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PROMOTING ELECTORAL TURNOUT THROUGH VOTING ADVICE APPLICATIONS?

A comparative approach between the Swedish parliamentary election 2018 and the European Parliament election 2019

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Abstract

As the only directly elected institution within the European Union (EU), the European Parliament (EP) elections aim to function as the clear link between the citizens and the EU. However, the EP elections are characterized by low turnout and lack of interest compared to national elections. Attempts have been implemented to increase the salience of EP elections and for the first time since 1979, turnout increased in the EP election 2019. There are various reasons for this, but one reason might be that campaign efforts aimed at promoting turnout have taken a larger role. One such campaign effort is Voting Advice Applications (VAAs). VAAs are web-based tools that match users' opinions on political issues with opinions by parties.

Previous research has found diverging results on whether VAAs influence turnout, but many studies found positive results. However, no study has investigated that the impact of VAAs might be dependent on the election. Since voters behave differently in EP elections and national elections, this further raises the question if VAAs affects turnout differently in EP elections compared to national elections. It is this research gap this thesis ought to fill.

Sweden has been chosen as the case of interest and more precisely the Swedish parliamentary election 2018 and the EP election 2019. The findings showed that VAAs did affect turnout in both elections, but that the difference in terms of turnout between VAA users and non-VAA users was larger during the EP election 2019 compared with the Swedish parliamentary election 2018.

Keywords: Voting Advice Applications, VAAs, elections, Sweden, European Union, European Parliament, European Parliament elections, Swedish parliamentary elections, first-order elections, second-order elections, voting behaviour, electoral turnout, second-order election theory, rational choice theory, election campaigns, campaign efforts

Content

Abbreviations:

EU	European Union
EP	European Parliament
MEPs	Members of the European Parliament
OLS	Ordinary Least Squares
SNES	Swedish National Election Studies
VAAs	Voting Advice Applications

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1. Introduction and research problem

The European Parliament (EP) is the only directly elected institution within the European Union (EU) and the first EP election was introduced in 1979. The EP elections aim to function as a clear link between the EU citizens and the EU, but have since the start suffered from low levels of interest, knowledge and electoral participation. Several attempts have been implemented to increase the salience of EP elections to similar levels as in national parliamentary elections where the voters are more active (Hobolt & Spoon 2012:701-3), but turnout rates in EP elections continued to fall for decades. However, the EP election 2019 demonstrated an opposing trend and the turnout rates increased (CERGU 2019b). There are several reasons for the higher turnout rates in the EP election 2019, but Marquart et.al. (2020:2) argue that campaign efforts and the media have taken a larger role in promoting electoral participation through providing political information and that this lead to higher turnout rates. One such campaign effort is Voting Advice Applications (abbreviated VAAs).

VAAs are "web-based tools designed to help voters to find a political party that matches their political views" (Fischer et.al. 2017:279). VAAs have become increasingly popular in the last two decades, especially in Europe where VAAs were introduced (Gemenis et.al. 2014:281). VAAs produce easily accessible and understandable information regarding the most salient political issues and are said to lower the time and effort of getting politically involved. As explained by *rational choice theory*, when the time and effort required to get politically informed is low; the likelihood of voting is higher. With that said, there are reasons to believe that VAAs have the potential to impact different electoral aspects such as electoral turnout (Wall et.al. 2014:418). Studies have found diverging results whether VAAs affect electoral turnout, but most scholars except for a few exceptions argues that VAAs have a positive impact on electoral turnout (Kleinnijenhuis et.al. 2017:291-2).

Scholars have become increasingly interested in VAAs, but research is still in its' early stages. Most studies about VAAs in Europe investigate the impact and usage of VAAs in a national context and focus on national parliamentary elections (e.g. Wall et.al. 2018; Kleinnijenhuis et.al. 2017). Nonetheless, not many studies about VAAs have been made that investigate other types of elections such as EP elections (Dinas 2014). Even fewer studies can be found that compare the usage and impact of VAAs between different kinds of elections.

It is widely known in election research that voters behave differently depending on the electoral contexts. As mentioned above, EP elections are characterized by lack of interest and low turnout compared with national elections. There are several reasons for this, but previous research argues that the lower levels are due to that less is at stake during EP elections since the elections do not lead to government formation and because of lack of interest and knowledge about the EU (Reif & Schmitt 1980; Clark 2014). To improve the legitimacy of the EP and the EU, it is of importance to raise awareness, interest and not the least electoral participation. Turnout rates can be seen as a receipt of how well democracies function, i.e. high turnout rates are desirable. Lefevere and Aelst (2014:160) and Marquart et.al. (2020:2-4) argues that the mobilizing potential of campaign efforts often have a larger impact during EP elections compared with national parliamentary elections since voters have less knowledge and information from the outset.

It is therefore interesting to investigate whether VAAs also have a larger impact on electoral participation during EP elections than in national parliamentary elections. The only study that can be found that compare VAAs during different types of elections is a study made by Van de Pol et.al. (2018) and the study focuses on how the usage of VAAs differ between national parliamentary elections and EP elections. Their main finding is that voters use VAAs for different purposes depending on the election. Most users use VAAs for entertainment regardless of the election, but more users use VAAs go get politically informed and to decide which party to vote for during EP elections. Since the study confirms that the *usage* of VAAs differs between elections, this raises the question of whether the *impact* that VAAs can serve on voters' voting behaviour also differs depending on the election. It is exactly this research gap this thesis aims to fill.

In order to study the impact of VAAs in different electoral contexts, Sweden and more precisely the Swedish parliamentary election 2018 and the EP election 2019 have been chosen as the case of interest. Sweden is an interesting context to study this relationship for several reasons, but the first obvious reason is that no comprehensive study about VAAs in a Swedish context exists. This is quite remarkable given that Swedish voters are prominent users of VAAs (Svenska Dagbladet 2018-05-06). The second reason is that Sweden has an interesting electoral system and has had a particular relationship to the EU and EP elections. The electoral system in Sweden includes most of the ingredients required to promote high electoral participation

(Oscarsson & Holmberg 2016:62), but yet there are large differences in turnout when comparing the Swedish parliamentary elections and the EP elections. In the EP election 2019, the turnout rate was 32 percentage points lower than in the Swedish parliamentary election 2018; one of the largest differences in turnout in the EU (European Parliament 2019b:34). Albeit the large difference in turnout rates, Sweden can be considered as a trend breaker since up until the EP election 2014, turnout rates in the EU continued to fall, but turnout instead increased in Sweden (CERGU 2019a) and continued to increase in the EP election 2019 (CERGU 2019b). Sweden should, therefore, be a reasonable environment for investigating the impact of VAAs in different electoral contexts.

1.1 Aim and research question

This thesis aims to investigate if the impact that VAAs serve on electoral turnout differs between different types of elections. The elections of interest are the Swedish parliamentary election 2018 and the European Parliament election 2019 in Sweden. The comprehensive research question is:

- Did VAAs impact electoral turnout differently in the Swedish parliamentary election 2018 and the European Parliament election 2019?

1.2 Outline

In the subsequent chapter, previous research and theoretical frameworks that are of interest for voting behaviour and VAAs will be provided. Based on this literature, testable hypotheses are suggested. The choice of material, case selection, operationalization and method can be found in the third chapter. This is followed by the results from logistic regressions of the impact of VAAs in the Swedish parliamentary election 2018 and the EP election 2019, as well as a comparison of these results. In the fifth chapter, an analysis of the results is provided. This is followed by concluding remarks and suggestions for future research.

2. Previous research and theoretical framework

This chapter is divided into two sections. The first section will provide an overview of elections and voting behaviour. What is it that drives people to vote, or abstain to vote? Later in the section, a specific focus will be on the European Parliament elections and differences in voter's voting behaviour in European Parliament elections compared to national elections. The second section of the chapter will provide an overview of VAAs and present different aspects regarding VAAs. For example, this section will present who it is who uses VAAs and if VAAs have the potential to affect elections and voting behaviour.

2.1 Elections and voting behaviour

Citizens in democratic societies can engage in political activities in various ways, but the act of voting is by far the most common form of political participation (Verba et.al. 1995:72). Electoral turnout is an important measure when evaluating how well an electoral democracy is functioning. If people do not tend to vote, there is a sign that the voters do not perceive the election as exciting or important, or do not show high trust in the democracy or for the politicians (Oscarsson & Holmberg 2016:48).

According to Alvarez et.al. (2014:227), the election dynamics have changed considerably since the 1970s. Apart from a few exceptions, turnout rates have declined in many European countries and many citizens demonstrate low trust towards the government and politicians. Also, the traditional cleavages between parties have become more obscured and some voters perceive it difficult to distinguish the parties. The mass media, non-political actors and the Internet have taken a larger role as information providers during election campaigns and Wall et.al. (2014:417) refer to this as *the postmodern campaigning environment* which "corresponds to a more interactive, bottom-up, personalised and competitive electoral contest (Dumont et.al 2014:145). The *postmodern campaigning environment* leads voters to be affected by various actors and aspects when voting instead of only following the cues by parties.

2.1.1 Explaining electoral turnout

When discussing elections, turnout and voting behaviour, one fundamental question one must ask is *why* citizens choose to get involved during elections. According to *rational choice theory*, people are rational and acts in order to maximise their own self-interest. However, as stated by

Feddersen (2004:99), it is hard to understand the rationality in voting since the chances that one person's single vote will change the electoral outcome fundamentally is "vanishingly small" (ibid.). Instead, scholars have sought alternative explanations in order to explain electoral turnout. This thesis will follow the distinction used by Oscarsson and Holmberg (2016:49) that make a difference between *individual explanations, contextual explanations* and *institutional explanations* when explaining electoral turnout.

Individual explanations

Oscarson and Holmberg (2016:50) state that the most common focus in explaining electoral participation derives from *individual explanations*. This is partly because it is relatively easy and uncomplicated to study individual explanations (Verba et.al 1995:270). The strength in explaining electoral turnout through individual explanations has been proven in numerous studies and Oscarsson and Holmberg (2016:49) make a distinction between *resource explanations* and *motivational explanations*.

Resource explanations refer to social status such as education, age, work, class and income as well as the level of social integration such as position on the labour market, citizenship, country of origin, the size of one person's network and marital status. Studies have shown that people with higher education, higher income and people with more advanced jobs vote to a higher degree compared with people with no or low education, low income and people with less advanced or no jobs. Older people, married and people with large social networks also tend to vote more frequently than younger persons, people living alone and people with small networks (ibid.:52).

While *resource explanations* essentially refer to what people have, *motivational explanations* refer to what it is that psychologically drive people to vote. Inherent in motivational explanations are aspects such as political commitment and political interest, party identification, consumption of political news and whether the person holds an extremist ideological opinion. People interested in politics and that strongly identify with a particular party tend to vote more frequently than people uninterested in politics and who does not hold strong party identifications. People that belong to an extreme party, either on the left or right side of the ideological spectrum, have a higher tendency to vote compared with people that vote for centrist parties (ibid.:53-5). Another important driving force when voting is the feeling of civic duty

and that people are satisfied when they feel that they have contributed to the democratic system. Verba et.al. (1995:109) refer to this as *selective civic gratifications.* Apart from selective civic gratifications, people may also vote because they feel that it is exciting to be part of politics and enjoy the company of other politically active citizens, referred to as *selective social gratifications*. Inherent in *motivational explanations* is a third individual explanation that Verba et.al. (1995:110) refer to as *collective outcome*, meaning that people vote because they feel that they have done their part in influencing politics or to the election of a favoured candidate.

Contextual explanations

The second group of explanations for electoral turnout is *contextual explanations*. It is important to study contexts in order to get a full understanding of different phenomena and "contextual analyses are needed when the importance of characteristics among individuals and characteristics among individual's social and political surrounding can be estimated simultaneously" (Oscarsson & Holmberg 2016:57, author's translation). Contextual explanations differ when studying the *political context* and the *social context*.

The *political context* refers to how the election and the political surrounding is perceived by the voter. The political context differs between elections and some elections are perceived as more exciting and important than others. National parliamentary elections are for example perceived as more important and exciting than local elections or the EP elections. When there is a lot at stake during an election (as it often is during national parliamentary elections), the media put in more effort into the election and parties make a larger effort to mobilize voters. Also, people are more motivated to vote if the election shows large differences between the parties and high ideological polarization. This is because it feels more worthwhile to vote if the election results actually have an impact on the ideological stance in politics after the election. Voters are also more driven to vote if the election is perceived as exciting and important according to the *close race hypothesis*. If the parliamentary power is at stake during an election, this inclines more people to vote (ibid:58-60).

On the other hand, the *social context* refers to how people in the surrounding can influence a voter's voting behaviour. The *social context* during elections is influenced by people in the surrounding environment of voters such as the voter's family, the neighbourhood and the workplace. If people in the voters' surroundings are interested in the election campaign and

have a high tendency to vote, this influences voters. Voting can in these contexts be understood as normative behaviour and the feeling of civic duty to vote is embraced by the surrounding environment. Henceforth, if people in the surroundings put in a lot of energy and interest in the election, this also leads other people to follow this behaviour (ibid:59). One example can be the degree of unemployment in a neighbourhood. Since we know from *individual explanations* that unemployed are less inclined to vote, neighbourhoods with high unemployment often have lower electoral turnout than neighbourhoods with low unemployment (ibid.:58). Also, Haenschen (2016:556) finds statistical evidence for that Facebook posts, urging for voters to vote, affected election turnout during the 2014 general election in Texas, USA, and led to more people voting.

Institutional explanations

The final group of explanations for electoral turnout is *institutional explanations.* The institutional explanations refer to election structures and party systems. Democratic systems can affect the thresholds for voting in numerous ways. Previous research has found evidence that voters feel more or less inclined to vote depending on when during the year and which day of the week the election is held. Voters are more willing to vote if the election is held during late spring or early autumn and on weekends (Oscarsson & Holmberg 2016:61).

Other factors that may affect turnout are electoral procedures such as the minimum age of voting. The most common minimum age is 18 years old, but in some countries, 16-year olds can vote while in other countries voters need to be above 20 years old. Also, voters are less prone to vote if they are obliged to register before voting or if it is complicated to vote in advance. Naturally, countries with compulsory voting often have higher turnout rates than in countries where voters are not compelled to vote (ibid.). Oscarsson and Holmberg (2016:62) argue that the explanation for why institutional settings matter is that there is an interplay between individual's motivation and the institutional setting, indicating that if the thresholds for voting are low, more people tend to vote.

2.1.2 Research on the European Parliament Elections

The introduction of EP elections in 1979 is a very important part of the EU and EP history. As the only directly elected institution in the EU, the aim when introducing the elections was to improve the legitimacy of the EU by creating a clear link between the EU and the EU citizens.

During the first decades after the creation of the EP in the 1950s, the EP was considered a weak institution with limited powers, but by introducing EP elections, the ambition was to increase the salience of the EP in EU politics. The ambition was further to increase the interest for the EU and the EP among the citizens. The EP elections are held every fifth year in May in all of the EU Member States (Hix & Høyland 2011:130-1) and the outcome of the EP elections has large implications for politics in the EU. When voting in the EP elections, voters vote for their national parties and their Members of the European Parliament (MEPs). These MEPs are organized in party groups depending on political affiliation and the larger the party group in the EP, the larger influence in politics in the EP and the EU (Viola 2015:27-9).

Two of the problems facing the EP elections are low turnout and lacking interest among the citizens, the media and politicians. Already before the introduction of EP elections in 1979, concerns were raised that the EP elections would fail to promote a clear link to the citizens and would not attract much attention (Viola 2015:3). Some of these concerns turned out to be valid as demonstrated by the fact that the turnout rates in EP elections have been low (Schmitt, Hobolt & Popa 2015:352). Up until the EP election in 2014, turnout rates in most of the Member States (except for a few exceptions such as Sweden) continued to fall and the turnout rates are below the turnout rates in national parliamentary elections. Nevertheless, the EP election in 2019 changed the pattern and turnout rates increased to 51 per cent compared to 43 per cent in 2014. The turnout rates vary significantly between the Member States. Slovakia, for example, had turnout rates of 23 per cent and Belgium 88 per cent in the 2019 election (European Parliament 2019a).

The attention about the EP elections spent by the media and parties also differ between the Member States. Consequently, this lead to that citizens does not have equal access to information, which affects how to vote and if citizens vote at all (Hobolt & De Vries 2009:422). Furthermore, there is no mutual and equivalent reporting in the EU. This has many reasons such as linguistic differences, but it is considered a problem for citizens' access to information (Schmitt, Hobolt & Popa 2015:351). Clark (2014:343) argue that the media apathy regarding the EU as a whole and EP elections specifically is a serious problem and that even though the EP has been given more powers, many voters may not be informed about this because the media simply has not given any attention to the EP elections.

Some voters are more likely to vote in the EP elections compared to others. Apart from the factors discussed above regarding *institutional explanations*, *contextual explanations* and *institutional explanations* for electoral turnout. (Oscarsson & Holmberg 2010:46-53), some researchers (e.g Clark 2014:350) have argued that EU specific aspects such as opinion and knowledge about the EU affect participation in EP elections. However, Steinbrecher and Rattinger (2012:34) argue that "whatever it is that induces people to vote or abstain in EP elections, it appears not to involve their perceptions and assessments of the EU itself." (ibid.:30). Instead, they argue that traditional explanations for turnout such as the ones discussed in **Section 2.1.1** better explain participation in the EP elections.

2.1.3 Different elections; different voting behaviour

Researchers interested in voting behaviour have known for a long time that voters behave differently in different electoral contexts. Voters might perceive some elections as more important and interesting than others, prioritize disparate issues and henceforth vote for different parties in different elections etc. Lots of attention focusing on distinctive voting behaviour have concentrated on comparing national parliamentary elections and EP elections. Scholars have, depending on the theoretical background, developed different explanations for this distinctive voting behaviour between elections (Hobolt & de Vries 2016) and two evident strands exist that will be presented in the following sections.

2.1.3.1 Second-order election theory

The study by Reif and Schmitt (1980), made in response to the first EP election in 1979, can be considered as the starting point for the *second-order election theory*. The second-order election theory distinguishes between first-order elections, such as elections to the national parliament, and second-order election, such as elections to the EP and local elections. The main element in this theory is that the voting behaviour differs between first- and second-order elections because voters, parties and the media simply do not perceive second-order elections as interesting nor as important as first-order elections. The causes and consequences for these perceptions have important implications for the voting behaviour during first- and second-order elections. Especially five different characteristics regarding voting behaviour in second-order elections, in this case focusing on EP elections, can be distinguished: low turnout, a focus on national

rather than European issues, a loss for large and government parties, wins for small, new, niche parties and that the timing of EP elections within the electoral cycle matters (Viola 2015:41).

The causes for the lower turnout in EP elections compared to national parliamentary elections can partly be attributed to the fact that voters perceive that it is "less at stake" in second-order elections. This because the EP elections do not lead to government formation nor have direct, visible consequences for the everyday lives of EU citizens. Furthermore, the EP has been considered, and still is by some actors, as a weak institution in EU politics, meaning that some voters do not perceive it worthwhile to vote (Marsh & Mikhaylov 2010:8). Viola (2015:41) also argues that a mobilization deficit exists during EP elections since neither parties nor the media spend lots of attention on EP elections and campaigns. Lefevere and Aelst (2014:161) argue that parties and the media "are not expected to invest in second-order campaigns because the benefits of higher turnout are smaller and obtaining more votes does not yield equal returns" (ibid).

Secondly, the second-order election theory argues that EP elections "are simultaneous national elections" (Reif & Schmitt 1980:8); meaning that when voters vote in EP elections, voters do not consider issues inherent and connected to the EU, but instead vote on national, domestic issues. Clark and Rohrschneider (2009:646) refer to this as the *transfer hypothesis*, namely that "national considerations dominate voters' decisions even in EU elections" (ibid). One explanation for this is that parties do not spend as much time on advertisement and manifestos for EP election as national parliamentary elections and use their usual national policy strategies (Viola 2015:41). Another reason might also be that some voters have low knowledge about the EU or feel that the EU is too distant. Consequently, EP elections are seen in the second-order election theory more as indications of national politics and functions as mid-term polls rather than separate elections compared to national parliamentary elections (Hobolt & de Vries 2009:424), or as "dress rehearsals" for national parliamentary elections (Viola 2015:677).

The third aspect inherent in the second-order election theory is that some types of parties do better in EP elections compared to national parliamentary elections, and some do worse. Some voters switch parties between first- and second-order elections for several reasons (Viola 2015:42). Voters may use their vote in EP elections as a tool to show dissatisfaction with the work of the government and use the vote to protest, also referred to as "voting with the boot" (Marsh & Mikhaylov 2010:12). Smaller, extreme and opposing parties are oftentimes not shy

to express wrongful behaviour by government parties and voters turn to these parties to make a stance to the government parties, even though the voters do not truly support these parties (Jacobs et. al. 2014:7). Another cause is that voters are more prone to *strategic voting* in national parliamentary elections and may not vote for the party that is closest to the voter's ideological stance, but instead vote for the party with bigger chances of winning. In EP elections, voters are instead more prone to *sincere voting* since when there is "less at stake" in second-order elections, voters feel more motivated to vote for the party truly closest to the voter's ideological preference. Larger and government parties often have centre-left or centre-right ideologies and thus more centrist opinions. Smaller, extreme or newer parties, on the other hand, often have more specialised ideologies that might suit the voter's preferences more closely. Therefore, one can say that in first-order elections, voters vote with the head, while in second-order elections, voters vote with the heart (Schmitt & Teperglou 2015: 293-296).

The final aspect inherent in the second-order election theory is that the timing of EP elections in relation to national parliamentary elections' electoral cycles matter. While EP elections occur every fifth year, national parliamentary elections might occur at different yearly intervals (Hix & Høyland 2011:146). The support for government parties can be seen as a curve. If EP elections are held closely after first-order elections, the support is high for government parties since the voters have not had time to identify any significant dissatisfaction. If the EP elections instead are held in the middle of the electoral cycle, voters have had time to identify dissatisfaction with the government and might use their vote to protest against the government parties. However, if the EP elections are held closely before a first-order election, the government parties have had time to recover and the support increases again (Schmitt och Teperglou 2015:296-297). However, there are opposing opinions regarding the accuracy of whether the timing of EP elections in the electoral cycle matters and for example, Franklin and Van der Eijk (1996:329) put forward opposing opinions.

2.1.3.2 Alternative explanations

Even though expectations from the second-order election theory has proven to be accurate in several studies, other explanations have in recent years been lifted. These alternative explanations do not follow under a cohesive umbrella term, but rather under different names (Hobolt & Wittrock 201030). However, most of the alternative explanations are inherent in the *Europe Salience theory* (Viola 2015:43), the *"Europe matters" perspective* (Hobolt & Wittrock

2010:31) and the *sui generis hypothesis* (Clark & Rohrschneider 2009:645). What these have in common is that they question the second-order election theory. Also, scholars of this view argue that the second-order election theory is based too much on analyses of aggregated data and that it is instead important to focus on individual explanations for voting behaviour (Clark & Rohrschneider 2009:648).

Before presenting the basic foundation inherent in alternative explanations, it is important to acknowledge that scholars belonging to this view does not reject the second-order elections theory as a whole. Rather, they argue that there is evidence for the accuracy of the second-order election theory, but that it is important to broaden the perspective and that as European integration proceeds, alternative explanations gain in importance (Carubba & Timpone 2005; Clark & Rohrschneider 2009; Hobolt 2015; Hong 2015; Marsh & Mikhaylov 2010; Treib 2005).

One of the main aspects that have led to the questioning of the second-order election theory is that a lot has changed since when Reif and Schmitt (1980) wrote their study about EP elections as second-order elections in the 1980s. Since then, European integration has both widened and deepened with more policy areas managed by the EU. People are more and more affected in their everyday lives by the EU which has led to the challenging of some of the predictions put forward in the second-order election theory (Clark & Rohrschneider 2009:646-7). Alternative explanations have in common their belief that, at least some voters, do care about the EP elections and base their voting intentions not only on national concerns but consider EU issues (Carubba & Timpone 2005; Clark & Rohrschneider 2009; Hobolt 2015; Hong 2015; Marsh & Mikhaylov 2010; Treib 2005).

Proponents of alternative explanations state that the amount of consideration about EU issues voters have when voting in EP elections is dependent on individual-level factors and aspects in the campaign structure. Hobolt and Wittrock (2010:39) state that many voters initially base their vote on national issues, as highlighted in the second-order election theory, but that as voters become more informed about the EU and EP elections, voters base their vote on truly EU considerations and not national issues. Hobolt and Spoon (2012:701) further argue that the level of politicization in the domestic debate about the EU affects whether voters consider domestic and/or EU matters and decide to vote or not. Furthermore, Clark (2014:342-3) state that the decision to abstain to vote EP elections is not because a lack of interest in EU matters

as stated in the second-order election theory, but is rather dependent on the voter's doubts about whether the EP can influence in EU decision-making and if the EP represents the views and opinions held by the citizens. Many EU citizens may perceive the EP as distant and not able to influence EU politics and therefore not perceive it worthwhile to vote.

As argued by the second-order election theory, some parties do better in EP elections compared to national elections (Viola 2015:44). While the second-order election theory argues that extreme parties and Eurosceptic parties do better in EP elections because of protest voting and as a way for voters to express their dissatisfaction on the domestic arena, alternative explanations explain this by that the EP elections are a way for voters to express their dissatisfaction with the EU and European integration. Henceforth, voting for Eurosceptic and extreme parties has a European dimension in EP elections and not a domestic dimension as stated in the second-order election theory (Hong 2015:53; Hobolt 2015:14). Ferrara and Weishaupt (2004:283) further argue that parties with a cohesive and well-defined stance on the EU often do better in EP elections than parties with a vague stance on the EU.

Carubba and Timpone (2005:263-4) explain the success for green parties in EP elections by arguing that it has become more important for voters to express their individual preferences in EP elections and that voters may have different preferences on the EU level and the national level. While voters may perceive that some political issues are best handled at the national level, other political issues may be best handled on the EU level. Specifically, environmental issues are perceived by many voters as a policy area that is best handled on the EU level since the Member States consequently has to cooperate. Environmental issues are seldom only situated in one or a few countries, but rather stretches over several countries or even continents (Viola 2015:44).

2.2 An overview of VAAs

VAAs were first introduced in the Netherlands in the 1980s as paper-and-pencil tests, but were not very popular in this form. The breakthrough for VAAs came in the 1990s with the increased use of the Internet and have become increasingly popular in Europe and other countries.VAAs are produced and published mostly by newspapers. VAAs include a wide range of political issue statements and match the opinions by parties with the opinions by users. Thereafter, VAAs

present which party that has the most similar opinion as the voter (Gemenis et.al. 2014:281). The usage and impact of VAAs is discussed below.

2.2.1 A typology of VAA users

First of all, when presenting a typology of VAA users, it is interesting to know how large proportion of the electorate it is who uses VAAs. In countries such as Finland, Switzerland, Austria, VAAs are used between 13-35 per cent of the voters (Krouwel et.al. 2012:4). In the Netherlands where VAAs originates, the share is even higher and VAAs are used by almost 40 per cent of the voters (van de Pol 2019:226). How widely spread usage of VAAs is in a country may depend on for how long VAAs have been prevalent in countries (Marschall 2014:97) and the party system. More fragmented multiparty systems make it harder for voters to decide which party to vote for and therefore, the proportion of VAA users may be larger (Krouwel et.al. 2012:4; Wall et.al. 2014:418).

However, it is also interesting to investigate *why* voters turn to VAAs. A general perception is that VAAs should be beneficial for voters since the burden and cost for searching and collecting information about all parties and candidates becomes much lower since VAAs produce this information with little effort (Wall et.al. 2014:418). However, previous research argues that VAAs do not benefit all voters equally. One reason for this is what Marschall et.al. (2015:528-9) refer to as the "digital divide 2.0" where people use the Internet for different purposes. While some people use the Internet for specific purposes such as entertainment, others use the Internet as a source of political information. This line of thinking originates from the *uses and gratification theory* and two opposite strands exit within this theory. On the one hand, the *mobilisation thesis* states that the Internet can reach politically uninterested persons since it is easier and takes less effort to gain political knowledge by using for example VAAs. The *normalization thesis*, on the other hand, state that the Internet only can reach persons who are already politically interested and not politically uninterested. This because persons those who are not politically interested simply do not turn to the Internet for political information. Much previous research point to the fact that the *normalization thesis* is more applicable than the *mobilisation thesis* due to that the typical VAA user is, among other things, politically interested. However, this might be disparate in different contexts and countries (Van de Pol et.al. 2018:228).

The next obvious question to ask is *who* it is who uses VAAs. Previous research has found that between 30 to 45 per cent of VAA users are younger than 30 years old. This can partly be explained by that younger persons use the internet to a higher degree than older people, but this divide between younger and older persons will probably decrease with time. When it comes to gender, males are overrepresented VAA users compared to women. Despite demographics such as age and gender, education and political interest matters. A large majority of VAA users are highly educated and politically interested and only a small minority have lower education and are not interested in politics (Marshall 2014:98-101).

Having outlined that VAAs might be used by different kinds of voters and have different capacities to attract voters, the VAA users can be divided into three different categories that all have different purposes for using VAAs. *Checkers* are those VAA users that are already interested in politics and the election campaign. This type of users knows which party to vote for and uses VAAs for entertainment purposes and to check whether VAAs produce the favourite party. Most VAA users are *checkers*. The second-largest category is *seekers* who are users who are not using VAAs for primarily entertainment purposes, but rather as a tool to decide which party to vote for and to get politically informed. Those users are not as politically interested and often have a preference for a limited number of parties, but are not completely sure about which party to vote for. The third and smallest category is *doubters* who are even less politically interested and do not have clear preferences regarding party choice (Van de Pol et.al. 2014:403-4).

The first and only known of research that makes comparisons of VAA users between different elections is Van de Pol et.al. (2018). In both first-order and second-order elections, *checkers* is the most prevalent type of VAA user; but the shares are different in different elections. While *checkers* accounted for 58 per cent of the users in the Dutch parliamentary election 2012, the amount of this VAA user type decreased to 48 per cent in the EP election 2014. Instead, the proportion of *seekers*, that was 32 per cent in the first-order election, increased to 41 per cent in the EP election. The proportion of *doubters* was about the same in both elections, 10-11 per cent. Since the amount of *seekers* is higher in second-order elections, this also implicates that these users actively use VAAs to learn and be active in the election campaign which "suggests that VAAs' mobilizing capacity is larger in second-order elections" (Van de Pohl 2018:235).

2.2.2 Impact and effect of VAAs

We now reach the question of whether VAAs actually matter and make a difference during elections. The impact and effects of VAAs can be measured by focusing on different aspects such as electoral participation, party choice, political engagement (Marshall et.al. 2014:5). What all these aspects of impact have in common is that scholars disagree about whether, and how much, VAAs impact (Enyedi 2016:1002). Due to that every VAA is different and scholars using different methodologies when investigating the impact that VAAs serve, it is problematic to compare results between scholars. The impact of VAAs might also be dependent on the political landscape in countries and for how long VAAs has been an integral part of the election campaigns (Enyedi 2016:1013).

When evaluating the impact of VAAs, the *rational choice theory* is often used (Geminis et.al. 2014:282). Proponents of the *rational choice theory* argue that humans are rational and only interested in learning and to put in time and effort in things that interest them. Henceforth, if a voter is not interested in politics and elections, the probability of voting is low. However, when the cost of getting politically informed is low; the likelihood of voting is higher. Maheo (2017:515) state that a "reduction of the costs of information acquisition and processing should lead to an increased likelihood of political participation. And this is exactly what VAAs do: they decrease the costs of both acquiring and processing political information during electoral campaigns" (ibid). By using a VAA, voters may become more aware of the differences between parties and realise that a particular party has a viewpoint similar to the voter. This might lead to that voters feel more motivated to vote (Gemenis et.al. 2014:282).

When it comes to electoral turnout, previous studies have mostly studied one election at the time and/or only focused on national parliamentary elections or EP elections. Gemenis et.al. (2014:285) argue that VAAs do have the potential to impact turnout. VAA users were 4,2 times more likely to vote compared to non-users during the 2006 Dutch parliamentary election and if no VAA would have been present, turnout would decrease with 4,4 per cent. This result is similar to the findings by other scholars such as Garzia et.al. (2014:106). Dinas et.al. (2014:297) find even higher numbers and states that VAA users were 14 percentage points more likely to vote than non-VAA users during the EP election 2009. However, the impact that VAAs serve differs between different groups. Voters with low education and political interest, that are young and have no strong party identification are affected more by VAAs than other voters (Gemenis

et.al. 2014:286). Garzia et.al. (2014:110) also finds that the effect of VAAs differs between different countries. While VAA users were 2 per cent more likely to vote in Germany, Finland and the Netherlands compared to non-VAA users, VAA users were 10 per cent more likely to vote in Switzerland. Enyedi (2016:1010) finds a more negative result and states that after controlling for other confounding factors, no evidence could be found that VAAs affected turnout during the 2010 Hungarian election.

2.3 Hypotheses

As a continuation of previous research and theoretical framework presented above, several testable hypotheses have been created as a result. Since the aim with this thesis is to investigate whether usage of VAAs affects electoral turnout in not only one, but two different elections, as well as is the impact of VAAs differs depending on the election, this thesis needs to explore several different aspects before being able to make correct inferences.

The first two hypotheses deal with the impact that VAAs serve on electoral turnout. There are logical reasons for believing that VAAs affect electoral turnout. In line with the *rational choice theory*, humans are only interested in learning and to put in time and effort in things that interest them. Henceforth, if a voter is not interested in politics and elections, the probability of voting is low. However, if the threshold for getting politically involved during elections gets lower through different measures and do not take much time and effort, the likelihood for voting increases (Maheo (2017:515). Since VAAs produce easily accessible and understandable information about party positions without much time and effort, VAA users may become more aware of the differences between parties and realise that a particular party has a viewpoint similar to the voter. This may lead to that voters feel more motivated to vote (Gemenis et.al. 2014:282). As a result, the expectations are that:

H_1: The probability of voting in the Swedish parliamentary election 2018 increases if a voter uses VAAs

H_2: The probability of voting in the European Parliament election 2019 increases if a voter uses VAAs

Having outlined hypotheses about electoral turnout and VAAs in both of the elections separately, it is now time to put these hypotheses together with a comparative approach between

different electoral contexts. The *second-order election theory* argues that voters behave differently depending on the election context. In general, voters are less interested and less educated about EP elections compared to national parliamentary elections (Reif & Schmitt 1980). *Alternative explanations* to the second-order election theory argue that the EP elections gain more attention in every election (Hobolt & de Vries 2016). Nevertheless, it is still a fact that the level of interest and knowledge is higher in national parliamentary elections than in EP elections. Since voters are generally less interested in second-order elections such as the EP elections, the threshold for getting politically involved is higher compared to first-order elections. However, if the time and effort for getting politically involved is reduced by using, for example, VAAs, VAAs may have an even larger mobilizing power in these types of elections than in first-order elections. Lefevere and Aelst (2014:160) argue that the mobilizing effects of measures to promote higher turnout should be higher during second-order elections compared to first-order campaigns because "these campaign effects occur in an information-sparse context" (ibid.)

Van de Pol et.al. (2018:241) also claims that people use VAAs for different purposes in first- and second-order elections. In both first- and second-order elections, the most common VAA user type is *checkers*, i.e. people that use VAAs for entertainment purposes and not as a tool to get politically informed. However, the share of *checkers* is lower in second-order elections and the share of *seekers*, i.e. voters who are actively turning to VAAs to get a better clue about which party to vote for and to get politically informed, is higher. Since more users use VAAs for the specific purpose of getting better politically informed and choose which party to vote for during second-order elections, this "suggests that VAAs' mobilizing capacity is larger in second-order elections" (Van de Pohl 2018:235). Consequently, it is reasonable to formulate the third hypothesis as followed:

H_3: The probability of voting in both the Swedish parliamentary election 2018 and the European Parliament election 2019 increases if a voter uses a VAA, but the difference concerning electoral turnout between VAA users and non-VAA users is larger in the European Parliament election 2019 than in the Swedish parliamentary election 2018

3. Method and material

This chapter will first discuss the chosen material for the empirical analysis, as well as its' advantages and shortcomings compared to other material sources. A discussion of the case selection is also provided. This is followed by a presentation of the operationalization of the material and the variables of choice. The chapter will end with a discussion about the method of choice, namely logistic regression.

The main aim of this thesis is to investigate whether VAAs have an impact on electoral turnout in different electoral contexts and if the impact of VAAs differs depending on the election. To investigate this, a quantitative method will be used. Most studies about VAAs (e.g. Van de Pol et.al. 2018; Alvarez et.al. 2014) have used VAA data in itself. However, this thesis takes another path and uses two different surveys instead.

There are several advantages and disadvantages with using, and not using, VAA data. The main advantages of using VAA data is that VAAs can ask directly if a VAA has influenced whether a voter chooses to cast a vote in the ballot or not. Also, since VAAs often attract thousands of users, the data sample for VAA data can be enormous. Besides these convincing advantages of using VAA data, there are also negative aspects. Over and over, scholars (e.g. Gemenis 2014:283; Alvarez et.al 2014:231; Kleinnijenhuis et.al. 2017:292) acknowledge the problem of self-selection with VAA data. Since persons themselves chooses whether to participate in a VAA, this creates non-randomized respondents and potentially biased data. People can do VAA tests several times and manipulate the opinion on some questions to see whether the VAA suggest another party. Also, VAAs can be used by persons who are not eligible to vote. Another problem with VAA data is that VAAs are most often used by persons who are already interested in politics and know which party to vote for which causes problems with external validity. When it comes to internal validity, it is also problematic that VAA data cannot distinguish between VAA users and non-users (Gemenis et.al 2014:284). VAA users can also experience an exaggerated self-perceived impact of VAAs on their electoral behaviour, something that Gemenis et.al. (2014:283) refer to as construct validity.

Henceforth, the chosen data source in this thesis derives from two different surveys that will be presented below. The most obvious advantage of using surveys is that surveys often have a large sample, randomized respondents and inherent a large variety of questions that can be

empirically tested against each other. Nevertheless, surveys also suffer from shortcomings and these shortcomings will be addressed below. However, the case selection will be discussed first.

3.1 Case selection

Sweden has been chosen as the case selection and more specifically the Swedish parliamentary election 2018 and the EP election 2019 in Sweden. There are several reasons why it is interesting to study this relationship in a Swedish context and it is argued that Sweden is an interesting case when it comes to VAAs, the relationship to the EU and the EP as well as voting behaviour in different electoral contexts. The first obvious reason for choosing Sweden is that no comprehensive study about VAAs in a Swedish context exists. Loads of research can be found about the typical example when it comes to VAAs, namely the Netherlands (e.g. Van de Pol et.al. 2014; Van de Pol et.al. 2018), but not much about Sweden. This is quite remarkable given that the Swedish voters are prominent users of VAAs and VAAs have been present in Sweden for many years. The first VAA in Sweden was launched already in 1998 (Svenska Dagbladet 2018-05-06). However, it was not until the 2000s that VAAs became more popular and especially the Swedish parliamentary election 2014 saw a marked increase in users (Oscarsson & Holmberg 2016:143). In fact, the VAA produced by the Swedish newspaper Aftonbladet set a world record in 2014 when it comes to the share of the population that used a VAA (Anderson 2014-09-14). Therefore, Sweden is a reasonable environment for testing the impact of VAAs.

However, this is not reason enough to choose Sweden. Instead, the case of Sweden can be motivated by that Sweden has an interesting electoral system and has had a particular relationship to the EU and EP elections. The electoral system in Sweden includes most of the ingredients required to promote high electoral participation and "one could consider our current system tailored to achieve high turnout" (Oscarsson & Holmberg 2016:62, author's translation). Nevertheless, there are large differences in turnout when comparing the last Swedish parliamentary election 2018 and the EP election 2019. The difference in turnout in the two elections was 32 percentage points; the largest difference in turnout rates when comparing the EP election 2019 with the last national election except for the Netherlands and Slovakia (European Parliament 2019b:34). Albeit the large difference in turnout rates, Sweden can be considered as a trend breaker since up until the EP election 2014, turnout rates continued to fall in the EU, but turnout rates instead increased in Sweden (CERGU 2019a) and continued to

increase in the EP election 2019 (CERGU 2019b). This implicates that the interest in EP elections is increasing in the Swedish electorate and Sweden should, therefore, be a favourable case when investigating the impact of VAAs on electoral turnout in EP elections compared with national parliamentary elections.

When it comes to Sweden's relationship to the EU, Sweden is an interesting case since Sweden joined the EU in 1995, meaning that Sweden is not one of the founding members that have been part of the EU from the start and participated in the first EP elections, but Sweden is not either one of the newer Member States that joined the EU in the 2000s that are not yet very acquainted with the EU and EP elections. Henceforth, the Swedish population have a generally good understanding of the EU and EP elections. All this together motivates that Sweden is an interesting case to investigate the relationship between VAAs and electoral turnout in a comparative perspective.

3.2 Material

In order to investigate the relationship between VAAs and electoral turnout during the Swedish parliamentary election 2018 and the EP election 2019 in Sweden, data provided by the Swedish National Election Studies (SNES) at the Department of Political Science, University of Gothenburg, will be used.

SNES is a research-centred institution that has performed election research since the 1950s and possesses one of the oldest time-series of election data in the world. SNES produces surveys in relation to elections and referendums. The surveys have been repeated in co-occurrence with Swedish parliamentary elections since 1956 and EP elections since 1995 (Oscarsson & Holmberg 2016:7). SNES cooperates with several international databases such as the Comparative Study of Electoral Studies (CSES) and cooperates with Statistiska Centralbyrån when collecting data (SNES 2019a). The data is cross-sectional and provides a large variety of questions, not only about voting behaviour but also aspects such as the labour market, migration, the economy etc. When collecting the data, SNES use simple random net sampling which means that every citizen is equally probable to be selected to the surreys which produce a representative sample (SNES 2020).

The reason for using two different surveys by SNES is that the aim of this thesis is not only to examine the impact of VAAs on electoral turnout in one election but whether the impact of

VAAs differs between different elections. Therefore, since SNES produces different surveys in co-occurrence with elections, it is indispensable to use two different surveys. There are negative aspects with using different surveys since the respondents, the number of respondents, the questions and the timing is different, meaning that results derived from the surveys cannot be directly compared. However, this thesis aims to investigate larger trends rather than individual aspects and not precise measures. Below, a description of the material is provided.

Table 1: Description of material

	Swedish parliamentary election 2018, "Election study 2018"	**European Parliament election 2019, "European Parliament election study 2019"**
Sample size	22,970	10,000
Net response rate	47,2 %	41,2 %
Field period	2nd of August-2nd of November 2018	27th of May-2nd of September 2019
Number of editions	6	2
Survey method	Mail or internet	Mail or internet
Age of respondents	18 (and eligible to vote) to 85	18 (and eligible to vote) to 84

Source: SNES (2020) for the Swedish parliamentary election 2018, and personal communication with Richard Svensson (2020-04-28) for the EP election 2019

As one can see from the table, the sample size was bigger for the Swedish parliamentary election 2018 than for the EP election 2019. Also, the number of editions differs with six editions for the Swedish parliamentary election 2018 and two for the EP election 2019. For the Swedish parliamentary election 2018, two of the editions were sent out before the election (the election was held the 9th of September 2018) (Valmyndigheten 2020a) and the remaining four editions were sent out after the election. One of these post-election editions was a follow-up survey to the respondents that were chosen for the pre-election editions and answered these, while the remaining three post-election surveys were sent only to respondents after the election (SNES 2020). For the EP election 2019, two editions were sent out at the same time to randomly selected respondents a few days after the election (personal communication with Richard Svensson 2020-04-28) and the EP election was held the 26th of May 2019 (Valmyndigheten 2020b).

Related to editions, each edition is different and while some questions are the same between each edition, some questions differ and are only included in some editions. This means that most often, one cannot include all editions in an analysis. This thesis will for the EP election 2019 use one of the editions. Concerning the Swedish parliamentary election 2018, this thesis

will use both of the pre-election surveys and the post-election follow-up survey. Since the post-election follow-up survey was only sent to respondents that were invited to the pre-election surveys and answered these, this gives a representative sample.

It is, however, important to acknowledge that politically interested persons with a generally higher likelihood of voting are also the persons that have a higher tendency to answer surveys (Voogt & Saris 2003:165). This tendency can be even further present in follow-up surveys, i.e. that the likelihood of answering both pre- and post-election surveys are even higher among politically interested persons and that those persons have a higher likelihood of voting. Later when making inferences in the analysis, this is a crucial concern that needs to be taken acknowledged. Additionally, people that get a pre-election survey might experience a stimulus effect and be affected by feeling more motivated to vote than people that do not get a pre-election survey (Gemenis et.al. 2014:284).

One aspect that is unique for surveys produced by SNES is that except for including data material retrieved from the respondent's answers on the survey questions, surveys from SNES also includes register data. No other election survey in the world includes this type of material. The register data comes from Statistiska Centralbyrån (SCB) that holds information about Swedish citizens such as income, electoral turnout, marital status, country of birth, job etc. The information cannot be traced to specific persons and the respondents need to agree to let SNES retrieve data from SCB (SNES 2018; SNES 2019b). The usage of register data ensures the correctness of the data material and enable researchers to bypass misinformation provided by respondents. Register data is available for the survey used during the Swedish parliamentary election 2018. Unfortunately, register data is not yet available for the EP election 2019 and register data will be available autumn 2020, i.e. after the submission of this thesis.

3.3 Operationalization

The following variables will be used to operationalize the relationship between usage of VAAs and electoral turnout. Since the surveys used in this thesis derive from the Swedish language, the surveys questions have been translated by the author.

3.3.1 Dependent variables

The dependent variables in this thesis are *Electoral turnout* in the Swedish parliamentary election 2018 and the EP election 2019. The wording of the dependent variable in the Swedish parliamentary election 2018 is *"Did you vote in the parliamentary elections this year?"* and the wording in the EP election is *"Did you vote in this year's European Parliament election?".* Both of the surveys had the response options *"Yes"*, *"No"* and *"Don't want to answer"*. The last response option is excluded from the analysis.

However, it is important to bear in mind that the correctness of respondent's answers on whether they voted in an election may be distorted and that it is not uncommon that the reported rates of electoral turnout in surveys are higher than the official turnout rates (Holbrook and Krosnick 2010:328). This can partially be explained by those politically interested persons with a generally higher likelihood of voting are also the persons that have a higher tendency to answer surveys (Voogt & Saris 2003:165). Nonetheless, there are also other causes and respondents may answer questions of electoral turnout incorrectly, either intentionally or unintentionally. Holbrook and Krosnick (2010:328) describe a phenomenon referred to as *intentional misrepresentation* which means that voters feel embarrassed to admit not voting in an election since voting is seen as a civic duty and a socially desirable norm. Also, people may not only answer the question wrong intentionally but also as a consequence of memory failure. Stocke and Stark (2007:239) show that the longer the time between an election and answering on a survey, the more people remember their voting wrong. Holbrook and Krosnick (2010:329), McDonald et.al. (2017:137), Selb and Munzert (2012:186) all stress the importance of being aware of social desirability bias and vote overreporting when analyzing turnout figures derived from surveys.

Analyzing data with vote overreporting is problematic for several reasons, but not the least because inferences derived from that kind of data might lead to wrongful inferences, low credibility and questionable validity (Selb & Munzert 2012:187). Therefore, the most expedient choice is to use register data where the respondent's answers are corrected against the register data. It is possible to do this for the Swedish parliamentary election 2018, but as mentioned above, register data is not yet available for the EP election 2019. Consequently, the correctness of the respondent's answers are corrected against register data for the Swedish parliamentary election 2018, but not for the EP election 2019.

Table 2: Distribution of the dependent variable, nominal scale

	Swedish parliamentary election 2018	European Parliament election 2019
Voted	97,54 %	80,12 %
Not voted	2,46 %	19,88 %
Number of respondents	2,520	2,022
Official turnout rate	87,2 %	55,3 %

Source: SNES (2018) for the Swedish parliamentary election 2018 and SNES (2019b) for the EP election 2019. Official turnout rates derived from Valmyndigheten (2020a) for the Swedish parliamentary election 2018 and Valmyndigheten (2020b) for the EP election 2019

From the table, it becomes evident that the electoral participation is higher among the respondents than compared with the official turnout rates for both the elections. The electoral turnout rates in the Swedish parliamentary election 2018 among respondents is very high and almost all respondents voted albeit the result being controlled against register data[1]. For the EP election 2019, the respondents also show a higher tendency of voting compared to the official turnout rates, but the results are not controlled against register data. We can also see that the official turnout rate is higher in the Swedish parliamentary election 2018 compared to the EP election 2019.

3.3.2 Key independent variables

The key independent variables in this thesis are *Usage of VAAs* which is operationalized through the question for the Swedish parliamentary election 2018 "*Ahead of this year's election, did you do any of the party tests/Voting Advice Applications that different media had on their websites, where you could test which party you thought was closest*?". For the EP election 2019, the question was worded "*Ahead of this year's election to the European Parliament, did you: Do a party test/Voting Advice Application that different media had on their websites?*". Even though both of the questions in the two surveys ask for the same thing, the wording of the questions is slightly different. This aspect is important to take into consideration due to response bias, meaning that people may answer questions differently depending on how the question is worded (Weaver et.al 1997:24). It is also important to acknowledge the issue of order effect bias (Ahmad et.al 2014:206) since the questions were situated differently in each survey.

[1] When not controlling for register data, the turnout rate was 98,7 per cent

In each edition and survey, the response options were "*Yes, did several tests*", "*Yes, did occasional tests*" and "*No, did not do any tests*". In the results section in the following chapter, the first to response options are merged into one category since this thesis mainly aims to differ between VAA users and non-VAA users, and not differentiate between different types of VAA users as well.

Table 3: Distribution of the key independent variables, nominal scale

If the respondent did VAA tests	Swedish parliamentary election 2018	European Parliament election 2019
Yes, did several tests	17,95	17,23
Yes, did occasional tests	36,91	30,09
No, did not do any test	45,14	52,68

Source: SNES (2018) for the Swedish parliamentary election 2018 and SNES (2019b) for the EP election 2019

As one can see from the table, the ratio for respondents answering that they made several VAA tests are quite alike for both elections (17,95 per cent and 17,23 per cent). It is in the other response options that differences become more evident. The amount of respondents answering that they did occasional tests was larger in the Swedish parliamentary election 2018 (37 per cent) than in the EP election 2019 (30 per cent). The table also reveals that the share of respondents answering that they did not do any tests was larger for the EP election 2019 (53 per cent) than in the Swedish parliamentary election 2018 (45 per cent). As mentioned above, the variable has been re-coded in the analysis and the first two response options have been merged. It then becomes evident that the share using VAAs, either several times or occasionally, was almost 55 per cent in the Swedish parliamentary election 2018 and 47 per cent in the EP election 2019.

It is important to acknowledge that the validity of these variables may be affected by social desirability bias. Holbrook and Krosnick (2010:328) highlight that voters may feel embarrassed to admit not being politically engaged and up-to-date during elections, meaning that respondents may answer the question of using VAAs incorrectly intentionally. Also, respondents may unintentionally answer the question incorrectly due to memory failure. We also know from the study made by for example Van de Pol et.al (2018) that certain types of persons usually tend to use VAAs; namely young, male and highly educated people. This need to be considered when using the independent variable.

3.3.3 Control variables

The intention with the control variables used in this thesis is to control for underlying factors that may affect the relationship between the dependent variables and the key independent variables. Hence, the control variables need to capture potential factors that affect electoral turnout in large, electoral turnout in EP elections vis-à-vis national elections as well as usage of VAAs. When explaining underlying factors for electoral turnout, Oscarsson and Holmberg (2016:49) make a division between *individual, contextual* and *institutional explanations* and this thesis will divide the control variables accordingly, except for controlling for institutional factors. The reasoning for excluding institutional explanations is that this thesis ought to explore explanations inherent in individuals and their surroundings, and not compare different countries with different political systems. Following previous research and theory, the control variables will be divided between *individual explanations* (both *individual* and *motivational*) and *contextual explanations*. Moreover, the following control variables are not only of interest for electoral turnout but also usage of VAAs. For example, Van de Pol (2019:228) argue that age, gender, education, political interest and political affiliation affects whether someone turns to a VAA or not.

The sociodemographic variables that this thesis controls for are *Gender, Age, Education, Income, Marital status* and *Place of residence*. This thesis controls for *Gender* because women have proven to be more likely to vote than men in EP elections. However, gender differences have been diminished during the years (Oscarsson & Holmberg 2010:46) but it is still important to control for gender. Previous studies have also shown that age affects electoral turnout. While the probability of voting is lower among young people, the probability of voting increases until persons get older and the probability of voting decreases. This means that *Age* and *Electoral turnout* often shows a curvilinear relationship and therefore, *Age squared* is also included (Bhatti et.al. 2012). More information about this in **Section 4.1**. *Education* and *Income* are included in the analysis since it is said that people with high education and high income are more likely to vote compared to people with lower education and income. When it comes to *Marital status,* people that live together with someone have a higher tendency to vote than people living alone (Oscarsson & Holmberg 2016:51-2) *Place of residence* is included since evidence can be found that people living in cities are more probable of voting in the EP elections compared to people living in rural areas (Oscarsson & Holmberg 2010:47).

Table 4: Overview of control variables

		Swedish parliamentary election 2018[2]					European Parliament election 2019				
Variable	**Scale[3]**	**N**	**Mean**	**Std. Dev.**	**Min.**	**Max.**	**N**	**Mean**	**Std. Dev.**	**Min**	**Max**
Individual explanations. resource explanations:											
Gender	1-2	3,267	1,51	0,50	1	2	2,069	1,50	0,50	1	2
Age	Continuous	3,267	53,66	17,36	18	84	2,074	54,70	16,93	19	82
Age squared	Continuous	3,267	3181	1788	324	7056	2,074	3278	1772	361	6724
Education	1-3	3,026	2,34	0,70	1	3	2,025	2,5	0,69	1	3
Income	1-3	1,886	2,08	0,86	1	3	1,982	2,14	0,74	1	3
Marital status	1-2	3,069	1,71	0,45	1	2	2,056	1,72	0,45	1	2
Place of residence	1-2	3,086	2,68	0,91	1	4	2,045	2,78	1,03	1	4
Individual explanations, motivational explanations:											
Political interest	1-2	3,227	1,67	0,47	1	2	2,078	1,65	0,48	1	4
Political affiliation	1-2	2,777	1,32	0,47	1	2	1,883	1,34	0,48	1	2
Ideology	1-10	3,076	2,10	0,89	1	10	1,977	5,31	2,57	1	10
Membership in trade union/ professional organization	1-2	3,025	1,54	0,50	1	2	1,918	1,50	0,50	1	2
Contextual explanations:											
Political effect	1-2	2,478	1,62	0,49	1	2	1,722	1,32	0,47	1	4
Clear party differences	1-2	2,483	1,47	0,50	1	2	1,695	1,46	0,50	1	4
Opinion about the election campaign	1-2	2,487	1,18	0,37	1	2	1,718	1,24	0,43	1	4
Convinced to vote	1-2	2,694	1,17	0,38	1	2	2,062	1,19	0,40	1	2

Source: SNES (2018) for the Swedish parliamentary election 2018 and SNES (2019b) for the EP election 2019

Other control variables refer to *motivational explanations* and *contextual explanations*. *Political interest* and *Political affiliation* are included since studies have shown that people interested in politics and that identify with a party vote to a higher degree. *Ideology* and *Member in trade union/professional organization* are included since it is said that people that sympathise with extreme parties on the ideological spectrum and are members in trade union/professional organizations have higher tendencies to vote. Regarding *contextual explanations*, how the election is perceived is important when deciding to vote or abstain. *Political effect, Clear party differences* and *Opinion about the election campaign* are included since if the election is

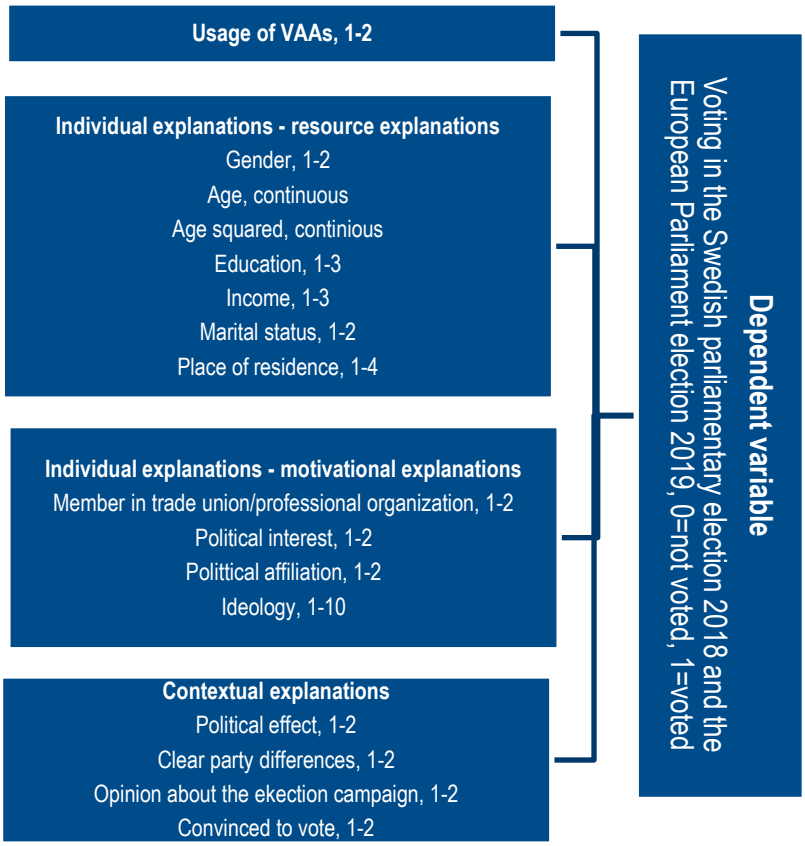
[2] Some of these variables are controlled against register data. See Appendix A for which variables.
[3] For more information about scales and answer options, see Appendix A and Appendix B

perceived as exciting and interesting, if there are clear party differences (which means that the ideological stance in politics will be influenced by the election) and if the election campaign is not perceived as focusing too much on party bickering, the likelihood of voting is higher. If a voter is convinced by someone in their surrounding to vote, this may also increase the likelihood of voting (Oscarsson & Holmberg 2016:53-9) and, therefore, *Convinced to vote* is included.

Unfortunately, this thesis is unable to control for some interesting variables. It would be interesting to include variables regarding usage of the Internet as a whole, not only usage of VAAs, since the *uses and gratification theory* argue that the Internet can attract voters in different ways. The Internet can have both a *normalizing effect*, i.e. that only voters who are already politically interested can gain from the information provided by the Internet and VAAs since voters who are not politically interested simply do not turn to the Internet and VAAs to get informed. The opposite view is the *mobilizing effect*, i.e. that the Internet and VAAs can reach voters who are not politically interested due to the small amount of time and effort voters need to put in when using the Internet and VAAs compared to reading party manifestos etc. (Van de Pol et.al. 2018:228; Marschall et.al. 2015:528). By including Internet usage, one would be able to investigate whether VAAs have a *normalizing effect* or *mobilizing effect* in the elections of interest. However, it is not possible to control for these types of aspects in this thesis since the edition for the EP election 2019 survey does not include such a question. Additionally, it would have been interesting to investigate the consumption of political news since previous research (Oscarsson & Holmberg 2016:49) state that those who read political news may have a higher tendency to vote. Unfortunately, this type of question is not included in the editions used in this thesis. Nevertheless, the control variables mentioned above are argued to be sufficient to research the relationship between VAAs and electoral turnout.

In the figure below, a summary of all of the chosen variables and how they are coded is presented. The control variables are group together based on whether the control variables belong to *individual explanations – resource explanations*, *individual explanations - motivational explanations* and *contextual explanations* for electoral turnout.

Figure 1: Summary of chosen variables and their coding



3.4 Method

The method of choice to fulfil the aim of this thesis is binary logistic regression. The reason for this choice is that this thesis research whether usage of VAAs affect whether a person *voted* or *abstained* to vote in the Swedish parliamentary election 2018 and the EP election 2019. Henceforth, the dependent variable (*Electoral turnout*) is dichotomous and can only take two values. Either a person *voted* (expressed as 1) or *abstained* from voting (expressed as 0). There are no values in between. It is precisely this that motivates the usage of binary logistic regression compared to other quantitative methods. The task that logistic regression is aimed to show is the probability that something will happen (given the independent variables) (Mehmetoglu & Jacobsen 2017:162), and in this case, the probability of a voter to *vote*.

Given that the dependent variables in this thesis are dichotomous aggravates the usage of other quantitative methods. One of the other major traditions in quantitative methods is Ordinary Least Squares (OLS) regression, but one of the basic prerequisites for OLS regression is that

the dependent variable is continuous, which is not the case for this thesis. If one chooses to use OLS regression with dichotomous variables, there is a possibility that the coefficients are not trustworthy to interpret since coefficients in OLS regression can predict values outside the bounds of 0 (something *not happening*) and 1 (something *happening*). Other criteria for OLS regression are that the relationship is linear and normally distributed (Mehmetoglu & Jacobsen 2017:162), criteria that are hard to be met in this thesis. Nonetheless, the specific prerequisite that the dependent variable has to be continuous has been questioned recent years and some scholars (e.g. Lindgren et.al. 2017:229; Lindgren et.al. 2019:112) argue that OLS regression can indeed be used with dichotomous dependent variables since the main aim with many studies is not to be able to provide precise measurements with coefficients, but to see patterns such as the direction of a relationship and if the relationship is statistically significant. Albeit this, logistic regression is still the most used method with dichotomous variables and will be used in this thesis as well, but the results will be controlled with OLS regression as a robustness check.

As is the case with OLS regression, the relationship between the dependent and independent variables can be evaluated based on statistical significance. If a relationship between variables is statistically significant, we can be comfortable about that the variables are related to each other. Scholars accept different significance standards, either p-values on or below 0,10, 0,05 or 0,01. However, p-values on 0,05 or lower are the most common threshold for statistical significance. If a relationship has a p-value of 0,05 or lower, we can be 95 per cent confident that a relationship exists between the variables (Kellstedt & Whitten 2018:165).

When making regression models, one should also contemplate about not only how confident one can be that a relationship exists between independent and dependent variables, but also how much of the variance in the relationship that the model can explain. With that said, it is not enough to only have a p-value of 0,05 or lower, but we also want to examine the goodness-of-fit of the model and how much of the variation in the dependent variable is accounted for by the model. In OLS regression, this is done by using R-squared statistics that range between 0 and 1. The closer to 1, the more can the variance in the dependent variable be accounted for by the model. If the R-squared statistics show 0,83, this means that the model captures around 83 per cent of the variance in the dependent variable (Kellstedt & Whitten 2018:197). In logistic regression, this is different and according to Bjerling and Ohlsson (2010:23), no coherent norms exists for interpreting variance measures for logistic regression and several different types of

R-squared statistic measures exist. The pronounced usefulness of R-squared statistics in logistic regression also differs between scholars. While some scholars argue that R-squared statistics can be used to interpret variance in logistic regression models, other scholars argue that one should be very careful to interpret precise measures of R-squared statistics in logistic regression or not use it at all. Against this background, this thesis will present R-squared statistics using the Pseudo-R measure but will be aware of the potential limitations in using that measure.

One of the main disadvantages with logistic regression compared to OLS regression is that the interpretation of coefficient is more complicated in logistic regression. While b-coefficients in OLS regression show the change in the dependent variable when the independent variables increase with one unit (Kellstedt & Whitten 2018:195), logistic regression show "the change in the natural logarithm of the odds for (Y=1) for a one-step change in the independent variable" (Mehmetoglu & Jacobsen 2017:163). The natural logarithm of the odds for (Y=1) does not tell much in itself and can only be interpreted in terms of statistical significance and direction of a relationship. As complicated as it may sound, we do not dig into this much more since from the output in logistic regression, one can instead calculate predicted probabilities (Mehmetoglu & Jacobsen 2017:176)

By calculating predicted probabilities, the results of different relationships between variables become easier to interpret and more intuitive. There are numerous ways to calculate predicted probabilities, but in this thesis, the predicted probabilities compare different values of the independent variable with each other and how these values relate to the dependent variable, while holding the remaining independent variables at their mean values. The predicted probabilities range between 0 and 1 and can be interpreted as percentage points. For example, if one wants to investigate whether being a man (the reference group, coded as 1) or a woman (coded as 2) affect if the person is negative (coded as 0) or positive (coded as 1) towards the EU and the predicted probabilities show 0,05, this means that compared to men, women are 5 percentage points more probable of being positive towards the EU (Williams 2012:308-312).

Albeit the conspicuous reason to use a quantitative method to research topics with surveys as the source of material, it is important to consider other methods as well. By all means, the research question could have been answered through a qualitative method by doing for example interviews. Interviews would potentially have deepened the understanding of the phenomena of interest for this thesis and would enhance the possibility of investigating more precise

questions. Nevertheless, the generalizability of the results might have been negatively affected by doing interviews due to a smaller sample and that interviews are time-consuming to make and perform. Also, since this thesis investigates two elections that happened one to two years ago, there is the possibility of memory failure if one would make interviews regarding electoral behaviour in 2018 and 2019.

The most expedient choice of method would be to make an experiment since it is then easier to distinguish the impact of VAAs between the control group and the treatment group and to isolate whether VAAs make more people vote. Nonetheless, experiments are eminently time-consuming and require more time and resources than this thesis can afford. Since this thesis investigates two types of elections held in different points in time that were not occurring during this thesis writing, the time aspect also makes it impossible to accomplish an experiment. Gemenis et.al. (2014:283) also highlights that some ethical aspects need to be considered before making an experiment regarding VAAs. Persons in the control group that are not using VAAs might be disadvantaged in their electoral behaviour compared to persons using VAAs and it is difficult to ensure compliance with not using VAAs in the control group. With that said, experiments will, and cannot, be used in this thesis.

4. Results

In this chapter, the results for the logistic regressions will be presented. The first section of the chapter will be devoted to the impact of VAAs on electoral turnout in the Swedish parliamentary election 2018, while the second section will be devoted to the impact of VAAs on electoral turnout in the European Parliament election 2019. In the third section of this chapter, a comparison of the full models for both the Swedish parliamentary election 2018 and the European Parliament election 2019 will be presented. Robustness checks will be discussed in the final section.

4.1 VAAs and electoral turnout during the Swedish parliamentary election 2018

First of all, the bivariate relationship between the key independent variable *Usage of VAAs* and the dependent variable *Electoral turnout* can be found in Appendix C. The bivariate relationship is positive and strongly statistically significant. However, not much attention will be provided to the bivariate relationship, but it is instead more interesting to investigate the relationship with control variables included.

The table below present the empirical findings in five different models, each different depending on the variables included. In Model 1, 2, 3 and 4, the variable *Usage of VAAs* is included among different sets of control variables. Model 1 includes control variables inherent in *individual explanations – resource explanations* for electoral turnout, while in Model 2, variables inherent in *individual explanations – motivational explanations* are included. Control variables inherent in *contextual explanations* for electoral turnout are added in Model 3. The full model with all of the control variables inherent in both *individual* and *contextual explanations* will be presented in Model 4.

Table 5: Logistic regression of effects on the dependent variable *Electoral turnout* during the Swedish parliamentary election 2018

	Model 1		Model 2		Model 3		Model 4	
	Coef (S.E)	Δ*PP*	Coef (S.E)	Δ*PP*	Coef (S.E)	Δ*PP*	Coef (S.E)	Δ*PP*
VAA usage (ref=Not used VAAs)								
Used a VAA	1,07** (0,59)	*0,02*	1,31** (0,52)	*0,014*	1,22** (0,53)	*0,018*	1,19** (0,60)	*0,015*
Gender (ref=Male)								
Female	0,65 (0,55)	*0,01*					0,79 (0,58)	*0,008*
Age	-0,041** (0,18)	*0,0005*					-0,43** (0,18)	*0,0002*
Age squared[4]	0,004** (0,002)						0,005** (0,002)	
Education (ref= Low education)								
Medium education	0,89 (0,91)	*0,02*					1,15 (0,97)	*0,02*
High education	0,86 (0,95)	*0,02*					1,13 (1,04)	*0,02*
Income (ref=Low income)								
Medium income	1,29* (0,75)	*0,03*					1,40* (0,77)	*0,018*
High income	1,14* (0,67)	*0,03*					1,15 (0,70)	*0,016*
Marital status (ref=Single/Widow/Widower)								
Cohabitant/Married/Partnership	1,27** (0,53)	0,03					1,40** (0,56)	*0,02*
Place of residence (ref=Rural area)								
Small town/village	-0,43 (0,79)	*-0,01*					-0,48 (0,81)	*-0,009*
Big town/City	0,25 (0,76)	*0,005*					0,36 (0,78)	*0,004*
Large city	1,14 (1,22)	*0,01*					1,35 (1,24)	*0,011*
Member in trade union/professional organization (ref=Not member)								
Member	0,01 (0,57)	*0,0002*					0,08 (0,58)	*0,001*
Political interest (ref=Not interested)								
Interested			0,01 (0,53)	*0,001*			0,20 (0,60)	*0,002*
Political affiliation (ref=Not identify with a party)								
Identify with a party			2,15** (1,05)	*0,014*			2,42** (1,09)	*0,02*
Ideology			0,10 (0,11)	*0,001*			0,11 (0,12)	*0,001*

[4] Naturally, predicted probabilities for *Age squared* not included

Political effect (ref=Not interesting/exciting election)								
Indeed interesting/exciting election					0,18 (0,53)	*0,002*	-0,24 (0,58)	*-0,002*
Clear party differences (ref=Not clear party differences)								
Indeed clear party differences					0,004 (0,52)	*0,00004*	-0,21 (0,55)	*-0,002*
Opinion about the election campaign (ref=Too much party bickering)								
Not too much party bickering					0,08 (0,66)	*0,001*	0,002 (0,71)	*0,00002*
Convinced to vote (ref=Not convinced)								
Convinced					-0,54 (0,59)	*-0,007*	-0,76 (0,64)	*-0,01*
Constant	9,89** (4,30)		2,65*** (0,70)		3,63** (0,47)		9,22** (1,40)	
Pseudo R^2	0,1441		0,0820		0,0379		0,2092	
N	1,165		1,165		1,165		1,165	

Note: Dependent variable *Electoral turnout* (1=voted, 0=not voted). Entries are coefficients, standard errors and predicted probabilities (Δ*PP*) from logistic regression computed using Stata. Standard errors in brackets. Number of observations hold constant due to missing values. *** , ** and * denote statistical significance at 1, 5 and 10 per cent, respectively.
Source: SNES (2018) for the Swedish parliamentary election 2018 and SNES (2019b) for the EP election 2019

In Model 1, the relationship between *Usage of VAAs* and the dependent variable *Electoral turnout* is positive and statistically significant. The predicted probability tells us that people that use VAAs have 2 percentage points higher probability of voting compared to non-VAA users (the reference category).

When it comes to the remaining control variables, we see that the variables for *Age*, both the simple continuous variable for *Age* and the *Age squared* variable, are statistically significant. The reasoning for including a squared variable for age is because previous research (e.g. Bhatti et.al. 2012) has found that the relationship between age and electoral turnout often shows a curvilinear relationship, i.e. younger persons have a lower likelihood of voting compared to middle-aged persons, but that the likelihood of voting again decreases when a person gets older. Also in this study, a curvilinear relationship is found but opposed to previous research, a negative relationship can be found. In Appendix E, we can see that the probability of voting decreases until a person gets 50 years old, but increases again after 50 years old. However, the predicted probabilities only show small differences between the age categories.

We can also see that compared to people with *Low income* (the reference category), people with *Medium income* or *High income* are more probable of voting in the Swedish parliamentary

election 2018 since the values for both these variables are weakly statistically significant. People with *Medium income* or *High income* have around 2 percentage points higher probability of voting compared to people with *Low income*. Additionally, the table shows that compared to people living alone and being *Single/Widow/Widower* (the reference category), people that live together with someone as *Cohabitants/Partners/Married* are 3 percentage points more probable of voting and the relationship is strongly statistically significant.

The remaining control variables are not statistically significant and do not seem to matter for *Electoral turnout* in the Swedish parliamentary election 2018. The R-squared statistics shows that the model can explain a bit more than 14 per cent of the variance in the dependent variable. However, as stated in **Section 3.4**, the usefulness of R-squared statistics in logistic regression is questioned among scholars and therefore, not much attention will be devoted to the exact value of R-squared statistics in any of the models rather than being presented and compared.

Model 2 shows that level of statistical significance between *Usage of VAAs* and *Electoral turnout* is the same as in Model 1. The predicted probability tells us that VAA users have 1,4 percentage points higher probability of voting compared to non-VAA users. Regarding the control variables, the only variable that is statistically significant is the variable *Political affiliation*. People that identify with a party have 1,4 percentage points higher probability of voting compared to people that do not identify with a party. The R-squared statistics of Model 2 is lower than in Model 1 and the model explains 8 per cent of the variance in the dependent variable.

Concerning Model 3, the statistical significance between *Usage of VAAs* and *Electoral turnout* is statistically significant. Compared to non-VAA users, VAA users are 1,8 percentage points more probable of voting. The remaining variables are not statistically significant. The model can explain 4 per cent of the variance in the dependent variable which is rather low.

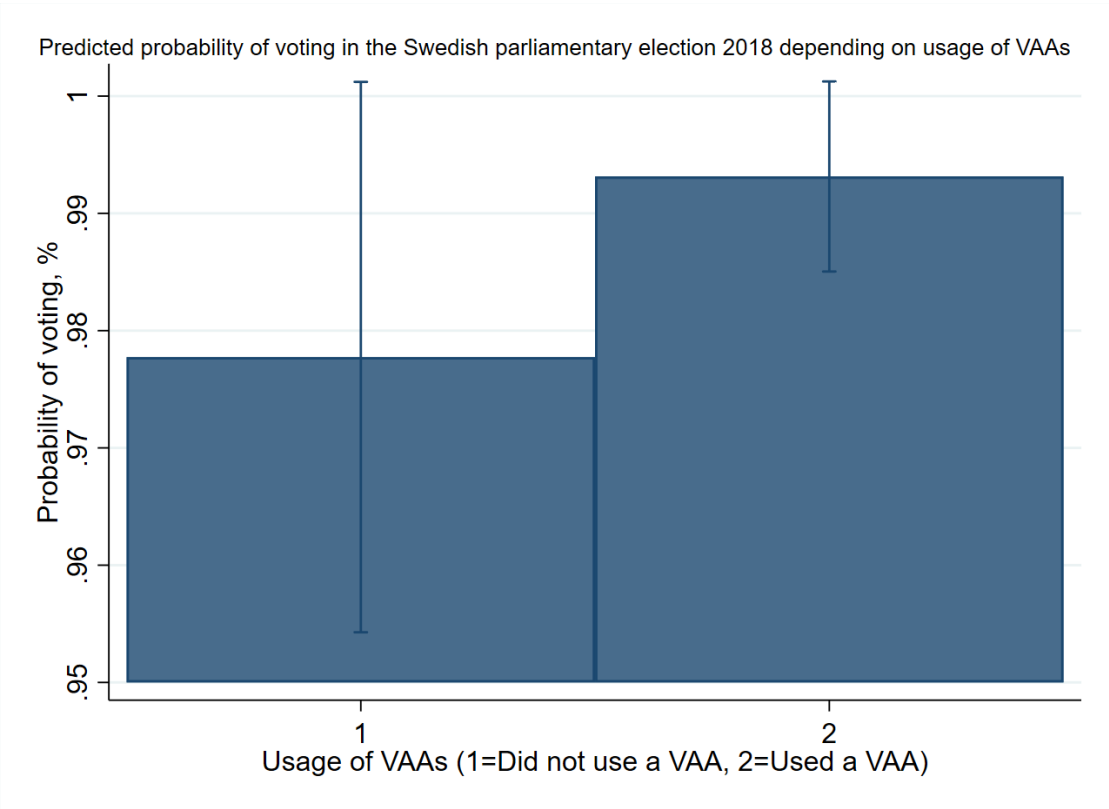
When all of the control variables are included in Model 4, the relationship between *Usage of VAAs* and *Electoral turnout* in the Swedish parliamentary election 2018 is still statistically significant, meaning that we can be certain that a relationship between the dependent variable and the key independent variable exists albeit adding a large variety of control variables. The predicted probability tells us that VAA users are 1,5 percentage points more probable of voting compared to non-VAA users when controlling for all other factors in the full mode.

All of the control variables that are statistically significant in Model 1, Model 2 and Model 3 are still statistically significant at the same levels in Model 4, except for the variable *High income*. *High income* was weakly statistically significant in Model 1, but is no longer statistically significant in Model 4. Most of the predicted probabilities for the variables with statistical significance do not show any large deviation but have decreased with 0,1-1,5 percentage points compared to the previous models. The only exception is *Political affiliation* that instead has a higher predicted probability (increased from 1,4 percentage points in Model 2 to 2 percentage points in Model 4) in Model 4, implicating that the relationship gets stronger when adding other background factors. The control variables that were not statistically significant are not so in Model 4 either. The changes that can be observed are that the direction of the variables *Political effect* and *Clear party differences* showed positive relationships in Model 3, but shows negative relationships in Model 4. However, not much attention will be devoted to this since these variables are not statistically significant.

The R-squared statistics has increased compared to in the previous models and the R-squared statistics in Model 4 shows that the model can explain 21 per cent of the variance in the dependent variable. The increased value implicates that the full model can explain the outcome in the dependent variable better than the other models with fewer control variables.

In the figure below, the predicted probability for voting in the Swedish parliamentary election 2018, depending on whether the respondent used a VAA or not and all of the control variables held at their mean value, is presented. In the figure, it becomes evident that users of VAAs have a higher probability of voting compared to non-VAA users. While the predicted probabilities for voting among respondents that used VAAs is 99,3 per cent, the predicted probabilities for voting among non-VAA users is 97,8 per cent. The exact difference between non-VAA users and VAA users is shown in the predicted probability in Model 4 in the table above (roughly 1,5 percentage points). In other words, the difference when it comes to voting between VAA users and non-VAA users is rather small.

Figure 2: Average Predicted Probability of voting in the Swedish parliamentary election 2018 among VAA users and non-VAA users[5]



4.2 VAAs and electoral turnout during the European Parliament election 2019

This part of the chapter will have a similar arrangement as above, but will instead focus on the EP election 2019. Firstly, we can see in Appendix C that the bivariate relationship between *Usage of VAAs* and *Electoral turnout* is positive and strongly statistically significant. Now when we know that the relationship is statistically significant in the bivariate logistic regression, the next step is to see how the relationship changes when control variables are added.

As recalled from the section above, *Usage of VAAs* is included in all models. Model 1 shows the control variables inherent in *individual explanations – resource explanations* for electoral turnout, Model 2 shows the control variables inherent in *individual explanations – motivational explanations* and Model 3 shows *contextual explanations* for electoral turnout. Model 4 shows the full model with all of the control variables for electoral turnout included.

[5] The range on the y-axis is 0,95-1

Table 6: Logistic regression of effects on the dependent variable *Electoral turnout* during the European Parliament election 2019

	Model 1		Model 2		Model 3		Model 4	
	Coef (S.E)	Δ*PP*	Coef (S.E)	Δ*PP*	Coef (S.E)	Δ*PP*	Coef (S.E)	Δ*PP*
VAA usage (ref=Not used VAAs)								
Used a VAA	1,31*** (0,20)	0,134	1,35*** (0,20)	0,135	1,42*** (0,20)	0,140	1,28*** (0,22)	0,100
Gender (ref=Male)								
Female	0,17 (0,18)	0,016					0,006 (0,20)	0,0005
Age	0,02 (0,04)	0,003					0,04 (0,04)	0,001
Age squared[6]	0,00009 (0,0004)						-0,0002 (0,0004)	
Education (ref= Low education)								
Medium education	0,054* (0,30)	0,086					0,45 (0,33)	0,051
High education	1,29*** (0,30)	0,166					0,99*** (0,33)	0,094
Income (ref=Low income)								
Medium income	0,15 (0,25)	0,019					0,18 (0,27)	0,017
High income	0,77** (0,31)	0,074					0,71** (0,33)	0,054
Marital status (ref=Single/Widow/Widower)								
Cohabitant/Married/Partnership	-0,18 (0,23)	-0,017					-0,11 (0,24)	-0,008
Place of residence (ref=Rural area)								
Small town/village	0,14 (0,28)	0,014					0,14 (0,30)	0,010
Big town/City	-0,15 (0,27)	-0,016					-0,26 (0,29)	-0,023
Large city	0,43 (0,29)	0,039					0,41 (0,31)	0,027
Member in trade union/professional organization (ref=Not member)								
Member	0,23 (0,20)	0,021					0,32 (0,21)	0,023
Political interest (ref=Not interested)								
Interested			1,41*** (0,18)	0,175			1,01*** (0,21)	0,092
Political affiliation (ref=Not identify with a party)								
Identify with a party			0,20 (0,20)	0,019			0,04 (0,21)	0,003
Ideology			-0,07** (0,04)	-0,007			-0,08** (0,04)	-0,006

[6] Naturally, predicted probabilities for *Age squared* not included

Political effect (ref=Not interesting/exciting election)								
Indeed interesting/exciting election					0,67*** (0,23)	0,057	0,53** (0,25)	0,036
Clear party differences (ref=Not clear party differences)								
Indeed clear party differences					0,92*** (0,20)	0,084	0,87*** (0,21)	0,063
Opinion about the election campaign (ref=Too much party bickering)								
Not too much party bickering					0,15 (0,21)	0,013	0,17 (0,23)	0,012
Convinced to vote (ref=Not convinced)								
Convinced					-0,96*** (0,20)	-0,112	-0,72*** (0,22)	-0,064
Constant	-1,52 (0,99)		0,69*** (0,26)		0,91*** (0,14)		-1,96* (1,10)	
Pseudo R^2	0,1222		0,1353		0,1284		0,2125	
N	1,159		1,159		1,159		1,159	

Note: Dependent variable *Electoral turnout* (1=voted, 0=not voted). Entries are coefficients, standard errors and predicted probabilities (Δ*PP*) from logistic regression computed using Stata. Standard errors in brackets. Number of observations hold constant due to missing values. *** , ** and * denote statistical significance at 1, 5 and 10 per cent, respectively.
Source: SNES (2018) for the Swedish parliamentary election 2018 and SNES (2019b) for the EP election 2019

In Model 1, the relationship between *Usage of VAAs* and *Electoral turnout* is strongly statistically significant and shows a positive relationship. The predicted probability shows that compared to non-VAA users, VAA users have 13 percentage points higher probability of voting. Concerning the control variables, *Education* seems to matter. For the *Medium education* category, the relationship is weakly statistically significant. The predicted probability tells us that compared to respondents with *Low education* (the reference category), respondents with *Medium education* have almost 9 percentage points higher probability of voting. An even bigger difference can be found when comparing respondents with *High education* and those with *Low education*. The relationship is statistically significant at the highest level and the predicted probability tells us that respondents with *High education* have 17 percentage points higher probability of voting. Furthermore, the table also tells us that *High income* matters for electoral turnout in the EP election 2019 since the relationship is statistically significant. Compared to people with *Low income* (the reference category), people with *High income* have 7 percentage points higher probability of voting. The remaining control variables are not statistically significant. The R-squared statistics declare that the model can explain 12 per cent of the variance in the dependent variable.

In Model 2, the relationship between *Usage of VAAs* and *Electoral turnout* is still statistically significant at the highest level. The predicted probability display that VAA users have 13,5 percentage points higher probability of voting compared to non-VAA users. The variable *Political interest* is also statistically significant at the highest level and compared to people who are not interested in politics, politically interested persons have 17,5 percentage points higher probability of voting. Concerning *Political affiliation*, the variable does not seem to matter for electoral turnout since the relationship is not statistically significant. *Ideology* is statistically significant and negative, meaning that the further persons posit themselves on the right spectrum on the Left-Right ideological scale, the less probable are they of voting. The predicted probability tells us that, on average, the probability of voting decreases with almost 0,7 percentage points if a person takes one step to the right on the Left-Right scale. The model can explain 14 per cent of the variance in the dependent variable as shown by the R-squared statistics.

In Model 3, the relationship between *Usage of VAAs* and *Electoral turnout* is statistically significant at the highest level and the predicted probability tells us that VAA users have 14 percentage points higher probability of voting. The variables for *Political effect*, *Clear party differences* and *Convinced to vote* are statistically significant, but not *Opinion about the election campaign.* The predicted probabilities regarding *Political effect* shows that persons who did perceive the election as exciting and interesting were 6 percentage points more probable of voting compared with persons who did not perceive the election as interesting or exciting (the reference group). The predicted probability regarding *Clear party differences* is a bit higher and tells us that persons who thought that the parties had clear differences have 8 percentage points higher probability of voting compared to persons who did not share that opinion. Regarding the variable *Convinced to vote*, quite surprisingly, the relationship is negative and persons who were convinced to vote are 11 percentage points less probable of voting. The model can explain 13 per cent of the variance in the dependent variables as shown by the R-squared statistics.

Now when we have assessed the first three models with both subgroups for *individual explanations* and the model for *contextual explanations* for electoral turnout separately, it is time to add those together in Model 4. Albeit adding a large variety of control variables, the relationship between *Usage of VAAs* and *Electoral turnout* in the EP election 2019 is still

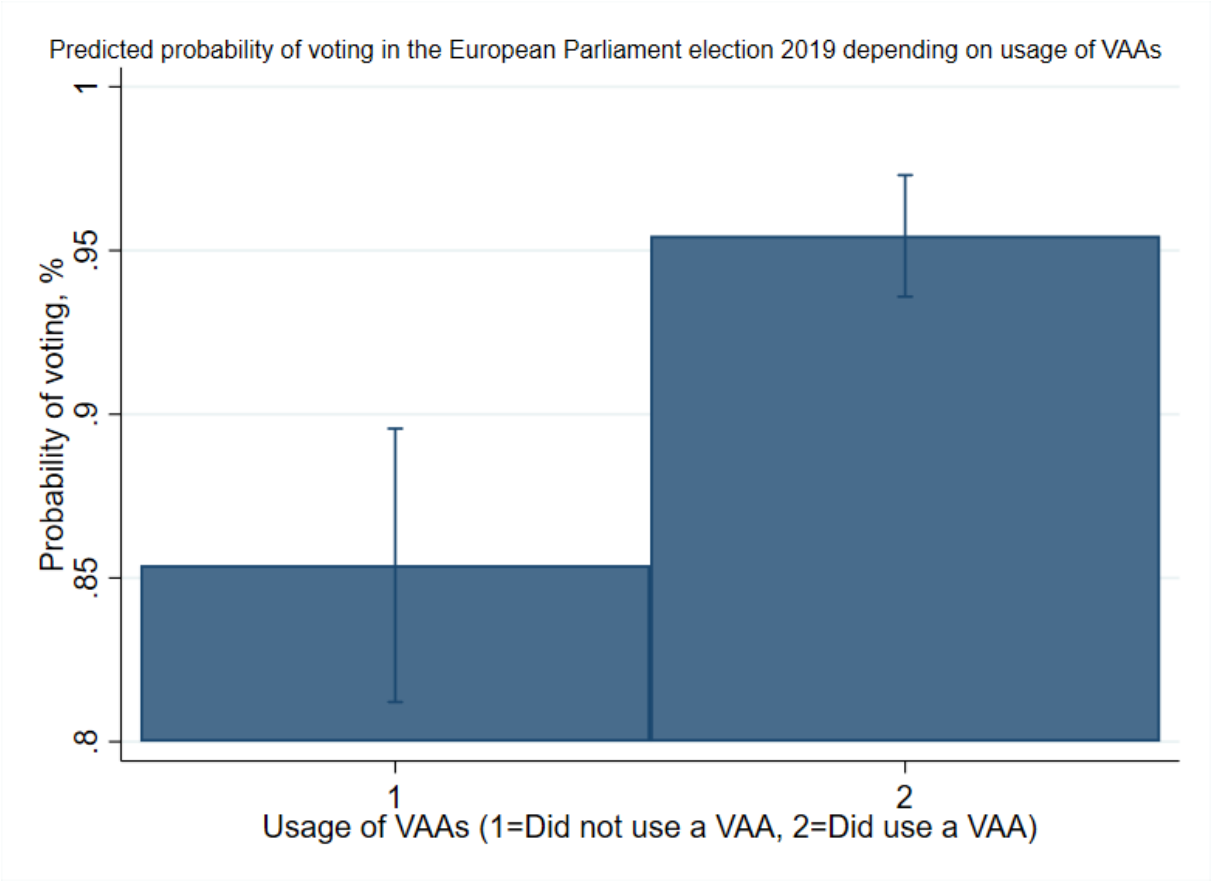
statistically significant at the highest level. The predicted probability has decreased somewhat, but VAA users are 10 percentage points more probable of voting than non-VAA users.

Concerning the control variables, several variables still have the same level of statistical significance, namely *High education, High income, Political interest, Ideology, Clear party differences* and *Convinced to vote.* The predicted probabilities are similar as in previous models (largest deviation about 2 percentage points) when it comes to *High income, Ideology* and *Clear party differences*. However, larger deviations can be found when comparing predicted probabilities with previous models for other variables. The predicted probability has decreased from 16,6 percentage points in Model 1 to 9,4 percentage points in Model 4 regarding *High education* and a similar decrease can be found in the *Political interest* variable that has decreased from 17,5 percentage points in Model 2 to 9,2 percentage points in Model 4. The variable *Convinced to vote* has decreased from -11,2 percentage points in Model 3 to -6,4 percentage points in Model 4. The level of statistical significance has decreased to a lower level in Model 4 concerning the *Political effect* variable, but the predicted probability shows a similar value as in Model 3. The variable *Medium education* that was statistically significant at the lowest level in Model 1 is no longer statistically significant. Furthermore, the variables that were not statistically significant in the previous models are not in Model 4 either.

The R-squared statistics display that adding all of the control variables improves the correctness of the model since the R-squared statistics increases compared with the other models. The model can explain 21 per cent of the variance in the dependent variable.

We know from the predicted probability in Model 4 that VAA users have 10 percentage points higher probability of voting in the EP election 2019 compared to non-VAA users, but to what extent do these two different sets of groups go to the ballot and vote? In the figure below, we can see that the probability for non-VAA users to vote was around 85 per cent. For VAA users, the probability for voting was instead around 95 per cent.

Figure 3: Average Predicted Probability of voting in the European Parliament election 2019 among VAA users and non-VAA users[7]



4.3 Comparison of the Swedish parliamentary election 2018 and the European Parliament election 2019

In the two previous sections, the impact of VAAs on electoral turnout in the two elections has been presented separately. The next step is to compare these results with each other and investigate whether the impact VAAs serve on electoral turnout differs in the two respective elections.

The table below presents the same results as in Model 4 that showed the full model with all of the control variables in **Table 5** and **Table 6.** The number of respondents is very similar in both of the models; 1,165 during the Swedish parliamentary election 2018 and 1,159 during the EP election 2019.

[7] The range on the y-axis is 0,80-1

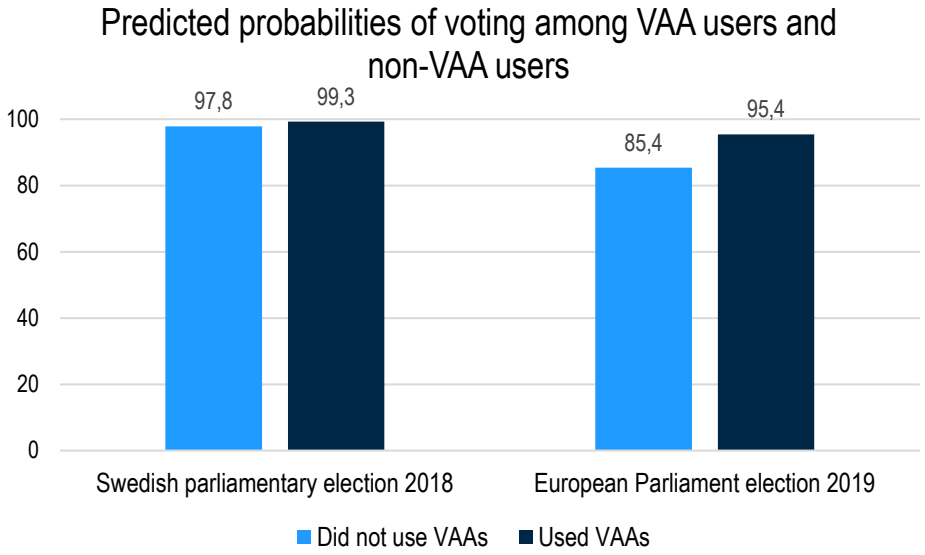
Table 7: Comparison of effects on the dependent variables *Electoral turnout* during the Swedish parliamentary election 2018 and the European Parliament election 2019

	Swedish parliamentary election 2018		European Parliament election 2019	
	Coef (S.E)	Δ*PP*	Coef (S.E)	Δ*PP*
VAA usage (ref=Not used a VAA)				
Used a VAA	1,19** (0,60)	0,015	1,28*** (0,22)	0,10
Gender (ref=Male)				
Female	0,79 (0,58)	0,008	0,006 (0,20)	0,0005
Age	-0,43** (0,18)	0,0002	0,04 (0,04)	0,0012
Age squared	0,005** (0,002)		-0,0002 (0,0004)	
Education (ref= Low education)				
Medium education	1,15 (0,97)	0,02	0,45 (0,33)	0,051
High education	1,13 (1,04)	0,02	0,99*** (0,33)	0,094
Income (ref=Low income)				
Medium income	1,40* (0,77)	0,018	0,18 (0,27)	0,017
High income	1,15 (0,70)	0,016	0,71** (0,33)	0,054
Marital status (ref=Single/Widow/Widower)				
Cohabitant/Married/Partnership	1,40** (0,56)	0,02	-0,11 (0,24)	-0,008
Place of residence (ref=Rural area)				
Small town/village	-0,48 (0,81)	-0,009	0,14 (0,30)	0,010
Big town/City	0,36 (0,78)	0,004	-0,26 (0,29)	-0,023
Large city	1,35 (1,24)	0,011	0,41 (0,31)	0,027
Member in trade union/professional organization (ref=Not member)				
Member	0,08 (0,58)	0,0008	0,32 (0,21)	0,023
Political interest (ref=Not interested)				
Interested	0,20 (0,60)	0,002	1,01*** (0,21)	0,092
Political affiliation (ref=Not identify with a party)				
Identify with a party	2,42** (1,09)	0,02	0,04 (0,21)	0,003
Ideology	0,11 (0,12)	0,001	-0,08** (0,04)	-0,006
Political effect (ref=Not interesting/exciting election)				
Indeed interesting/exciting election	-0,24 (0,58)	-0,002	0,53** (0,25)	0,036
Clear party differences (ref=Not clear party differences)				
Indeed clear party differences	-0,21 (0,55)	-0,002	0,87*** (0,21)	0,063
Opinion about the election campaign (ref=Too much party bickering)				
Not too much party bickering	0,002 (0,71)	0,00002	0,17 (0,23)	0,012
Convinced to vote (ref=Not convinced)				
Convinced	-0,76 (0,64)	-0,01	-0,72*** (0,22)	-0,064
Constant	9,22** (1,40)		-1,96* (1,10)	
Pseudo R^2	0,2092		0,2125	
N	1,165		1,159	

Note: Dependent variable *Electoral turnout* (1=voted, 0=not voted). Entries are coefficients, standard errors and predicted probabilities (Δ*PP*) from a binary logistic regression model computed using Stata. Standard errors in brackets. Number of observations hold constant due to missing values. *** , ** and * denote statistical significance at 1, 5 and 10 per cent, respectively.
Source: SNES (2018) for the Swedish parliamentary election 2018 and SNES (2019b) for the EP election 2019

The main aspect of interest is the *Usage of VAAs* variable. In the table, it becomes evident that the impact that VAAs serve on electoral turnout in the respective elections differ. For the Swedish parliamentary election 2018, the relationship between *Usage of VAAs* and *Electoral turnout* is statistically significant with a p-value on or below 0,5. The predicted probability present that VAA users are 1,5 percentage points more probable of voting in the election compared to non-VAA users. Regarding the EP election 2019, the differences between VAA users and non-VAA users are larger. The relationship is statistically significant at the highest level and the predicted probability presents that VAA users are 10 percentage points more probable of voting than non-VAA users. In the figure below, it becomes visually possible to see the differences in the two respective elections among VAA users and non-VAA users.

Figure 4: Comparison between electoral turnout among non-VAA users and VAA users during the Swedish parliamentary election 2018 and the European Parliament election 2019



Source: SNES (2018) for the Swedish parliamentary election 2018 and SNES (2019b) for the EP election 2019

Concerning the control variables, one can identify several differences. While the variables *Age* and *Age squared, Medium income, Marital status* and *Political affiliation* were statistically significant during the Swedish parliamentary election 2018, these variables were not statistically significant during the EP election 2019. Instead, the variables *High education, High income, Political interest, Ideology, Political effect, Clear party differences* and *Convinced to vote* are statistically significant. The variables *Gender, Medium education, Place of residence, Member in trade union/professional organization* and *Opinion about the election campaign* are

not statistically significant in any of the elections. With that said, the only variables that were statistically significant in both of the respective elections were *Usage of VAAs* and *Income* (*Medium income* during the Swedish parliamentary election and *High income* during the EP election 2019).

4.4 Robustness checks

First of all, several diagnostics tests were performed to ensure that the models had chosen good predictors. In Appendix D, it becomes evident that the tests showed no signs of multicollinearity between the variables and the Goodness-of-fit test showed that the model fits reasonably well. Also, the tests confirmed that the models had chosen good predictors.

As discussed in **Section 3.4**, the other major tradition in quantitative methods is OLS regression. Traditionally, logistic regression has most often been used with dichotomous dependent variables as in this thesis, but as a check of the robustness of the results received, the results are compared with results derived from OLS regression. In Appendix F, the result of the OLS regression of the full models is presented. The main relationship of interest, *Usage of VAAs* and *Electoral turnout*, is statistically significant in the OLS regression as well during both elections. Regarding the Swedish parliamentary election 2018, the variable *High income* that was not statistically significant in the logistic regression is in the OLS regression. Therefore, we should be careful to interpret results for the *High income* variable. Except for this, no large deviations can be seen except for that level of statistical significance is higher regarding *Age, Age squared, Medium income and Political affiliation*. However, this is not seen as problematic. Regarding the EP election 2019, except for that the level of statistical significance is lower in the OLS regression concerning the variables *Ideology* and *Political effect*, no large deviations were found. Therefore, besides these deviations, the results are robust against logistic regression.

A second robustness check is to run the full model in both elections with all of the control variables included, but the variable for *Usage of VAAs* excluded. The reasoning for this is to ensure that the variable *Usage of VAAs* does not somewhat manipulate the relationship between *Electoral turnout* and the traditional variables commonly used in electoral research. The results can be found in Appendix G. When focusing on the Swedish parliamentary election 2018, we can see that the relationships do not change considerably. The variables that are statistically significant in Table 7 are also in Appendix G, but the level of statistical significance is higher

for *Age, Age squared* and *Marital status* when excluding the *Usage of VAAs* variable. The predicted probabilities for the statistically significant variables show similar results. All of the control variables that were not statistically significant in Table 7 are not in Appendix G either, except for the variable *High income* that is not statistically significant in Table 7, but is weakly statistically significant in Appendix G. This further enhance a careful interpretation of the *High income* variable as similar results were found in the OLS regression. The predicted probability shows that people with *High income* have 2 percentage points higher probability of voting compared to people with *Low income*. Compared to Table 7 with *Usage of VAAs* included, the R-squared statistics decrease from 21 per cent to 19 per cent when excluding *Usage of VAAs* in Appendix G. With this said, we can be confident that the variable *Usage of VAAs* is not manipulating the relationship between commonly used variables in electoral research, but instead, that *Usage of VAAs* improves the model.

Concerning the EP election 2019, no seriously alarming differences emerged when comparing with *Usage of VAAs* included and excluded. The variables that were not statistically significant in Table 7 are not when excluding *Usage of VAAs* either. The variables *High education, Political interest, Clear party differences* and *Convinced to vote* still have the same levels of statistical significance. The level of statistical significance regarding *High income* and *Political effect* has dropped to a lower level, while the opposite applies regarding the variable *Ideology* where the level of statistical significance has increased. The predicted probabilities for the variables that have statistical significance are similar as in Table 7 and do not deviate more than 2 percentage points. While Table 7 displayed an R-squared statistics of 21 per cent, the R-squared statistics in Appendix G shows that the model can explain 17 per cent of the variance, i.e. the adding of the variable *Usage of VAAs* increases the correctness of the model.

The variables *Political interest, Political effect, Clear party differences* and *Opinion about the election campaign* originally had four response options. The variable *Usage of VAAs* originally had three response options. In the results, the response options for these variables were merged into two response options instead for more efficient interpretation. The results were compared with the original four- and three-point scales and this did not change the results regarding statistical significance and direction of the effects.

5. Analysis

The main aim of this thesis is to investigate the impact of VAAs on electoral turnout in different electoral contexts and if the impact differs depending on the election. The elections of interest that were chosen were the Swedish parliamentary election 2018 and the EP election 2019. In the previous chapter, the results of the statistical analysis performed in this thesis are presented and it is now time to analyze these results.

The importance of studying voting behaviour in different electoral contexts can be attributed to the fact that voters behave differently depending on the election. Much focus has been on how voters behave during national parliamentary elections vis-à-vis EP elections and this thesis contribute to this field. The EP elections have suffered from low turnout rates compared to national elections for decades and several attempts have been implemented to increase turnout (Hobolt & Spoon 2012). This thesis specifically investigates whether VAAs have the capacity to act as a tool to increase turnout in EP elections and if the capacity of VAAs to increase turnout differs in EP elections and national elections.

This thesis hypothesized that the probability of voting in the Swedish parliamentary election 2018 and the EP election 2019 increases if a voter uses VAAs (H_1 and H_2). There are logical reasons for believing that VAAs have the potential to affect electoral outcomes. VAAs produce easily understandable information regarding the most important political issues and what stance the political parties have concerning these issues without much time and effort required from the users. In line with *rational choice theory*, people are only interested to put in time and effort in things that interest them. The probability of voting is dependent on how interested voters are in getting politically informed. According to Garzia et.al. (2014:105), voters are expected to take advantage of measures aimed at cutting the time and effort of getting politically involved. This is exactly what VAAs aims to do, i.e. to decrease the threshold of getting politically informed and involved during elections. If voters use VAAs, they may get more motivated to vote since they become better informed and realize that some parties represent similar political views as the voter.

The result of the empirical analysis of individual-level data among Swedish voters during the Swedish parliamentary election 2018 and the EP election 2019 showed that this thesis found support for these assumptions. This thesis found that VAA users had a higher probability of

voting in the respective elections compared with non-VAA users, even after controlling for a large variety of control variables. Consequently, support was found for both H_1 and H_2 and the null hypotheses can be rejected. In the results of both elections, the relationship between the independent variable *Usage of VAAs* and the dependent variable *Electoral turnout* was statistically significant and positive. These findings are in line with predictions inherent in *rational choice theory* and with other researchers (Garzia et.al. 2014; Dinas 2014; Gemenis 2014) that also found that that turnout was higher among VAA users compared to non-VAA users. This thesis, therefore, showed opposite results compared to Enyedi (2016) that did not find any evidence of VAAs affecting electoral turnout.

The next dimension of this thesis is to investigate whether the impact that VAAs serve on electoral turnout differs in different electoral contexts. The third hypothesis (H_3) suggested that the probability of voting increases if voters use VAAs in the Swedish parliamentary election 2018 and the in EP election 2019, but that the difference concerning electoral turnout among VAA users and non-VAA users was larger during the EP election 2019 than in the Swedish parliamentary election 2018. Previous research regarding the *second-order election theory* and *alternative explanations* has found that voters behave differently in different electoral contexts. Second-order elections such as the EP elections often receives less attention and lower turnout compared with first-order elections such as national parliamentary elections. Both theoretical strands posit disparate causes for this, but Lefevere and Aelst (2014:160) argue that the mobilizing effects of campaign efforts to promote higher turnout are higher during second-order elections compared to first-order elections because "these campaign effects occur in an information-sparse context" (ibid.)

Since voters behave differently depending on the electoral context, voters may also be affected by VAAs differently depending on the type of election. Van de Pol et.al. (2018) has shown that people use VAAs for different purposes in first- and second-order elections. In both first- and second-order elections, most users use VAAs for entertainment purposes (so-called *checkers*). However, more users also use VAAs to get better informed and choose which party to vote for in second-order elections compared with first-order elections (so-called *seekers*). Since the share of *seekers* is higher in second-order elections, it is reasonable to believe that voters get more affected by VAAs in second-order elections since more users use VAAs as a tool not only for entertainment but to choose which party to vote for and to get politically informed. That the

share of *seekers* is higher during second-order elections also "suggests that VAAs' mobilizing capacity is larger in second-order elections" (Van de Pohl 2018:235).

In the results section, I found results with interesting implications for the future interpretation of the impact of VAAs on electoral turnout. In the Swedish parliamentary election 2018, the difference in electoral turnout among VAA users and non-VAA users was 1,5 percentage points. In the EP election 2019, the difference was 10 percentage points. Since the difference in percentage points is larger in the EP election than in the Swedish parliamentary election, a larger difference can be found among VAA users and non-VAA users in the EP election 2019. This implicates that I got support for H_3 and can reject the null hypothesis.

No other study has researched this specific aspect and made this type of comparative study. The results are in line with previous research by Lefevere and Aelst (2014:160) and Marquart (2020:2-4), namely that the mobilizing capacity of campaign efforts to increase turnout have a larger impact in second-order elections. The results also confirmed the suggestion by Van de Pohl (2018:235) that VAAs potential to mobilize voters might be larger during second-order elections. That the difference between VAA users and non-VAA users is larger in second-order elections is reasonable given that Van de Pol et.al. (2018:233) argue that more people use VAAs for the specific purpose of getting better politically informed and decide which party to vote for in second-order elections compared in first-order elections. Proponents of the *second-order election theory* argue that the interest in EP elections is low because people simply do not care about the outcome and consequently, turnout rates are lower in EP elections. However, proponents of *alternative explanations* instead argue that people are increasingly considering the EP elections and EU politics. We know that the share of the electorate that uses VAAs was higher during the Swedish parliamentary election 2018 (55 per cent) compared in the EP election (49 per cent), but the size of the shares are not very different and only differ 6 percentage points. This may implicate that the interest of getting politically informed about EP elections and EU politics is increasing and that *alternative explanations* better theoretically explain the findings in this thesis. This, together with the findings that the mobilizing capacity of VAAs is larger in second-order elections, motivates further developments of VAAs as mobilizing tools during EP elections.

Concerning the findings in how the control variables relate to *Electoral turnout*, several differences can be distinguished. During the Swedish parliamentary election 2018, the variables

with statistical significance all belonged to variables inherent in *individual explanations* for electoral turnout. Concerning the EP election 2019, variables with statistical significance belonged to both *individual explanations* and *contextual explanations* for electoral turnout. Except for *Income,* none of the control variables was statistically significant during both the elections.

That *contextual explanations* have a better predictive power in the EP elections might be explained by the second-order nature of EP elections and that people are not as knowledgable and interested in EP elections, even though the level of interest and knowledge may be increasing. In Swedish parliamentary elections, voting may be more imprinted in the electorate and many voters may perceive voting as a civic duty. Also, voters may be more loyal towards their favourite party in the Swedish parliamentary elections as *Political affiliation* was statistically significant during the Swedish parliamentary election 2018 but not in in the EP election 2019. In the EP elections, on the other hand, these feelings and perceptions may not be as strong since these elections have not been present in Swedish politics for an as long time and EP elections do not lead to government formation. Instead, the support for *contextual explanations* in the EP election 2019 demonstrates that voters are more influenced by their surroundings.

However, it is also important to acknowledge the shortcomings of these results. First of all, the results in the two respective elections cannot be directly compared. The material used in this thesis derives from two different surveys, each with different respondents, design, questionnaire and timing. This is problematic given that the results possibly could have been different if these aspects would have been the same in both elections. For example, the question of usage of VAAs ask for the same thing during both elections, but the wording is slightly different and the question is situated differently in the surveys. Due to response bias and order effect bias, people may answer questions differently depending on how the question is worded (Weaver et.al 1997:24) or where in a questionnaire a question is situated (Ahmad et.al 2014:206). However, given the material available, it is impossible to bypass these problems as no such survey can be found that is the same during both a first- and second-order election with the same respondents, and that also question usage of VAAs. For a more cautious interpretation of the results, the results should therefore instead of precise measurements be understood as that usage of VAAs do impact electoral turnout in both first- and second-order elections, and that the impact of

VAAs on electoral turnout is larger in second-order elections. Since no other study has made this type of comparative study, the results have important implications for the understanding of the impact of VAAs and future developments of VAAs.

Secondly, these results may not be representative of the whole Swedish population since a certain type of voters responds to surveys more than others. Voogt & Saris (2003:165) have shown that politically interested persons with a generally higher likelihood of voting also tend to respond to surveys to a higher degree compared to politically uninterested persons. This effect may be even further evident during the Swedish parliamentary election where some respondents got both a pre- and post-election survey, and that politically interested persons are even more probable of participating in both pre- and post-election surveys. This effect is evident given that almost all of the respondents (97,5 per cent) voted in the election even after controlling against register data. Also, since the respondents for the Swedish parliamentary election got the survey before the election, and for the EP election got information about the survey before the election, this may motivate voters to vote since the voters got an eye-opener about the elections. It is also indisputable that the results may be affected by social desirability bias as the respondents may portrait themselves as more politically interested and involved than they actually are. The consequences for this is that the validity of the results in this thesis might be distorted and not representative for all Swedish voters.

Thirdly, while the variable *Electoral turnout* (and some of the control variables) were controlled and corrected against register data for the Swedish parliamentary election 2018, it was not possible to control against register data for the EP election 2019 since register data was not yet available. Due to social desirability bias, respondents often answer questions of electoral turnout wrong, either intentionally or unintentionally (Holbrook and Krosnick 2010:328). This means that some of the respondents that claimed that they voted in the EP election 2019 might not have voted. This potentially leads to misleading results. During the Swedish parliamentary election 2018, the difference when not controlling for register data and when controlling for register data was only 1 percentage point. However, the difference when using register data might potentially be larger during EP elections since more voters abstain in these elections.

Fourthly, the results may suffer from omitted variable bias since this thesis was not able to control for some variables of interest, such as consumption of political news and internet usage, as these questions were not included in the data. Nevertheless, it is never possible to be

completely sure that models do not suffer from omitted variable bias. Diagnostics tests that tested the goodness-of-fit of the models revealed favourable results and showed that the models had chosen good predictors. Therefore, it is argued that the results in this thesis derive from a thoughtful and reasonable choice of control variables and that the main aim still is plausible.

Regarding generalizability, this study was conducted in Sweden where usage of VAAs is rather widespread and voters are quite acquainted with VAAs. VAAs were first introduced in Europe and the usage of VAAs might be more inherent in the political system in European countries compared to outside Europe (Gemenis 2014:281). Also, every country has different political and electoral systems and all countries do not have the same systems as Sweden. This implicates that studies conducted in other countries where the usage of VAAs are either more or less widespread, or with different political and electoral systems, might produce contrasting results.

One final aspect to consider is the causal effect of usage of VAAs for voting or abstaining in elections. This thesis hypothesizes that by using VAAs, voters get more probable of voting. However, the relationship may function in the opposite direction. Potentially, voters who already intend to vote may also be more likely to use VAAs. We know from previous research (Van de Pol et.al. 2018) that the largest share of users uses VAAs for entertainment purposes. However, we also know that many voters use VAAs as a tool to get politically informed and to decide about party choice; meaning that there are also strong reasons for believing that VAAs causally leads to more voters voting. Regression results only reveal whether a relationship exists between variables and one can never be completely sure that reversed causality problems do not exist when making regressions. Instead, it is important to base the assumptions of a relationship on theoretical frameworks. This is precisely what this thesis has attempted to do. Previous research and theoretical frameworks provide several arguments for that VAAs can affect turnout positively such as arguments by the *rational choice theory* that people are more inclined to vote if the time and effort of getting politically informed gets lower by measured aimed at promoting turnout. Consequently, it is reasonable to believe that usage of VAAs affects electoral turnout.

6. Concluding discussion

The main question that this thesis has attempted to answer is whether VAAs have an impact on electoral turnout in EP elections and national parliamentary elections, and if so, whether the impact that VAAs serve on electoral turnout differ depending on the election. The EP elections have been characterized by lack of interest and low turnout compared to national parliamentary elections for decades. This has been an important issue in EU politics as a lack of interest and low turnout generate legitimacy issues in the EU (Clark 2014:341-2). Several attempts have been implemented to change this trend. The EP election 2019 saw for the first time since the introduction of EP elections in 1979 increasing turnout rates (CERGU 2019b) which has several reasons. One reason might be that campaign efforts aiming to increase political awareness and promote turnout, as well as the media, has taken a larger role which potentially leads to higher turnout (Marquart et.al. 2020). This thesis has investigated the specific mobilizing capacity of VAAs as a tool to promote turnout during EP elections and national elections.

Previous research regarding the impact of VAAs on electoral turnout has found diverging results, but most studies found that VAAs do impact turnout positively (Gemenis et.al. 2014; Garzia et.al. 2014, Dinas 2014). However, these studies have not made comparative studies in that sense that they compare the impact of VAAs depending on the electoral context and have only investigated one election at a time and/or one type of elections which problematize the generalizability of the results. Since voters behave differently in national elections and EP elections, it is also possible that VAAs affect turnout differently in these elections. It is this research gap this thesis attempts to fill. This thesis has made a comparative study focusing on the Swedish parliamentary election 2018 and the EP election 2019, using data from SNES and logistic regression as the method.

This thesis found interesting results that have implications for the future interpretation and development of VAAs. To begin with, the results showed that usage of VAAs had a positive impact on electoral turnout in both elections of interest and confirmed the results from several studies (Gemenis et.al. 2014; Garzia et.al. 2014, Dinas 2014). Furthermore, the results showed that usage of VAAs had a larger impact on turnout in the EP election 2019 compared with the Swedish parliamentary election 2018. While the difference in turnout rates between VAA users and non-VAA users was 1,5 percentage points in the Swedish parliamentary election 2018, the difference was 10 percentage points in the EP election 2019. Even though these results should

be interpreted with slight caution as discussed in the previous chapter, it is still evident that the impact of VAAs was larger during the EP election 2019.

What are the theoretical implications for these results? Proponents of the *rational choice theory* argue that the threshold of getting politically informed and involved get lowered by measures that provide political information without much time and effort. By getting politically informed, the probability of voting increases. This is exactly what VAAs aims to do, i.e. to provide easily accessible and understandable information without much time and effort required by the user. The results found in this thesis have shown that usage of VAAs actually do have the potential to increase the probability of voting in not only one, but two elections. In other words, the results are in line with *rational choice theory*. The finding that the difference between VAA users and non-VAA users is larger during the EP election 2019 than in the Swedish parliamentary election 2018 is in line with previous research by Lefevere and Aelst (2014) and Marquart et.al. (2020) that argues that campaign efforts aimed at promoting electoral turnout have a larger effect in EP elections since the level of interest and knowledge is lower from the outset compared with national parliamentary elections. The results also confirmed the suggestion by Van de Pol (2018:235) that the mobilizing capacity of VAAs is larger during second-order elections such as the EP elections.

The interpretation of the results seems to lend more support to *alternative explanations* for voting behaviour in EP elections than the *second-order election theory*. Proponents of *alternative explanations* argue that albeit that the level of interest and electoral participation is lower in EP elections compared with national elections, the interest for EP elections is increasing and voters increasingly consider EU issues. The finding that the share of the electorate using VAAs in the EP election 2019 and the Swedish parliamentary election 2018 did not differ very much (47 per cent and 55 per cent respectively) might confirm this assumption. That the usage is more widespread in the latter is not surprising given that also the official turnout rates are higher during Swedish parliamentary elections than in EP elections. What is more surprising is that almost half of the electorate used VAAs in the EP election 2019 while the turnout rates in EP elections are much lower. The reason for the relatively widespread usage of VAAs during the EP election 2019 might derive from the purposes of using VAAs. Since the amount of *seekers* (users that use VAAs to get politically informed and decide which party to vote for) is higher in EP elections than in national elections, this implicates that these

users are more affected by VAAs and interested in learning about EP elections compared to users that use VAAs for entertainment (*checkers*).

However, it is still a fact that the level of interest and electoral participation is lower in EP elections compared with national elections. In national elections, voters are acquainted with voting and the elections are deeply rooted in the electoral system, meaning that voters display more robust voting behaviour and might not be as influenced by mobilizing efforts and other measures. In the EP elections, this is not the case and voters are more likely to get affected by mobilizing efforts aimed at promoting higher turnout (Lefevere & Aelst 2014; Marquart 2020). This line of argumentation is in line with results found in this thesis as usage of VAAs affected electoral turnout to a higher degree in the EP election 2019 than in the Swedish parliamentary election 2018.

The results found in this thesis imply that VAAs have the potential to be real dealbreakers during elections and have the capacity to function as a tool to increase interest and electoral turnout, especially during EP elections. To increase interest and turnout in EP elections has been an important issue in EU politics for many years and the results in this thesis imply that VAAs can function as a remedy for the low levels of interest and turnout. These findings have large implications for future development and understanding of VAAs. The results can potentially lead to the media, political actors and academics see the potential in VAAs and continue with further work to improve aspects surrounding VAAs and conduct further research. However, it is an indisputable fact that more research about this topic is needed.

6.1 Future research

First of all, to be better able to generalize the results, studies about this issue should be conducted covering a wide range of European countries with different political and electorate systems. Further studies could also include control variables that this thesis was not able to control for, such as consumption of political news and Internet usage. By including variables about Internet usage, further studies would be able to test the *mobilising* versus *normalizing thesis*, i.e. whether VAAs only benefits persons who are already interested in politics, or whether VAAs have the potential to reach politically uninterested persons as well. Furthermore, future research could also choose another methodological approach and study this issue in

conjunction with national elections and EP elections and then make either experiments or interviews as this would complement our understanding of the impact of VAAs on turnout.

Another issue that would have been interesting to investigate is whether VAAs affect party choice differently in national elections and EP elections, and whether voters are more willing to follow the advice produced by VAAs depending on the election. Theoretically, the most likely outcome would have been that voters would be more inclined to be affected by VAAs during EP elections since contextual factors have a larger impact in EP elections. One dimension related to party choice would also be to investigate if some types of parties are benefitted by VAAs more than others, and if this differs between national elections and EP elections.

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Appendix

Appendix A: Coding of variables, Swedish parliamentary election 2018

Dependent variable:	
Electoral turnout	*"Did you vote in the parliamentary elections this year?"* with response options *Yes* coded as (1) and *No* coded as (0). *Don't want to answer* excluded from the analysis. Respondent's answer checked and corrected with register data.
Key independent variable:	
Usage of VAAs	*"Ahead of this year's election, did you do any of the party tests/voting advice applications that different media had on their websites, where you could test which party you thought was closest?"* with response options *No, did not do any tests* coded as (1), *Yes, did several tests* and *Yes, did occasional tests* merged and coded as *Yes* (2)
Control variables:	
Gender	"*Are you*.." with response options *Man* coded as (1) and *Woman* coded as (2). Respondent's answer checked and corrected with register data.
Age	*"What year were you born?"* and respondents filling in their year of birth. Respondent's answer checked and corrected with register data.
Education	"*What is your highest level of education?*" with response options *Not completed primary, or equivalent school*, *Primary school or corresponding compulsory school* merged and coded as *Low education* (1); *Studies at upper secondary school, folk high-school, junior secondary school (or equivalent), Degree from upper secondary school, folk high-school, junior secondary school (or equivalent), Tertiary education, not college/university* merged and coded as *Medium education* (2); *Studies at college/university, Degree from college/university, Studies or degree at the postgraduate education* merged and coded as *High education* (3). Response option *Other* excluded from the analysis. Respondent's answer checked and corrected with register data.
Income	Register data informing about the respondents' yearly income. *Less than 200 000 SEK* coded as *Low income* (1), 200 001-400 000 SEK coded as *Medium income* (2) and *More than 400 000 SEK* coded as *High income* (3)
Marital status	"*What is your marital status?"* with response options: *Single* and *Widow/Widower* merged and coded as (1), *Cohabitation* and *Married/Partner* coded as (2)
Place of residence	*'"Where do you live?"* with the response options: *Rural area* coded as (1); *Small town* and *Village* merged and coded as *Small town/Village (2);, Big town* merged and *City* coded as *Big town/City* (3); and *Large city: outer areas/suburb* and *Large city: central area merged and* coded as *Big city* (4). Respondent's answer checked and corrected with register data.

Member in trade union/professional organization	*"Are you a member of any trade union or business organization or any other professional organization?"* with response options *Yes* (2) and *No* (1)
Political interest	*"How interested are you in politics in general?"* with the response options *Not interested at all* and *Not very interested* merged and coded as *Interested* (1); *Fairly interested* and *Very interested* merged and coded as *Not interested* (2).
Political affiliation	*"Many feel like supporters of a particular party. But there are also many who have no such attitude to any of the parties. Do you consider yourself a supporter of any party?"* with response options *Yes* coded as (2) and *No* coded as (1). Response option *Don't know* is excluded from the analysis.
Ideology	*"Where would you place yourself on the same scale?"* questioned below the question *"In politics, people sometimes talk about left and right. Where would you place the lots on a scale between 0 and 10 where 0 stands too far to the left and 10 stands too far to the right?"* with response options *(0) = far to the left; (1); (2); (3); (4); (5) = neither left nor right; (6); (7); (8); (9);* and *(10) = far to the right*
Political effect	*"When you think of this year's election movement, how well do the following descriptions fit your view?: Interesting and exciting"* with the response options *Not at all* and *Not very well* merged and coded as *Not interesting/exciting election* (1); *Fairly well* and *Very well* merged and coded as *Indeed interesting/exciting election* (2). Response option *No opinion* excluded from the analysis.
Clear party differences	*"When you think of this year's election movement, how well do the following descriptions fit your view?: Clear differences between the parties"* with the response options *Not at all* coded as and *Not very well* merged and coded as *Not clear party differences*(1); *Fairly well* and *Very well* coded as *Indeed clear party differences* (2). Response option *No opinion* excluded from the analysis.
Opinion about the electoral campaign	*"When you think of this year's election movement, how well do the following descriptions fit your view?: Too much party bickering"* with the response options *Very well* coded and *Fairly well* merged and coded as *Too much party bickering* (1), *Not very well* and *Not at all* merged and coded as *Not too much party bickering* (2). Response option *No opinion* excluded from the analysis.
Convinced to vote	"*Before the election this year, did any member of your family or someone else in your immediate surrounding try to convince you to vote for a particular party?*" with response options *No* coded as (1), *Yes, several times* and *Yes, a few times* merged and coded as *Yes* (2)

Appendix B: Coding of variables, European Parliament election 2019

Dependent variable:

Electoral turnout	*"Did you vote in this year's European Parliament election?"* with response options *Yes* coded as (1) and *No* coded as (0). *Don't want to answer* excluded from the analysis.
Key independent variable:	
Usage of VAAs	*"Ahead of this year's election to the European Parliament, did you: Do a party test/voting advice applications that different media had on their websites?"* with response options *No, did not do any tests* coded as (1), *Yes, did several tests* and *Yes, did occasional tests* merged and coded as *Yes* (2)
Control variables:	
Gender	"*Are you*.." with response options *Man* coded as (1) and *Woman* coded as (2).
Age	*"What year were you born?"* and respondents filling in their year of birth.
Education	"*What is your highest level of education?*" with response options *Not completed primary, or equivalent school*, *Primary school or corresponding compulsory school* merged and coded as *Low education* (1); *Studies at upper secondary school, folk high-school, junior secondary school (or equivalent), Degree from upper secondary school, folk high-school, junior secondary school (or equivalent), Tertiary education, not college/university* merged and coded as *Medium education* (2); *Studies at college/university, Degree from college/university, Studies or degree at the postgraduate education* merged and coded as *High education* (3). Response option *Other* excluded from the analysis.
Income	*"What is the approximate total annual income in kronor for all persons in your household before tax (pension, study funds, etc. must be included)"* with response options *100 000 or less, 100 001 – 200 000, 200 001 – 300 000, 300 001 – 400 000* merged and coded as *Low income* (1); *400 001 – 500 000, 500 001 – 600 000, 600 001 – 700 000, 700 001 – 800 000* merged and coded as *Medium income* (2); *800 001 – 900 000 , 900 001 – 1 000 000, 1 000 001 – 1 100 000* and *More than 1 100 000* merged and coded as *High income* (3)
Marital status	"*What is your marital status?"* with response options: *Single* and *Widow/Widower* merged and coded as (1), *Cohabitation* and *Married/Partner* coded as (2)
Place of residence	*'"Where do you live?"* with the response options: *Rural area* coded as (1), *Small town* and *Village* coded as *Small town/Village (2), Big town* and *City* coded as *Big town/City* (3) and *Large city: outer areas/suburb* and *Large city: central area* coded as *Big city* (4),
Member in trade union/professional organization	*"Are you a member of any trade union or business organization or any other professional organization?"* with response options *Yes* (2) and *No* (1)

Political interest	*"How interested are you in politics in general?"* with the response options *Not interested at all* and *Not very interested* merged and coded as *Interested* (1); *Fairly interested* and *Very interested* merged and coded as *Not interested* (2).
Political affiliation	*"Many feel like supporters of a particular party. But there are also many who have no such attitude to any of the parties. Do you consider yourself a supporter of any party?"* with response options *Yes* coded as (2) and *No* coded as (1). Response option *Don't know* is excluded from the analysis.
Ideology	*"Where would you place yourself on the same scale?"* questioned below the question *"In politics, people sometimes talk about left and right. Where would you place the lots on a scale between 0 and 10 where 0 stands too far to the left and 10 stands too far to the right?"* with response options *(0) = far to the left; (1); (2); (3); (4); (5) = neither left nor right; (6); (7); (8); (9);* and *(10) = far to the right*
Political effect	*"When you think of this year's election movement, how well do the following descriptions fit your view?: Interesting and exciting"* with the response options *Not at all* and *Not very well* merged and coded as *Not interesting/exciting election* (1); *Fairly well* and *Very well* merged and coded as *Indeed interesting/exciting election*(2). Response option *No opinion* excluded from the analysis.
Clear party differences	*"When you think of this year's election movement, how well do the following descriptions fit your view?: Clear differences between the parties"* with the response options *Not at all* coded as and *Not very well* merged and coded as *Not clear party differences*(1); *Fairly well* and *Very well* coded as *Indeed clear party differences* (2). Response option *No opinion* excluded from the analysis.
Opinion about the electoral campaign	*"When you think of this year's election movement, how well do the following descriptions fit your view?: Too much party bickering"* with the response options *Very well* coded and *Fairly well* merged and coded as *Too much party bickering* (1), *Not very well* and *Not at all* merged and coded as *Not too much party bickering* (2). Response option *No opinion* excluded from the analysis.
Convinced to vote	"*Before the election this year, did any member of your family or someone else in your immediate surrounding try to convince you to vote for a particular party?*" with response options "No" coded as (1), *Yes, several times* and *Yes, a few times* merged and coded as *Yes* (2)

Appendix C: Bivariate regression of key correlations

	Swedish parliamentary election 2018	European Parliament election 2019
VAA usage (ref=Not used a VAA)		
Used a VAA	1,2** (0,52)	1,36*** (0,19)
Constant	3,64*** (0,32)	1,25*** (0,10)
Pseudo R^2	0,0328	0,0619
N	1,165	1,159

Appendix D: Diagnostics tests

Checking for multicollinearity in Table 5 and Table 6:

Values above 5 are seen as problematic. Results show no signs of multicollinearity.

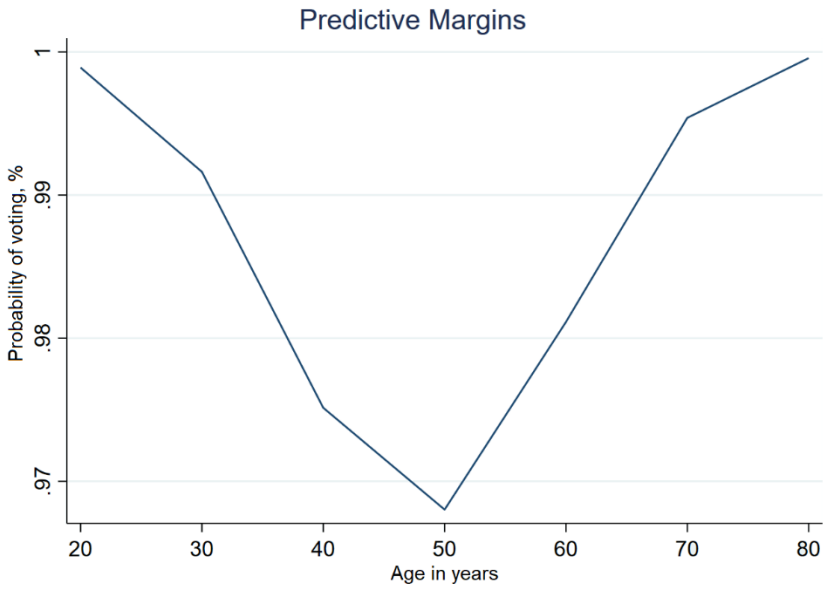
	VIF values	VIF values
	Swedish parliamentary election 2018	**European Parliament election 2019**
Age	1,31	1,28
Clear party differences	1,11	1,11
Convinved to vote	1,06	1,07
Education	1,24	1,23
Gender	1,11	1,11
Ideology	1,12	1,09
Income	1,16	1,50
Marital status	1,06	1,36
Member of trade union/professional organization	1,12	1,12
Opinion about the election campaign	1,09	1,03
Place of residence	1,06	1,09
Political affiliation	1,12	1,09
Political effect	1,13	1,17
Political interest	1,20	1,25
Usage of VAAs	1,24	1,12

Checking the goodness-of-fit:

In order to have a correctly specified model, "_hat" should be statistically significant, while "_hatsquare" should not be statistically significant. As shown in the table, the models are correctly specified. Further goodness-of-fit tests also showed that the models have chosen good predictors.

	Swedish parliamentary election 2018	**European Parliament election 2019**
_hat	1,24** (0,60)	1,02*** (0,18)
_hatsquared	-0,07 (0,08)	-0,008 (0,05)
Constant	-0,80 (1,08)	-0,007 (0,16)
Pseudo R^2	0,2138	0,2114
N	1,165	1,159

Appendix E: Predicted Probability of voting in the Swedish parliamentary election 2018 depending on age categories[8]



[8] Scale 0,96-1

Appendix F: Results for Ordinary Least Squares (OLS) regression of full models

	Swedish parliamentary election 2018	**European Parliament election 2019**
VAA usage (ref=Not used a VAA)		
Used a VAA	0,18** (0,008)	0,13*** (0,02)
Gender (ref=Male)		
Female	0,011 (0,007)	0,003 (0,02)
Age	-0,005*** (0,02)	0,006 (0,005)
Age squared	0,00006*** (0,00006)	-0,00005 (0,00004)
Education (ref= Low education)		
Medium education	0,014 (0,016)	0,07 (0,04)
High education	0,014 (0,016)	0,13*** (0,04)
Income (ref=Low income)		
Medium income	0,021** (0,10)	0,03 (0,03)
High income	0,021** (0,008)	0,08** (0,03)
Marital status (ref=Single/Widow/Widower)		
Cohabitant/Married/Partnership	0,021*** (0,008)	-0,01 (0,03)
Place of residence (ref=Rural area)		
Small town/village	-0,006 (0,012)	0,01 (0,03)
Big town/City	0,005 (0,011)	-0,03 (0,03)
Large city	0,013 (0,013)	0,03 (0,03)
Member in trade union/professional organization (ref=Not member)		
Member	0,0009 (0,008)	0,02 (0,02)
Political interest (ref=Not interested)		
Interested	0,003 (0,008)	0,14*** (0,02)
Political affiliation (ref=Not identify with a party)		
Identify with a party	0,020** (0,008)	0,009 (0,02)
Ideology	0,0013 (0,0014)	-0,007* (0,004)
Political effect (ref=Not interesting/exciting election)		
Indeed interesting/exciting election	-0,0016 (0,007)	0,04* (0,02)
Clear party differences (ref=Not clear party differences)		
Indeed clear party differences	-0,0015 (0,007)	0,08*** (0,02)
Opinion about the election campaign (ref=Too much party bickering)		
Not too much party bickering	0,0004 (0,009)	0,004 (0,02)
Convinced to vote (ref=Not convinced)		
Convinced	-0,009 (0,009)	-0,08*** (0,02)
Constant	1,03*** (0,045)	0,35** (0,12)
Adjusted R^2	0,0130	0,1526
N	1,165	1,159

Note: Dependent variable *Electoral turnout* (1=voted, 0=not voted). Entries are coefficients, standard errors and predicted probabilities from logistic regression computed using Stata. Standard errors in brackets. Number of observations hold constant due to missing values. *** , ** and * denote statistical significance at 1, 5 and 10 per cent, respectively

Appendix G: Robustness check with the variable *Usage of VAAs* excluded

	Swedish parliamentary election 2018	**European Parliament election 2019**
Gender (ref=Male)		
Female	0,89 (0,57) 0,011	-0,03 (0,04) -0,002
Age	-0,47*** (0,18) 0,00009	0,03 (0,04) 0,0009
Age squared	0,005*** (0,002)	-0,0002 (0,0004)
Education (ref= Low education)		
Medium education	1,30 (0,97) 0,03	0,46 (0,32) 0,060
High education	1,34 (1,04) 0,029	1,06*** (0,32) 0,113
Income (ref=Low income)		
Medium income	1,32* (0,75) 0,021	0,28 (0,26) 0,031
High income	1,28* (0,69) 0,02	0,95*** (0,32) 0,082
Marital status (ref=Single/Widow/Widower)		
Cohabitant/Married/Partnership	1,54*** (0,55) 0,029	-0,06 (0,23) -0,005
Place of residence (ref=Rural area)		
Small town/village	-0,30 (0,78) -0,007	0,17 (0,29) 0,016
Big town/City	0,53 (0,76) 0,008	-0,15 (0,28) -0,015
Large city	1,55 (1,23) 0,015	0,58 (0,30) 0,044
Member in trade union/professional organization (ref=Not member)		
Member	0,11 (0,57) 0,0013	0,33 (0,21) 0,028
Political interest (ref=Not interested)		
Interested	0,26 (0,59) 0,0031	1,06*** (0,20) 0,11
Political affiliation (ref=Not identify with a party)		
Identify with a party	2,34** (1,08) 0,022	0,09 (0,21) 0,007
Ideology	0,11 (0,12) 0,0013	-0,07* (0,04) -0,006
Political effect (ref=Not interesting/exciting election)		
Indeed interesting/exciting election	-0,12 (0,57) -0,0014	0,65*** (0,24) 0,049
Clear party differences (ref=Not clear party differences)		
Indeed clear party differences	-0,21 (0,55) -0,0025	0,84*** (0,21) 0,067
Opinion about the election campaign (ref=Too much party bickering)		
Not too much party bickering	0,006 (0,71) 0,00007	0,11 (0,22) 0,009
Convinced to vote (ref=Not convinced)		
Convinced	-0,70 (0,63) -0,010	-0,633*** (0,22) -0,061
Constant	10,51** (4,39)	-1,40 (1,07)
Adjusted R^2	1,165	0,1715
N	0,1855	1,159

Note: Dependent variable *Electoral turnout* (1=voted, 0=not voted). Entries are coefficients, standard errors and predicted probabilities from logistic regression computed using Stata. Standard errors in brackets. Number of observations hold constant due to missing values. *** , ** and * denote statistical significance at 1, 5 and 10 per cent, respectively