	1127
Household income (standardized)	0.488	0.367	0	1	1080
Middle class	0.189	0.392	0	1	1226
Religious	0.539	0.499	0	1	1244
Church attendance (standardized)	0.177	0.311	0	1	1239
Union membership	0.292	0.455	0	1	1151
Interest (standardized)					0
Party id strength (standardized)	0.493	0.299	0	1	1152
Party difference (standardized)	0.231	0.214	0	1	1145
Voted in previous elections? (t-1)	0.782	0.413	0	1	958
Retrospective eco. evaluation (st.)					0
Prospective eco. evaluation (st.)					0
Margin of the victory const. level (st.)	0.303	0.182	0.002	0.857	1237
Margin of the victory country level (st.)	0.786	0	0.786	0.786	1245
Majority status country level (st.)	0.462	0	0.462	0.462	1245

note: political interest, economic evaluation not included

Table C.9: Summary statistics chapter six BES 1987, subsample ≤35 years

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Variable	Mean	Std. Dev.	Min.	Max.	N
Gender	0.473	0.499	0	1	1136
Educational level (standardized)	0.527	0.301	0	1	1135
Household income (standardized)	0.429	0.367	0	1	974
Middle class	0.14	0.347	0	1	1118
Religious	0.562	0.496	0	1	1134
Church attendance (standardized)	0.192	0.319	0	1	1094
Union membership	0.247	0.432	0	1	1133
Interest (standardized)					0
Party id strength (standardized)	0.511	0.275	0	1	1100
Party difference (standardized)	0.301	0.344	0	1	1111
Voted in previous elections? (t-1)	0.758	0.429	0	1	862
Retrospective eco. evaluation (st.)	0.383	0.354	0	1	1085
Prospective eco. evaluation (st.)					0
Margin of the victory const. level (st.)	0.285	0.182	0	0.834	1115
Margin of the victory country level (st.)	0.5	0	0.5	0.5	1136
Majority status country level (st.)	0.462	0	0.462	0.462	1136

note: political interest, prospective economic evaluation not included

Table C.10: Summary statistics chapter six BES 1992, subsample ≤35 years

Variable	Mean	Std. Dev.	Min.	Max.	N
Gender	0.46	0.499	0	1	1078
Educational level (standardized)	0.545	0.289	0	1	1072
Household income (standardized)	0.472	0.445	0	1	954
Middle class	0.17	0.375	0	1	1073
Religious	0.523	0.5	0	1	1076
Church attendance (standardized)	0.172	0.297	0	1	1078
Union membership	0.214	0.411	0	1	1078
Interest (standardized)	0.581	0.3	0	1	1078
Party id strength (standardized)	0.467	0.29	0	1	1050
Party difference (standardized)	0.477	0.351	0	1	1044
Voted in previous elections? (t-1)	0.666	0.472	0	1	909
Retrospective eco. evaluation (st.)	0.536	0.38	0	1	1064
Prospective eco. evaluation (st.)	0.651	0.353	0	1	1027
Margin of the victory const. level (st.)	0.335	0.22	0.003	0.989	1078
Margin of the victory country level (st.)	0.857	0	0.857	0.857	1078
Majority status country level (st.)	0.385	0	0.385	0.385	1078

Table C.11: Summary statistics chapter six BES 1997, subsample ≤35 years

Variable	Mean	Std. Dev.	Min.	Max.	N
Gender	0.425	0.495	0	1	743
Educational level (standardized)	0.52	0.184	0	1	743
Household income (standardized)	0.331	0.368	0	1	568
Middle class	0.157	0.364	0	1	725
Religious	0.388	0.488	0	1	739
Church attendance (standardized)					0
Union membership	0.183	0.387	0	1	743
Interest (standardized)	0.528	0.318	0	1	743
Party id strength (standardized)	0.441	0.283	0	1	708
Party difference (standardized)	0.449	0.334	0	1	351
Voted in previous elections? (t-1)	0.614	0.488	0	1	171
Retrospective eco. evaluation (st.)	0.586	0.363	0	1	732
Prospective eco. evaluation (st.)	0.612	0.355	0	1	719
Margin of the victory const. level (st.)	0.311	0.187	0.001	0.75	743
Margin of the victory country level (st.)	0.571	0	0.571	0.571	743
Majority status country level (st.)	0.538	0	0.538	0.538	743

note: church attendance not included; perceived party difference and voted
in previous elections only partially included

Table C.12: Summary statistics chapter six BES 2001, subsample ≤35 years

Variable	Mean	Std. Dev.	Min.	Max.	N
Gender	0.409	0.492	0	1	421
Educational level (standardized)	0.631	0.248	0	1	382
Household income (standardized)	0.41	0.368	0	1	372
Middle class	0.145	0.353	0	1	420
Religious	0.363	0.482	0	1	421
Church attendance (standardized)					0
Union membership	0.228	0.42	0	1	421
Interest (standardized)	0.622	0.296	0	1	421
Party id strength (standardized)	0.363	0.294	0	1	392
Party difference (standardized)	0.544	0.337	0	1	390
Voted in previous elections? (t-1)	0.559	0.497	0	1	376
Retrospective eco. evaluation (st.)	0.465	0.397	0	1	416
Prospective eco. evaluation (st.)	0.528	0.379	0	1	415
Margin of the victory const. level (st.)	0.227	0.161	0.004	0.678	421
Margin of the victory country level (st.)	0.143	0	0.143	0.143	421
Majority status country level (st.)	1	0	1	1	421

note: church attendance not included

Table C.13: Summary statistics chapter six BES 2005, subsample ≤35 years

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C.2 Additional models chapter five

	model 2a b/(se)	model 4a b/(se)	model 3a b/(se)	model 4b b/(se)
Age	0.443***	0.307	0.748***	0.593***
	(0.134)	(0.200)	(0.214)	(0.119)
Post 1990	-0.335	0.055	-0.627***	-0.445***
	(0.219)	(0.268)	(0.181)	(0.076)
Maturation index	1.086***	1.159**		
	(0.308)	(0.517)		
Not in education			-0.285*	-0.606**
			(0.169)	(0.269)
Married/cohabiting			0.186***	0.220*
			(0.066)	(0.116)
Children			-0.064	0.009
			(0.099)	(0.137)
Home ownership			0.622***	0.712***
			(0.094)	(0.158)
Residential stability			0.338*	0.406
			(0.203)	(0.490)
Works			0.045	0.023
			(0.064)	(0.179)
Gender		-0.222***		-0.236**
		(0.069)		(0.093)
Educational level		0.404**		0.558**
		(0.162)		(0.222)
Religious		0.073		0.176
		(0.111)		(0.156)
Church attendance		0.398***		0.225
		(0.098)		(0.156)
Union membership		0.134*		0.018
		(0.081)		(0.066)
Household income		0.282		0.064
		(0.172)		(0.257)
Middle class		0.179**		0.239**
		(0.084)		(0.102)
Constant	-0.282*	-0.730***	0.039	0.029
	(0.164)	(0.197)	(0.158)	(0.100)
Log-likelihood	-5751.58	-2910.66	-3335.75	-1560.16
Pseudo R^2	0.025	0.034	0.046	0.059
N	8969	4724	5211	2589

note: b coefficients from logit analyses with robust s.e.'s clustered
by election in parentheses; * $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table C.14: Turnout by later maturation versus resources and mobilization indicators for young voters aged 35 years or less, BES 1964-2005 (before imputation of missing indicators)

	model 2a	model 5a	model 3a	model 5b
	b//(se)	*b//(se)*	*b//(se)*	*b//(se)*
Age	0.443***	-0.183	0.748***	-0.183
	(0.134)	(0.275)	(0.214)	(0.316)
Post 1990	-0.335	-0.259**	-0.627***	-0.208
	(0.219)	(0.119)	(0.181)	(0.144)
Maturation index	1.086***	1.078***		
	(0.308)	(0.275)		
Not in education			-0.285*	-0.027
			(0.169)	(0.190)
Married/cohabiting			0.186***	0.212
			(0.066)	(0.141)
Children			-0.064	0.027
			(0.099)	(0.154)
Home ownership			0.622***	0.572***
			(0.094)	(0.107)
Residential stability			0.338*	0.582
			(0.203)	(0.399)
Works			0.045	-0.104
			(0.064)	(0.075)
Interest		1.308***		1.178***
		(0.181)		(0.198)
Strength party id		1.268***		1.230***
		(0.112)		(0.141)
Perceived party differences		-0.315***		-0.432***
		(0.110)		(0.129)
Voted t − 1		0.954***		1.078***
		(0.152)		(0.157)
Young initiation		-0.058		-0.112
		(0.136)		(0.152)
Retrospective eco. evaluation		0.383***		0.281***
		(0.077)		(0.078)
Prospective eco. evaluation		-0.055		0.144
		(0.168)		(0.112)
Constant	-0.282*	-1.881***	0.039	-1.608***
	(0.164)	(0.310)	(0.158)	(0.255)
Log-likelihood	-5751.58	-2245.79	-3335.75	-1685.41
Pseudo R^2	0.025	0.135	0.046	0.148
N	8969	3984	5211	2980

note: b coefficients from logit analyses with robust s.e.'s clustered
by election in parentheses; * $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table C.15: Turnout by later maturation versus campaign indicators for young voters aged 35 years or less, BES 1964-2005 (before imputation of missing indicators)

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	model 2a	model 6a	model 3a	model 6b
	b/(se)	b/(se)	b/(se)	b/(se)
Age	0.443***	0.436***	0.748***	0.723***
	(0.134)	(0.133)	(0.214)	(0.195)
Post 1990	-0.335	-0.293	-0.627***	-0.613***
	(0.219)	(0.208)	(0.181)	(0.099)
Maturation index	1.086***	1.075***		
	(0.308)	(0.296)		
Not in education			-0.285*	-0.310*
			(0.169)	(0.180)
Married/cohabiting			0.186***	0.212***
			(0.066)	(0.082)
Children			-0.064	-0.061
			(0.099)	(0.103)
Home ownership			0.622***	0.600***
			(0.094)	(0.103)
Residential stability			0.338*	0.404
			(0.203)	(0.264)
Works			0.045	0.050
			(0.064)	(0.065)
Margin of the victory (const. level)		-0.172		-0.077
		(0.157)		(0.240)
Margin of the victory (country level)		-0.002		0.352**
		(0.154)		(0.142)
Majority status (country level)		-0.310		-0.292*
		(0.341)		(0.160)
Constant	-0.282*	-0.090	0.039	0.056
	(0.164)	(0.195)	(0.158)	(0.188)
Log-likelihood	-5751.58	-5708.63	-3335.75	-3309.19
Pseudo R^2	0.025	0.026	0.046	0.049
N	8969	8907	5211	5184

note: b coefficients from logit analyses with robust s.e.'s clustered
by election in parentheses; * $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table C.16: Turnout by later maturation versus competitiveness indicators for young voters aged 35 years or less, BES 1964-2005 (before imputation of missing indicators)

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	model 1	model 2a	model 7a	model 3a	model 7b
	b/(se)	*b/(se)*	*b/(se)*	*b/(se)*	*b/(se)*
Age	0.786***	0.443***	-0.412	0.748***	0.004
	(0.113)	(0.134)	(0.329)	(0.214)	(0.426)
Post 1990	-0.539**	-0.335	-0.133	-0.627***	-0.241
	(0.254)	(0.219)	(0.159)	(0.181)	(0.253)
Maturation index		1.086***	1.889***		
		(0.308)	(0.105)		
Not in education				-0.285*	-0.270
				(0.169)	(0.303)
Married/cohabiting				0.186***	0.244
				(0.066)	(0.231)
Children				-0.064	0.036
				(0.099)	(0.142)
Home ownership				0.622***	0.669***
				(0.094)	(0.160)
Residential stability				0.338*	0.614
				(0.203)	(0.853)
Works				0.045	-0.130
				(0.064)	(0.265)
Gender			-0.309**		-0.230***
			(0.142)		(0.089)
Educational level			0.226		0.264
			(0.262)		(0.407)
Church attendance			0.440***		0.363***
			(0.128)		(0.067)
Union membership			0.054		0.093***
			(0.047)		(0.029)
Household income			0.008		0.053
			(0.168)		(0.193)
Middle class			0.054		-0.007
			(0.046)		(0.035)
Interest			1.230**		1.185**
			(0.479)		(0.535)
Strength party id			1.273***		1.159***
			(0.180)		(0.218)
Perceived party difference			-0.441***		-0.415***
			(0.097)		(0.134)
Voted (t-1)			1.094***		1.128***
			(0.235)		(0.222)
Constant	0.276***	-0.282*	-2.292***	0.039	-1.516***
	(0.069)	(0.164)	(0.239)	(0.158)	(0.368)
Log-likelihood	-6362.74	-5751.58	-781.93	-3335.75	-780.94
Pseudo R^2	0.021	0.025	0.167	0.046	0.168
N	9762	8969	1439	5211	1439

note: b coefficients from logit analyses with robust s.e.'s clustered by election in parentheses;
* $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table C.17: Turnout by maturation index versus alternatives for young voters aged 35 years or less - mean turnout of older voters excluded, BES 1964-2005 (before the imputation of missing indicators)

	model 1	model 2a	model 8a	model 3a	model 8b
	b/(se)	b/(se)	b/(se)	b/(se)	b/(se)
Age	0.786***	0.468***	-0.338	0.758***	0.033
	(0.113)	(0.138)	(0.338)	(0.215)	(0.434)
Post 1990	-0.539**	-0.120	-1.003***	-0.419***	-1.079***
	(0.254)	(0.127)	(0.270)	(0.094)	(0.408)
Maturation index		0.971***	1.847***		
		(0.286)	(0.074)		
Not in education				-0.299*	-0.334
				(0.171)	(0.258)
Married/cohabiting				0.185***	0.211
				(0.068)	(0.247)
Children				-0.094	0.091
				(0.102)	(0.130)
Home ownership				0.623***	0.661***
				(0.097)	(0.158)
Residential stability				0.315	0.323
				(0.209)	(0.758)
Works				0.043	-0.137
				(0.065)	(0.266)
Gender			-0.306**		-0.216**
			(0.140)		(0.088)
Educational level			0.626		0.559
			(0.445)		(0.394)
Church attendance			0.383***		0.334***
			(0.138)		(0.084)
Union membership			0.068**		0.112***
			(0.028)		(0.011)
Household income			0.060		0.101
			(0.130)		(0.158)
Middle class			0.031		-0.028
			(0.043)		(0.032)
Interest			1.057**		1.030**
			(0.423)		(0.446)
Strength party id			1.233***		1.144***
			(0.204)		(0.229)
Perceived party difference			-0.450***		-0.424***
			(0.088)		(0.126)
Voted (t-1)			1.177***		1.201***
			(0.196)		(0.175)
Average turnout ≤35		6.496***	-39.027***	4.110***	-36.047***
		(1.707)	(10.392)	(1.490)	(8.389)
Constant	0.276***	-5.374***	29.144***	-3.186**	27.664***
	(0.069)	(1.409)	(8.303)	(1.243)	(6.878)
Log-likelihood	-6362.74	-5708.21	-777.33	-3326.94	-777.75
Pseudo R^2	0.021	0.032	0.172	0.048	0.172
N	9762	8969	1439	5211	1439

note: b coefficients from logit analyses with robust s.e.'s clustered
by election in parentheses; * $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table C.18: Turnout by life-cycle indicators versus alternatives for young voters aged 35 years or less - mean turnout of older voters included, BES 1964-2005 (before imputation of missing indicators)

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C.3 Analyses with a full sample of the electorate

Variable	Correlation with voting	Notes
Resource variables:		
Age (0 = 18 - 1 = 97 years or over)	.120***	
Gender (0, 1 = male)	-.002	
Married/cohabiting (0, 1 = yes)	.092***	
Education (0, 1 = higher)	.021***	
Social class (0, 1 = middle class)	.045***	
Household income* (0, 1 = higher)	.067***	
Union membership (0, 1 = member)	.050***	
Maturation index (0, 1 = higher)	.113***	
Mobilization variables:		
Union membership (0, 1 = yes)	.050***	
Religion (0, 1 = yes)	.095***	
Church attendance (0, 1 = > once a week)	.108***	
Urban ●		
Campaign variables:		
Political interest (0-1 = very much)	.210***	
Party identification (0-1 = very strong)	.242***	
Perceived party diff. (0 - 1 = not much) ●	-.124***	
Party sympathy ●		
Character of elections variables:		
Majority status, percent (0 = 2 - 1 = 15)	-.014***	
Margin of the victory, percent (0 = 1 - 1 = 15)	-.032***	
Time since last elections (0 = 2 - 1 = 5)	.012***	
Linkage variables:		
Voted at previous election (0, 1 = yes)	.334***	
Member of new cohort (0,1 = yes)	-.084***	Entered electorate since last election
Established voter (0,1 = yes)	.084***	Entered electorate before last election
Young initiation (0, 1 = yes)	-.148***	Entered electorate after the lowering of the voting age in 1969

● not available in BES/not included in Franklin (2004); * $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table C.19: Individual level variables for explaining turnout, BES 1964-2005

	Model A	Model B	Model C
	b	*b*	*b*
Age	1.297***	1.409***	0.568***
Gender	-0.188***	-0.205***	-0.182***
Educational level	0.333***	0.311***	0.261***
Middle class	0.008	0.023	0.012
Household income	0.180**	0.189*	0.124
Union membership	0.244***	0.249***	0.194***
Maturation index	1.295***	1.412***	1.053***
Religious	0.049	0.034	-0.028
Church attendance	0.663***	0.664***	0.621***
Interest	1.275***	1.270***	1.113***
Party id strength	1.559***	1.564***	1.141***
Perceived party differences	-0.384***	-0.398***	-0.368***
*New * gender*		0.109	0.107
*New * educational level*		0.353*	0.550**
*New * middle class*		-0.182	-0.169
*New * hh income*		-0.044	-0.036
*New * union membership*		-0.024	-0.027
*New * maturation index*		-0.268	0.273
*New * religion*		0.114	0.168
*New * church attendance*		-0.058	-0.045
*New * interest*		0.076	0.377
*New * party id strength*		-0.060	0.356
*New * perceived party differences*		0.114	0.266*
Majority status			0.222
Margin of the victory			-0.057
*New * majority status*			-0.646
*New * margin of the victory*			0.190
Young initiation			-0.201
Voted in previous elections			1.451***
Constant	-2.119***	-2.224***	-2.405***
Log-likelihood	-16400	-16400	-15500
Pseudo R^2	0.136	0.137	0.185
N	32252	32252	32252

Note: *b* coefficients from logit analyses with robust s.e.'s clustered
by election; * $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table C.20: Turnout by Individual Level Variables, BES 1964-2005

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	Model A	Model B	Model C
	b	*b*	*b*
Age	1.297***	0.975***	-0.099
Gender	-0.188***	-0.145**	-0.116*
Educational level	0.333***	0.253**	0.173*
Middle class	0.008	0.060	0.062
Household income	0.180**	0.108	0.053
Union membership	0.244***	0.225***	0.176**
Maturation index	1.295***	1.446***	0.892***
Religious	0.049	0.082	0.030
Church attendance	0.663***	0.628***	0.603***
Interest	1.275***	1.219***	1.048***
Party id strength	1.559***	1.530***	1.144***
Perceived party differences	-0.384***	-0.295***	-0.293***
*Aged <35 yrs * gender*		-0.109	-0.109
*Aged <35 yrs * educational level*		0.235	0.317*
*Aged <35 yrs * middle class*		-0.133	-0.149
*Aged <35 yrs * hh income*		0.135	0.113
*Aged <35 yrs * union membership*		0.026	0.010
*Aged <35 yrs * maturation index*		-0.408	-0.376
*Aged <35 yrs * religion*		-0.077	-0.070
*Aged <35 yrs * church attendance*		0.112	0.076
*Aged <35 yrs * interest*		0.143	0.305
*Aged <35 yrs * party id strength*		0.071	0.155
*Aged <35 yrs * perceived party diff.*		-0.240**	-0.126
Majority status			0.230
Margin of the victory			-0.056
*Aged <35 yrs * majority status*			-0.406*
*Aged <35 yrs * margin of the vict.*			-0.013
Young initiation			-0.177
Voted in previous elections			1.316***
Constant	-2.119***	-2.021***	-1.866***
Log-likelihood	-16400	-16400	-15600
Pseudo R^2	0.136	0.138	0.180
N	32252	32252	32252

Note: *b* coefficients from logit analyses with robust s.e.'s clustered
by election; * $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table C.21: Turnout by Individual Level Variables (young 35), BES 1964-2005

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Appendix D

Additional information and analyses chapter six

D.1 Description and origin of the variables

- **Age gap**
  Difference in the average turnout of younger ($\leq$35 years) and older voters
  (>35 years). Data is adjusted for sampling errors and over-reporting of
  turnout.
  Source(s): see appendix A.

- **Average years of schooling**
  Average years of schooling in the total population aged 15 years or over (see
  Barro and Lee, 2001) *Source(s): Quality of Government (QoG) Time-Series
  and Cross-Section Dataset;* `http://www.qog.pol.gu.se`

- **Coalition**
  Dichotomous variable that identifies elections for which the outcome resulted
  in a coalition government.
  *Source(s): based on indicator in the Cross-National Time-Series Data Archive
  (CNTS);* `http://www.databanksinternational.com/`

- **Disproportionality**
  Least suares measure of disproportionality between votes and seats (see
  Laakso and Taagepera, 1979). Data for Italy 1994, 1996, and 2001 refers
  to list votes and seats only.
  Source(s): (Gallagher and Mitchell, 2008).

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- **Effective number of parties at the electoral level (ENEP)**
  Measure of the effective number of parties based on the vote share (see Laakso and Taagepera, 1979)). Data for Italy 1994, 1996, and 2001 refers to list votes and seats only.
  Source(s): (Gallagher and Mitchell, 2008).

- **Electoral system**
  Dummy variables.
  Source(s): (Franklin, 2004); IDEA Voter Turnout Database (see appendix A).

- **GDP per capita**
  In constant US$ (2000).
  Source(s): World Development Indicators; `http://www.worldbank.org`

- **Majority status**
  Simple difference between the vote share of the largest party and 50 percent.
  Source(s): (Franklin, 2004); supplemented by the record of recent elections published in the European Journal of Political Research.

- **Margin of the victory**
  Simple difference between the vote share of the first and second party.
  Source(s): (Franklin, 2004); supplemented by the record of recent elections published in the European Journal of Political Research.

- **Mean age women at first childbirth**
  Source(s): (OECD, 2006, p. 45), (Council of Europe, 2004, p. 81), (Council of Europe, 2005, p. 87), (OECD, 2007, p. 31) United Nations Demographic Yearbook/UNECE Statistical Division Database.

- **Mean age women at first marriage (below 50 years)**
  Indicator refers to the median age for women at first marriage in the United States.
  Source(s): (OECD, 2006, p. 49), (Council of Europe, 2004, p. 60), (Council of Europe, 2005, p. 68), United Nations Demographic Yearbook/UNECE Statistical Division Database, U.S. Bureau of the Census.

- **Party discipline**
  Dichotomous variable that identifies countries with a strong party discipline.
  Source(s): (Franklin, 2004)

- **Size of electorate (in millions)**
  Source(s): IDEA Voter Turnout Database; McDonald & Popkin's United States Elections Project Data (see appendix A).

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D.2 Additional analyses chapter six

	model 1	model 2	model 3	model 4
	b/(se)	*b/(se)*	*b/(se)*	*b/(se)*
Time trend	8.212***	-0.392	-0.415	-0.663
	(0.953)	(2.743)	(3.075)	(3.162)
Average years of schooling		1.417**	1.518***	1.522***
		(0.559)	(0.577)	(0.581)
Average age at 1st marriage		0.726	0.660	0.703
		(0.512)	(0.561)	(0.572)
Majority status			0.081	0.151
			(0.113)	(0.157)
Margin of the victory			0.093	0.105
			(0.075)	(0.070)
Polarisation			0.018	0.017
			(0.052)	(0.054)
PR-system				-7.851**
				(3.125)
Disproportionality				0.019
				(0.061)
Eff. number of parties				-0.480
				(1.086)
Bicameralism				-9.590**
				(4.072)
Party discipline				-5.205
				(12.703)
Ease of voting				0.870
				(19.262)
Canada	5.167**	3.096	2.970	-5.192**
	(2.212)	(2.226)	(2.571)	(2.273)
Denmark	-3.198	-4.016*	-5.056*	-14.236***
	(2.442)	(2.429)	(2.691)	(3.531)
Finland	9.377***	10.036***	9.478***	0.000
	(3.604)	(3.341)	(3.309)	(0.000)
Germany	-5.281**	-5.269**	-4.740*	-4.835*
	(2.347)	(2.339)	(2.484)	(2.562)
Italy	-9.519***	-7.032***	-7.306***	-12.089
	(2.519)	(2.643)	(2.742)	(12.786)
Norway	3.118	2.695	1.961	1.975
	(2.598)	(2.322)	(2.574)	(2.596)
Sweden	-3.331	-4.688**	-5.681*	-5.639*
	(2.264)	(2.279)	(3.024)	(3.038)
United Kingdom	6.463**	7.555***	8.224***	0.000
	(2.800)	(2.681)	(2.940)	(0.000)
United States	8.128***	7.183**	8.044**	-5.535
	(2.236)	(2.866)	(3.498)	(11.367)
Constant	5.573***	-20.637**	-22.193**	0.000
	(1.817)	(10.191)	(11.163)	(0.000)
R^2	0.580	0.636	0.649	0.648
χ^2	405.9	562.2	580.0	1367.9
p	0.000	0.000	0.000	0.000
ρ	.257	.196	.180	.185
N	106	106	106	106

note: *b* coefficients from Prais Winsten pcse analysis; * $p<0.10$, ** $p<0.05$,
*** $p<0.01$; results for country dummies are not presented

Table D.1: Modelling the age gap in voter turnout (mean age at 1st marriage),
1960s-2000s

	model 1	model 2	model 3	model 4
	b/(se)	b/(se)	b/(se)	b/(se)
Time trend	-15.432***	0.858	-0.194	-0.317
	(1.607)	(3.673)	(3.495)	(3.347)
Average years of schooling		-2.196***	-2.252***	-1.745**
		(0.743)	(0.803)	(0.794)
Average age at 1st child		-2.443***	-1.967***	-2.035***
		(0.747)	(0.726)	(0.720)
Majority status			-0.229	-0.207
			(0.141)	(0.226)
Margin of the victory			-0.135	-0.115
			(0.093)	(0.102)
Polarisation			0.030	0.002
			(0.064)	(0.064)
PR-system				20.254***
				(4.186)
Disproportionality				-0.038
				(0.088)
Eff. number of parties				-0.212
				(1.294)
Bicameralism				17.542***
				(5.223)
Party discipline				-1.175
				(6.518)
Ease of voting				-29.838
				(25.748)
Constant	82.469***	158.857***	151.729***	128.749***
	(2.650)	(19.596)	(18.250)	(17.891)
R^2	0.840	0.859	0.862	0.867
χ^2	954.3	1748.6	1376.0	1075.4
p	0.000	0.000	0.000	0.000
ρ	.317	.238	.252	.239
N	106	106	106	106

note: *b* coefficients from Prais Winsten pcse analysis; * $p<0.10$, ** $p<0.05$,
*** $p<0.01$; results for country dummies are not presented

Table D.2: Modelling turnout among young voters (aged ≤35 years), 1960s-2000s

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	model 1 b/(se)	model 2 b/(se)	model 3 b/(se)	model 4 b/(se)
Time trend	-7.279***	-0.841	-1.436	-1.611
	(1.168)	(2.406)	(2.032)	(1.908)
Average years of schooling		-0.575	-0.552	-0.011
		(0.619)	(0.607)	(0.485)
Average age at 1st child		-1.189**	-0.900**	-0.951**
		(0.470)	(0.408)	(0.423)
Majority status			-0.183**	-0.116
			(0.090)	(0.135)
Margin of the victory			-0.073	-0.044
			(0.055)	(0.061)
Polarisation			0.045	0.014
			(0.042)	(0.036)
PR-system				0.000
				(0.000)
Disproportionality				-0.013
				(0.053)
Eff. number of parties				-0.562
				(0.718)
Bicameralism				6.935*
				(3.539)
Party discipline				5.579
				(4.961)
Ease of voting				-31.589*
				(18.020)
Constant	88.080***	121.712***	117.243***	119.444***
	(1.315)	(12.208)	(10.415)	(10.294)
R^2	0.874	0.876	0.863	0.868
χ^2	1175.0	1253.3	1716.2	1389.5
p	0.000	0.000	0.000	0.000
ρ	.320	.301	.215	.183
N	106	106	106	106

note: *b* coefficients from Prais Winsten pcse analysis; * $p<0.10$, ** $p<0.05$, *** $p<0.01$; results for country dummies are not presented

Table D.3: Modelling turnout among older voters (aged >35 years), 1960s-2000s

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