The Left-Right Dimension, a Useful Tool for Communication?

Explaining the variance of the placements of political parties on the left-right dimension by voters.

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Introduction

The terms left and right are widely used by political parties and voters to create political spaces. The classic view is that the left-right dimension can form a kind of "super-issue" on which various party positions or voter positions can be aggregated (e.g. Inglehart & Klingemann, 1976; Gabel & Huber, 2000; Blais & Bodet, 2006). Downs argues that "the political parties in any society can be ordered from left to right in a manner agreed upon by all voters" (Downs, 1957b: 142). For example, if one looks at the aggregated party positions on the left-right dimension in the Dutch case, one can see that the ordering of political parties on this dimension has been very constant over time (Pellikaan, 2010: 474-475). This study by Pellikaan has shown that only the positioning of the religious parties has changed through the years, which is partly due to the growing importance of the economic left-right dimension and the decreasing importance of the religious left-right dimension (Pellikaan, 2010: 474-475). However, for other parties no important changes have occurred in the (aggregated) ordering over the years (Pellikaan, 2010: 474-475). This seems to indicate that people in the Netherlands agree to a great extent on the placement of individual political parties on the left-right dimension. Looking at this stability and agreement on the aggregated level, the impression arises that the left-right dimension is a useful tool for communication which can be used by a majority of voters. This specific claim has also often been made in different studies; these studies have shown that the concepts of left and right are commonly understood by voters in established democracies and it is therefore argued the terms left and right provide a form of communication between politicians and voters that is easier to understand for both groups (Inglehart & Sidjanski, 1976: 225; Fuchs & Klingemann, 1990: 203; Langer, 2007: 372; Mair, 2007: 207-211; McAllister, 2009: 579).

However, the usefulness of this dimension is also often debated. Some studies have shown that the terms of left and right have a different meaning in different contexts; due to for example what issues are seen as important issues, the meaning of the terms left and right differ within different countries, different time periods and different groups of people (e.g. Inglehart, 1985; Benoit & Laver, 2009; Pellikaan, 2010). The findings of these studies clearly violate Downs' condition of a single political dimension for a whole political system (Downs, 1957a) in which the programs of competing political parties are summarized within one super-issue (Budge *et al.*, 2001). It also violates Downs' assumption that "the political parties in any society can be ordered from left to right in a manner agreed upon by all voters" (Downs, 1957b: 142).

The usefulness of the left-right dimension as a communication tool can also be questioned by looking at the actual placements provided by respondents of an individual political party. In the Dutch case for example, the positioning of political parties on the left-right dimension varies to a great extent. The figures below, which show the frequency of positions given by the respondents of the Dutch Parliamentary Election Studies (DPES) in 2010 for four major parties in the Dutch political system, visualize this problem.

Figure 1: Left-right rating of PvdA

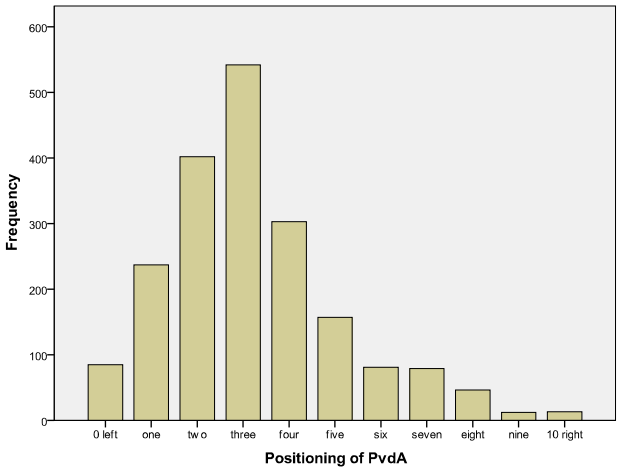


Figure 2: Left-right rating of SP

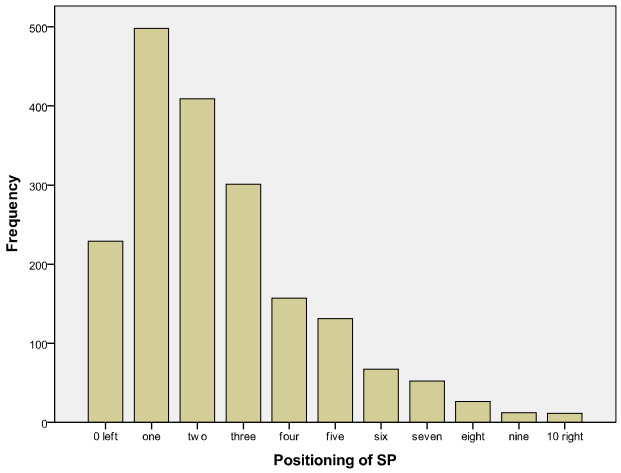


Figure 3: Left-right rating of D66

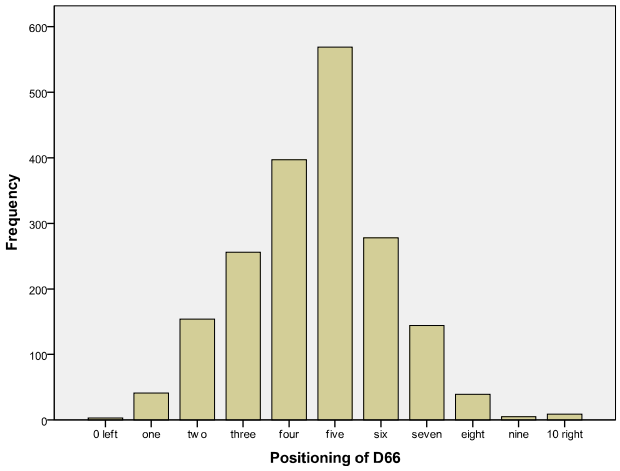
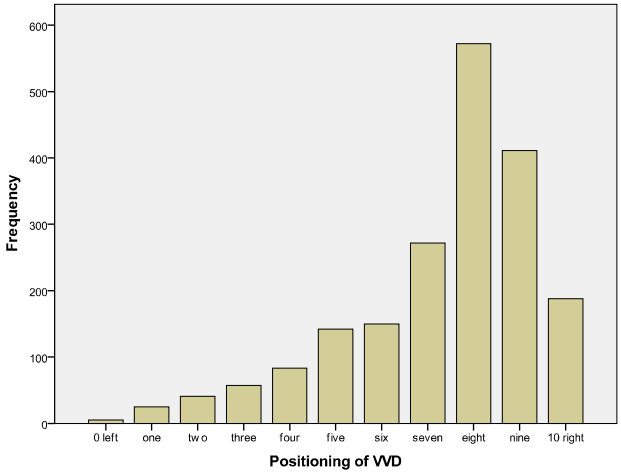


Figure 4: Left-right rating of VVD



The figure for the Labour party (PvdA) shows that even though most people indicate that the PvdA can be positioned around a value of two to four on the left-right dimension, there are people that give the PvdA a value of zero (extreme left) or even a value of ten (extreme right); which indicates that some people think that the PvdA is either a very leftist or rightist political party in the Dutch political system. The same picture arises for the Socialist Party (SP). Even

though most people agree that this party is – alongside the Green Left (GL) – the most leftist political party in the Dutch political system, a considerable number of people position the SP more to the right side of the left-right dimension. This is not in line with the conventional positioning of the SP on the left-right dimension. The Democrats ’66 (D66) is placed by most people somewhere on the left side of the middle of the whole spectrum. A large number of people, however, position D66 at the far left or far right end of the spectrum. The same kind of situation is visible for the Liberal Party (VVD); most people agree that the VVD is located at the right end of the scale, but some people indicate that the VVD is located at the (far) left end of scale.

Why is there so much variance in the positioning of political parties on the left-right dimension by respondents? And does this indicate that not every citizen is able to use the left-right dimension in a meaningful manner? And if this is true, is the left-right dimension really is a useable communication tool for voters and politicians? In this study I will try to answer these questions and investigate possible explanations for the variance in the placements. The initial research question of this study is the following; *How can the variance in the positioning of political parties on the left-right dimension be explained?* So far, no research in the Netherlands has been conducted to investigate this matter, or at least not from this starting point. It is unlikely that a single explanation can explain why people place parties on unconventional positions on the left-right dimension. The goal is to explain the variance in the positioning of political parties by identifying and testing various explanatory factors that might influence people’s ability to position political parties on the correct places on the left-right dimension. These explanations range from systematic biases to random answers and will be discussed below. The study will conclude with a discussion of the usability of the left-right dimension for voters.

Scientific and social relevance

This study adds to our understanding of the usefulness of the left-right dimension in different way than research has done so far. It is important to know how well the abstract terms of left and right are understood and interpreted by voters. As the seminal study conducted by Converse – that will be further discussed below – has already shown, some voters are not able to talk about politics in abstract terms because they do not have enough political knowledge, or are not politically interested or educated enough (Converse, 1964: 227). Relatedly, some people might also not be able to place political parties on an abstract continuum like the left-right dimension. A debate is focused on whether a one-dimensional model is a representative

model of a political system, however, no real attention is paid to whether people are able to use and interpret such a one-dimensional model. This study tries to do exactly that by focussing on possible factors that influence people's ability to place parties on the correct places on the left-right dimension.

If the results of this study indicate that some people are indeed unable to use or work with the left-right dimension, this can have far reaching implications for many theories used in political science. It not only has consequences for the whole debate that focuses on whether such a model can be a representative model of a political system, it also has consequences for theories that use this one-dimensional model to make other claims. The proximity theory for example argues that, all other things being equal, a voter will choose the party or candidate who is closest to his own position; it could thus be seen as an illogical decision when a person chooses to vote for a political party that is further away from their own position on the dimension than another political party[1] (e.g. Westholm, 1997: 866; Merril III & Grofman, 1999: 1) With this argument the assumption is made that people are able to position parties on the one-dimensional scale. This, however, might not be the case. As said before, the great variance in the positioning of political parties on the left-right dimension might indicate that some people have great difficulty with placing parties on the one-dimensional scale. Depending on the results of this analysis, the theoretical assumption of the proximity theory that people are able to place parties on a left-right scale could be questioned and possibly needs to be revised.

The societal relevance of this study lies in the usefulness of the findings of this study for (political) actors in practice, as for example political parties. If the conclusion can be made that a considerable group of people finds it difficult to place political parties on the left-right dimension due to for example a lack of knowledge, political parties - when their aim is to clarify their standpoint - could adjust their strategies and not only talk in abstract terms about politics but also explain in less abstract terms what they mean when they for example say that they are a leftist or rightist political party in general or with regard to a specific issue. Not only is this important for political parties, it is also important for other actors such as journalists, interest groups, and of course voters themselves.

[1] It is acknowledge that such a move could also be judge in a different way, it would be example be judged as a strategic move.

Literature review

This study focuses on the usefulness of the left-right dimension with regard to the ability of voters to position political parties on this dimension. However, the debate about the usefulness a one-dimensional (left-right) model is long and broad; earlier studies have focused on different aspects of the usefulness of the left-right dimension. Therefore, before the theories and hypotheses that underlie this study are discussed, a discussion needs to be provided on the usefulness of the left-right dimension in which the most important findings of earlier studies are discussed.

Arguments against the usefulness of the left-right dimension

Some scholars, like Downs, have argued that one political left-right dimension can be constructed for a whole political system in which the programs of competing political parties are summarized within one "super-issue" (Downs, 1957a; Sani & Sartori, 1983; Budge *et al.*, 2001). Many studies have examined which issues or cleavages exactly constitute this left-right "super-dimension" (e.g. Inglehart and Klingemann, 1976; Huber and Inglehart, 1995; Lipset & Rokkan, 1967; Benoit & Laver, 2009). Downs has argued that this left-right dimension reflects the positions taken by political parties on the issue of government intervention in the economy (Downs, 1957a: 116). However, many scholars do not agree with the notion that only issues related to government intervention in the economy constitute the left-right dimension (e.g. Lipset & Rokkan, 1967; Inglehart & Abramson, 1994). Lipset and Rokkan have argued that the classic cleavages of center-periphery, state-church, land-industry and work-capital owner have long constituted the political spectrums in Western Europe (Lipset & Rokkan, 1967: 50). This indicates that government intervention in the economy should not be regarded as the only issue constituting the aggregated left-right dimension. However, partly due to the individualization of society and economic growth that has led to a decrease of the differences between those groups, the importance of traditional cleavages as those brought forth by Lipset and Rokkan have weakened and the social background of voters has become less of an influence on the political positions of voters (e.g. Inglehart & Abramson, 1994: 350-351). Furthermore, a new post-materialist cleavage has become more important (e.g. Inglehart & Abramson, 1994: 350-351). Due to the rise of the post-materialist cleavage, on for example the issue of environmental policy, the left-right dimension not only consists of multiple issues, but the meaning of the aggregated left-right dimension has also changed over time (e.g. Huber & Inglehart, 1995: 90; Benoit & Laver, 2009: 136). This change in the

meaning of the issue(s) constituting the overall left-right is highlighted by Huber and Inglehart. Huber and Inglehart claim that economic and class conflicts are still the most important issues constituting the left-right dimension, however, the meaning of economic conflicts has changed from government intervention in the economy to deregulation (Huber & Inglehart, 1995: 90).

The meaning of the overall left-right dimension also differs per country. The study conducted by Benoit and Laver, which was focused on thirty-eight European countries and six non-European countries, showed that not one issue can be found that is so important that it constitutes one overall left-right dimension that is relevant for all countries (Benoit & Laver, 2009: 149). Benoit and Laver therefore argue that such a goal is unattainable because different issues are salient within different countries (Benoit & Laver, 2009: 149). Other studies have come to the same conclusion as Benoit and Laver (e.g. Van der Brug, 2001: 130; Huber & Inglehart 1995: 90).

The meaning of the left-right dimension and the issues that constitute it do not only differ over time and per country, but also differ for different groups of people (e.g. Pellikaan, 2010). It is argued by some scholars that the political system in the Netherlands since the period of depillarization[2] can be characterized by a one-dimensional left-right scale that represents a "left-right ideology which accounts for a great deal of voter behavior, party behavior, and issue formation" (Van der Eijk & Niemöller, 1987: 17). However, studies have also shown that the meaning of the terms left and right are different per context and therefore different left-right dimensions can be formed for these different contexts. Pellikaan has argued that, when looking at different groups within society, instead of looking at the society as a whole, different groups of people construct different left-right orderings of political parties (Pellikaan, 2010: 477-482). One important factor that causes the difference between these orderings is religion (Pellikaan, 2010: 477-482). The results of this study show that voters of secular parties construct a left-right dimension on which the socialist parties are on the left, the confessional parties in the middle, and the liberal parties on the right side of the scale (Pellikaan, 2010: 478-481). Voters of religious parties however deviate from this; especially voters of extreme religious or more conservative religious political parties place socialist parties on the left, the liberal parties in the middle and the confessional parties on the right

[2] From around 1917 until the 1960s the Dutch society was divided into four pillars: catholics, protestants, socialists and the looser organized liberals (Andeweg & Irwin, 2009: 35-41). The lives of citizens were all taking place within those pillars; schools, sportclubs, political parties, labour unions, etc. were all organized along the lines of these pillars (Andeweg & Irwin, 2009: 35-41). In the second half of the 1960s these pillars broke down (Andeweg & Irwin, 2009: 40-41).

side of the dimension (Pellikaan, 2010: 478-481). The ordering of political parties by religious voters is in line with the *antithese*[3], which indicates that religion is still a very important factor within Dutch politics and the influence of religion is independent from other issues (Pellikaan, 2010: 482). If Dutch voters do not agree on a single interpretation of the left-right dimension, the claim made by Van der Eijk and Niemöller that the Dutch political system can be characterized by a one-dimensional socio-economic left-right dimension since the period of depillarization is not true.

Next to the question which issues constitute the one-dimensional left-right dimension, Downs's idea yields also another problem. A one-dimensional model would only be appropriate when political parties are leftist or rightist on all issues that are important for the overall left-right dimension. However, looking for example at the Freedom Party (PVV) in the Netherlands, it becomes clear this is not always the case; the PVV can be called leftist on economic issues, but it can be called rightist on cultural issues. On social welfare, the PVV takes a socialist standpoint (Party Program for the 2010 parliamentary elections, p. 25) and can therefore be seen as a leftist party on the socio-economic left-right dimension. However, the PVV takes a monocultural standpoint on integration and immigration issues (Party Program for the 2010 parliamentary elections, p. 37) and therefore can be seen as a rightist party on the multicultural-monocultural divide. In such a situation, a multidimensional model might provide a better representation of a political system. However, no agreement exists on how many dimensions are needed to create a proper representative model of a political system (e.g. Pellikaan & Van der Meer, 2003; Benoit and Laver, 2009). However, no further attention will be paid to this debate because this goes beyond the goals of this study.

Arguments in favor of the usefulness of the left-right dimension

Probably the most important argument in favor of the usefulness of the left-right dimension, and which is therefore often broad forward, is that it can serve as a communication tool that makes the understanding of politics easier for voters and also improves the communication between politicians and voters. As said earlier, different studies have shown that the concepts of left and right are commonly understood by voters in established democracies which makes it a useful communication tool for both politicians and voters (Klingemann, 1972: 102; Inglehart & Sidjanski, 1976: 225; Fuchs & Klingemann, 1990: 203; Langer, 2007: 372; Mair,

[3] An idea originally of the founder of the Anti-Revolutionary Party in the Netherlands, Abraham Kuyper. It is a division of the political system in secular and religious parties in which religious parties are placed on the right side of the political spectrum and secular parties are placed on the left side of the political spectrum (Andeweg & Irwin, 2009: 69-70).

2007: 207-211; McAllister, 2009: 579). Or as Benoit and Laver put it: "This political spectrum is an explicit or implicit "left-right" scale that defines a spatial language understood by almost every political commentator, from the interested lay observer, to the hyper-connected political insider, to the political scientist who stands aloof from politics and attempts to describe this from a distance" (Benoit & Laver, 2009: 129). To give an example on how the left-right dimension can make the understanding of politics easier, the left-right dimension can provide a "measure of where a party stands ideologically over an extended period of time" and it thus shows how a party's position on the left-right dimension changes per election (Budge, *et al*., 2001: 19). This can help voters when making their voting choice. It is also important to highlight that if the meaning of the left-right dimension changes over time and differs per country, this does not mean it can not serve a purpose. Per election period, per country and thus per interpretation, the left-right dimension can serve as a tool that makes the understanding of the whole political spectrum easier.

Related to this argument is the stability in the positioning of political parties on the left-right dimension. The fact that the positioning of parties on the left-right dimension by voters is fairly stable over time (Pellikaan, 2010: 474-475), as already discussed in the introduction, indicates that there is an agreement among most voters about the position of individual political parties on the left-right dimension. This stability supports the argument made by Downs that "the political parties in any society can be ordered from left to right in a manner agreed upon by all voters" (Downs, 1957b: 142). Even though one could question the placements made by voters, the stability in the placements by voters shows that for most voters the left-right dimension is a usable tool that has an understandable logic.

Others argue that the usefulness of the left-right dimension can also be found in the usage of this dimension in the generation of predictions by different theories, as for example theories of coalition formation (Budge *et al.*, 2001: 19). Through the usage of the left-right dimension, party closeness can be used to make predictions on the basis of proximity models or ideas like the 'power of the median'[4] (Budge *et al.*, 2001: 19).

[4] This might seem contradictory to the claim made earlier in this study with regard to the proximity theory, however, this is not true. First of all, the claim made in this study that the left-right dimension might not be understood by everybody and consequently might not be as useful as most people often think is not related to the construction of left-right dimensions based on party programs and expert surveys. Such a dimension could be, in the light of the argument made in this study, easily used by different theories like theories about coalition formation. Secondly, those theories building on left-right dimensions constructed by voters do not immediately loose their value when the conclusion is made that the left-right dimension is not understood by everyone. However, such a conclusion bears the consequence that one should not carelessly assume that everybody is able to use the left-right dimension.

All the arguments in favor of the left-right dimension show that even though there might not be a single left-right dimension representing every political spectrum, it serves its own purpose in each different setting as a communication tool for a large group of people.

The contribution of this study to the existing body of literature

The above shows that even though a lot of criticism has been raised on the usefulness of the left-right dimension, the left-right dimension also has some important advantages. Within this study one of the advantages of the left-right dimension is tested, namely if the left-right dimension indeed serves as a communication tool that is easy to use for voters. If one looks and investigates the usefulness of the left-right dimension, one not only needs to focus on the issues underlying this dimension but also at the possible biases or lack of knowledge that have an influence on the positioning of parties on this dimension by voters. The interpretation of the "left" and "right" for example can vary between different groups of people because people with very strong political views might have biased perceptions about left and right and about the position of political parties on the left-right dimension. Or some people might for example be unable to think and talk about politics in abstract terms as "left" and "right". Some people might thus not be able to place parties on the left-right dimension or they might place parties on incorrect positions on the left-right dimension. What is thus important in this study is whether the left-right dimension – leaving the debate about whether such a one-dimensional model is a correct representation of a political system aside – is something people are able to use and interpret.

Theory and hypotheses

Even though research so far has not focused on voter's ability to place parties on the left-right dimension and the correctness of these placements, the possible factors that influence this ability and the correctness of these placements are based on existing theories. Two broad causes can be identified that explain people's ability to position parties on the correct places on the left-right dimension; the amount of political knowledge people have and the influence of systematic biases due to political preferences. If people do not have enough knowledge about politics, people might have difficulties with placing parties on the correct places on the left-right dimension. It could also be argued that people that have a biased perception about political parties and the whole political spectrum due to partisan or ideological predispositions have more difficulties with placing parties on the left-right dimension than people that do not have these biased perceptions.

Before discussing the factors that might influence the ability to place parties on the left-right dimension in a correct manner, a definition has to be provided of what a correct placement is. What can be seen as the correct position of a party on the left-right dimension can be different for different kinds of studies. Here, the actual – or "true" – position of a party on the left-right dimension based on party manifestos for example, it not really important here because this position does not necessarily reflect the position that is (or can be) perceived by voters. Here the average perceived position of a political party by voters - on the aggregated level - serves as the correct position of a party on the left-right dimension.

The influence of knowledge

A higher amount of political knowledge may have an influence on the ability of respondents to place political parties on correct positions on the left-right dimension. Political knowledge as it is used here, does not only consist out of the actual knowledge people have about politics like for example who party leaders are, out of which parties a government coalition is constructed, etc. Political knowledge in the bigger sense of the word, consists of a cluster of related factors that need to be taken into account; education, political interest, political knowledge, and party identification.

People with higher education levels have more knowledge about politics (e.g. Scholz and Zuell, 2012: 1417). This higher level of political knowledge might also make it more likely that these people are able to place political parties on (more) correct positions on the left-right dimension. A seminal study by Converse is especially relevant to explain the

possible influence of education on the ability to place parties on the left-right dimension. Converse conducted research into the understanding of abstract dimensions among the electorate. As a hypothesis, Converse stated that "the yardstick that such an account takes for granted – the liberal-conservative continuum – is a rather elegant high-order abstraction, and such abstractions are not typical conceptual tools for the man in the street" (Converse, 1964: 215). His study indeed showed that the vast majority of the public in the United States was unable to think and talk about politics in abstract terms like liberal and conservative (Converse, 1964: 227). In this sense the abstract continuums like the liberal-conservative continuum, are not as meaningful as some often assume: "All that they show is that poorly educated people are inarticulate and have difficulty expressing verbally the more abstract lines along which their specific political beliefs are organized" (Converse, 1964: 227-228). This study thus shows that the educational level, among other things[5], can have a large influence on the understanding of abstract terms or continuums. This might also apply to the left-right continuum because this is also an abstract continuum. Therefore the hypothesis is as follows; *People with a high educational level are more likely to place political parties on a correct place on the left-right dimension, than people with a low educational level.* However, education not only has an influence on correctness of the positioning of parties on the left-right dimension, it also has an influence on whether people are actually able to place (all) parties on the left-right dimension. A lack of education can also influence the number of – if any – political parties people are able to place on the left-right dimension. Therefore, an additional hypothesis can thus be formulated: *People with a high educational level are better able to place political parties on the left-right dimension, than people with a low educational level.*

Someone's interest in politics can also have an influence on the positioning of parties on the left-right dimension. People with higher levels of political interest have more knowledge of politics (e.g Scholz & Zuell, 2012: 1418; Groves *et al*., 2004). A higher level of political interest might therefore also make people better able to place political parties on (more) correct positions on the left-right dimension. A study by Geer has found another important effect of political interest on the positioning of political parties on the left-right dimension. Trying to explain non-response, Geer showed that item non-response and response rates were influenced less by education and more by interest in politics; thus the topic of the study or research is of importance for non-response (Geer, 1988: 365). Similar findings have

[5] Education is not the only factor important in this matter according to Converse, other factors like high political involvement are also important (Converse, 1964: 215).

been found by Holland and Christian who focused on open-ended questions in a web-based survey (Holland & Christian, 2009: 209-210). In line with these findings, Scholz and Zuell argue that "if interest in the subject matters then interest in politics should matter when answering questions on politics, and non-response will vary depending on the level of political interest" (Scholz & Zuell, 2012: 1418). Political interest has due an influence on two important things: it influences the level of political knowledge of a respondent and it influences the effort people put into the answering of a question. Both effects are important for this study. If someone's level of political interest affects whether and how well someone answers a question, people with more political interest place more political parties on the left-right dimension than people with less political interest. Therefore the following hypothesis can be formulated: *People with a high level of political interest are better able place political parties on the left-right dimension, than people with a low level of political interest.* One could also argue that political interest, because of these two effects, has a influence on the correctness of the placements provided by the respondents. In short; *People with a high level of political interest are more likely to place political parties on a correct place on the left-right dimension, than people with a low level of political interest.*

Even though someone's political interest and someone's educational level are possibly highly correlated with someone's political knowledge, an independent hypothesis for political knowledge needs to be formulated. An example can be provided to indicate why an independent hypothesis needs to be formulated; even if a person is lower educated this does not necessarily mean that this person will also have less political knowledge, because that person might be highly interested in politics and therefore have a lot of political knowledge. As an example related to political interest, someone does not necessarily have to be interested in politics to have a lot of political knowledge, someone might know a lot about politics due to his or her work or study. Another argument in favor of the usage of political knowledge as an independent factor comes forth out of the findings of a study by Price and Zaller. A study by Price and Zaller on news reception has shown that political knowledge, when compared to other predictors like education, is the strongest and most consistent predictor of news story recall across a wide range of topics (Price & Zaller, 1993: 157-158). This study thus showed that political knowledge needs to be treated as an independent predictor next to level of education and level of political interest; something that is also done in other studies (e.g. Scholz & Zuell, 2012). The hypothesis is as follows: *People with a high level of political knowledge are more likely to place political parties on a correct place on the left-right dimension, than people with a low level of political knowledge.* Again, the argument can be

made that political knowledge also has an influence on the actual ability to place parties on the left-right dimension, therefore the following hypothesis can be formulated: *People with a high level of political knowledge are better able to place political parties on the left-right dimension, than people with a low level of political knowledge.*

Another factor that influences the knowledge people have about the left-right dimension is party identification. An association has been found between party identification and left–right orientations; people that identify themselves with a political party are more often exposed to parties' ideologies than others and therefore have more knowledge of left-right orientations (Scholz & Zuell, 2012: 1419). Or as Meffert *et al* put it: "a partisan voter is invested in the political system, and as a "member of the polity" likely to be familiar with the parties, their approximate electoral strengths, and likely coalitions" (Meffert *et al*, 2011: 805). For this study the same logic can be applied; people who do not identify with any party are expected to be less familiar with the left-right dimension, the meaning of this dimension, and the positions of parties on this dimension than people who do identify with a political party. Party identification could therefore also have an influence on the ability of people to position political parties on correct places on the left-right dimension. Therefore the following hypothesis can be formulated: *People that do identify with a political party are more likely to place political parties on a correct place on the left-right dimension, than people that do not identify themselves with a political party*. Because party identification can also have an influence on the ability to place parties on the left-right dimension, the hypothesis goes as follows: *People that do identify with a political party are better able to place political parties on the left-right dimension, than people that do not identify themselves with a political party.*

The influence of systematic biases

There are three systematic biases that need to be taken into account and that all lead to a distortion of the perceptions about individual political parties and the political system as whole; distortion due to party identification, distorting due to the (extremity of) respondent's own position on the left-right dimension, distortion due to a different interpretation of the meaning of the left-right dimension.

The first factor, party identification, can also be approached in a different way as it is done in the section above. As described above, the initial assumption is that a person that identifies with a political party is able to place (all) parties on the left-right dimension because he or she is more familiar with politics and political parties than someone who does not identify with a political party. However, party identification could not only lead to a greater

ability to place parties on the left-right dimension, it could also lead to more biased placements due to predispositions that influence one's perception of political parties in particular and the political spectrum in general. Thus, due to identification with a political party it might be possible that other parties are viewed differently from how they "really" are; e.g. if one identifies very strongly with the SP one might view other socialist parties as more rightist parties than leftist parties because the standpoints of the GL and PvdA differ (a lot) from those of the SP. Research has shown that partisan preferences, in particular party identification, have a powerful influence on political attitudes and perceptions of voters (Bartels, 2002: 140). In a study on voter's expectation about election outcomes by Meffert *et al*. the expectation was brought forward that even though partisan preferences "have a positive effect on the overall accuracy or quality of voters' expectations due to stronger political involvement and higher levels of political awareness", it can also lead to a bias in these expectations because partisan preferences "distort the expectations for specific preferred or disliked parties" (Meffert *et al.*, 2011: 805-806). The results of this study showed that partisan preference indeed affect the voter's expectation about the electoral changes of (un)preferred political parties and coalitions; which can however be reduced by political knowledge and level of education (Meffert, *et al.*, 2011: 810-811). A study by Granberg, which will be further discussed below, has also shown that the respondent's political position has an influence of the positioning of parties and politicians by these people; people tend to overestimate the similarities between oneself and the nearest communicator and they tend to overestimate the contrast between oneself and those communicators that are further removed (Granberg, 1993: 83). The findings of these studies are of importance for this research because even though party identification can have a positive influence on the ability to place parties (on correct places) on the left-right dimension, it can also have an opposite effect; partisan preferences can have a distorting affect on the perceived position of parties on the left-right dimension by voters. The following hypothesis can therefore be formulated: *People that do not identify with a political party are more likely to place political parties on correct places on the left-right dimension because they are less biased in their perceptions, than people that identify with a political party*[6].

A factor related to this bias is people's own position on the left-right dimension. As is discussed by Granberg, some scholars have argued that people's own political positions might

[6] This hypothesis is thus contradictory to the hypothesis formulated earlier with regard to the effect of party identification on the correctness of the placements provided by respondents. This means that if party identification has an effect on the correctness of placements, only one of the two hypotheses can be confirmed.

play a role in the perception of the positions of political parties. If a communicator is near to the position of the individual, the individual tends to overestimate the similarities between oneself and the communicator. If, on the other hand, the communicator is further distant from the position of the individual, the individual tends to overestimate the contrast between oneself and the position of the communicator (Granberg, 1993: 83). However, discussion exists about to what extent this theory holds in practice, because one study has shown that "the tendency to maximize the similarity between oneself and a preferred candidate is considerably stronger than the tendency to maximize the distance between oneself and a nonpreferred candidate." (Granberg, 1993: 79). Even though the exact influence of the respondent's political position is not exactly clear, it seems to have an influence on the positioning of parties and politicians made by these respondents (Granberg, 1993: 109-110). It is therefore important to also take this aspect into account. It might be possible that some people are very leftist with regard to their own political opinions, views and desires, and therefore have a lot of dissimilarities with rightist parties and consequently overestimate the distance with the rightist parties by placing these parties on the far right end of the scale. Or, if some people are very leftist with regard to their own political opinions, views and desires, these people might not even regard the SP and GL as real leftist parties and therefore also place these parties more to the middle or even the right side of the left-right scale. Thus, when making these comparisons, not only the actual position – the actual number on which parties are placed - is important, but also the positioning of a party in relationship the positioning of other political parties. The positioning of parties by people with more extreme self-placements might be judged as incorrect; however, when looking at the ordering of political parties, the SP for example might still be one of the most leftist parties in the whole spectrum. The following hypothesis can be formulated: *People that have a moderate / centrist self-positioning on the left-right dimension are more likely to place political parties on correct places on the left-right dimension, than people that do not have a moderate / centrist self-positioning on the left-right dimension.*

As a third explanatory factor, the issues that underlie someone's interpretation of the left-right dimension can also influence the positioning of parties on the left-right dimension. Different groups of people might regard different political issues as the most important ones underlying the left-right dimension. People might also construct different left-right orderings of political parties due to a different interpretation of the left-right dimension (e.g. Pellikaan, 2010). Earlier research has shown that religious people still formulate a left-right dimension that is in line with the old *antithese* – the division of secular parties on the left and religious

parties on the right – and thus place parties on different positions on the left-right scale than people that interpret that dimension as a socio-economic dimension (Pellikaan, 2010: 477-482). The hypothesis that follows from this is: *People that deem conventional issues as the most important political issues are more likely to place political parties on correct places on the left-right dimension, than people that deem different – or more unconventional – issues the as the most important one).* Conventional issues are those issues that the majority of people regard to be the important issues underlying the left-right dimension. When investigating this possible bias, it is therefore important to know which issues might by underlying the left-right dimension in the minds of the respondents.

Benoit and Laver argue that "perhaps the most common way of imputing substantive policy content to the left-right scale is to describe it as a left-right scale of 'socio-economic policy" (Benoit & Laver, 2009: 132). This division exists out of two important contrasts; the meaning of left and right is a division between "interventionist" and "laissez-faire" economic policy and a division between "liberal" and "conservative" positions on cultural and moral matters (Benoit & Laver, 2009: 132). Another left-right division that is growing in importance is the multicultural – monocultural division in which parties can be ordered into parties that favor a multicultural state or society and parties that favor a monocultural state or society (Benoit & Laver, 2009: 138). Yet another issue that may constitute the left-right dimension is religion. As already discussed above, religious people formulate a left-right dimension in line with a division of secular parties and religious parties (Pellikaan, 2010: 477-482). Another important issue that might constitute the left-right dimension in European countries is European integration. Within Europe criticism has been raised with regard to European integration and the European Union in specific. Also among political parties a division can be made between parties that are in favor of (further) European integration and parties that are against (further) European integration (Benoit & Laver, 2009: 86). This issue of European integration can be related to the scope of the authority of the European Union but also to the speed of European integration (Benoit & Laver, 2009: 86). The left-right dimension might thus reflect an economic issue, cultural issue, religious issue, and an issue related to European integration. It is of course possible that there are other underlying issues, however, this is a selection of issues that has received the most attention in the literature as important or dominant issues underlying the left-right dimension. Looking at these four issues, one might say that the socio-economic issue as a conventional issue in the sense that most people will probably agree that this is an issue that underlies the left-right dimension. The religious issue,

however, might be regarded as an unconventional issue since only a small group of people will argue that religion underlies the interpretation of the left-right dimension.

All three biases are assumed to have a systematic effect on the respondent when the respondent is positioning parties on the left-right dimension. The bias related to party identification and someone's own political position implies that the positioning of all parties on the scale are skewed in a certain direction because, as already said before, if some people are very leftist with regard to their own political opinions, views and desires, all parties on the scale might be skewed to the right side of the scale. With regard to the issue(s) that might constitute the left-right dimension in the eyes of the respondent, the bias is also assumed to be systematic; a respondent that interprets the left-right dimension as a division between religious and secular parties is assumed to create a left-right dimension that is to a great extend similar to that of another respondent with the same interpretation of the left-right dimension.

For all three biases, the relative ordering of the parties – more for these hypotheses compared to other hypotheses – is also important to investigate. For party identification one could argue for example that due to political predispositions it might also be possible that the relative ordering of parties is different compared to the ordering made by people who do not identify with a political party because if people tend to overestimate the similarities between oneself and the nearest communicator and tend to overestimate the contrast between oneself and communicators that are further removed, the ordering of parties might also be affected. The relative ordering of parties will then not be in line with the correct ordering[7]. The same can be argued for the respondent's own political position; due to the extremity of some self-placements on the left-right scale, it might be possible that the relative ordering of parties is different compared to the ordering made by people with more moderate or centrist self-placements on the left-right dimension. For the hypothesis about the issues underlying the interpretation of the left-right dimension the is same argument could be made; if religious people make a left-right ordering that is in line with the old *antithese* the ordering is not in line with the correct or more conventional ordering of parties.

Reformulating the research question

Now that the possible factors that influence someone's positioning of political parties on the left-right dimension have been identified the research question of this study can be refined.

[7] Correct in the sense that it is in line with the ordering made on the aggregated or macro level (the whole group of respondents).

The research question can now be stated as: *How do education, political interest, political knowledge, party identification, self-placement on the left-right scale and the interpretation of the dimension have an influence on people's ability to position political parties on correct places on the left-right dimension?* Below a discussion will be provided of how the influence of these factors on the ability to place political parties on correct places on the left-right dimension will be investigated.

Data and method

The Netherlands is a useful case to use for this particular study. The Netherlands has a multiparty system which is suitable for the investigation of the differences in the positioning and ordering of political parties by voters. For this analysis the data of the Dutch Parliamentary Election Studies (DPES) of 2010 will be used. Also, within the DPES a certain type of question is asked which is crucial for this study. The questions about the placement of political parties on the left-right dimension are formulated as followed; "It is […] said of political parties that they are left and right. Could you please indicate the degree to which you think that a party is left or right?". Consequently, the respondents had to tick a box on a response-scale ranging from 0 (left) to 10 (right). In this questionnaire the meaning of the terms left and right are not defined, which thus means that people can give their own interpretation to the left-right dimension. This makes the questions also very suitable for this study.

The possibility of random answers as a measurement problem

Before turning to the operationalization and model setup of this study, it is important to discuss a possible problem for the analyses within this study. One could argue that there is one more explanation for the variation in the placements provided by the respondents. The variance in the positioning of parties on the left-right dimension could caused by the fact that the positioning of parties is random. If people for example do not want to admit that they do not know how to place a party on the left-right dimension, people might simply assign political parties to random positions on the left-right dimension. Even though it is acknowledged that it is quite hard to judge whether a placement is random or not, it could be a possible factor that might influence the data and the analyses within this study. Therefore a short investigation of the possibility of random placements is necessary.

It would be too big of a task to look at the positioning of each political party for all the respondents individually. Also, how can one judge whether a placement is random? As a solution for this problem, the placements by a respondent are only judged to be random when there is no or only a small variance in the positioning of all political parties on the left-right dimension. One could then make a division between systematic random answers and really random answers. When a respondent is placing all political parties at a seven on the left-right scale, one can assume that those placements are systematic random. However, random answers do not have to be this systematic. It can also be that there is still a small variation in

the placements. Looking at Figure 5 below, one can see that on average 2 is the minimum and 8 is the maximum scale point that is used to place parties by respondents[8]. This thus means that there is a range of six scale points; thus the average variation is roughly six scale points. One could argue that a variation or range of three scale points or less is an indication that the answers provided by the respondent are random. A range of three scale points or less means that people have positioned all parties on the left side, right side or in the centre of the left-right dimension and there is thus no real difference made between the parties.

Figure 5. Left-right rating of political parties (N = 1750)

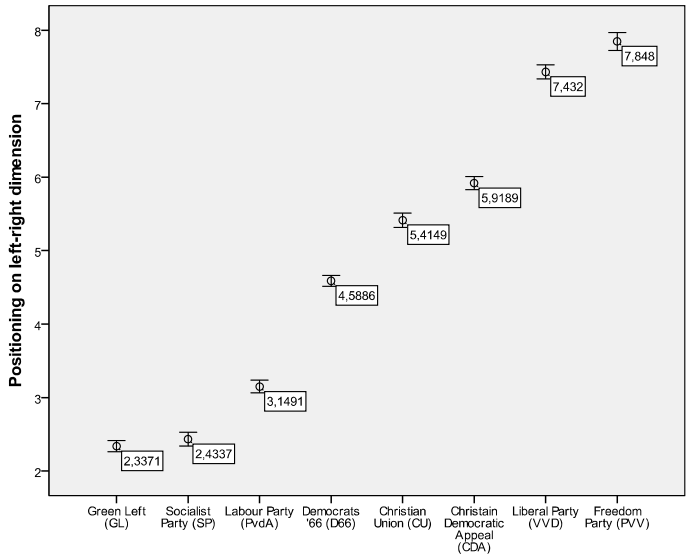


Table 1 below shows that in total 11 people of the 1750 respondents have provided systematic random answers. When taking into account random answers with a variation of three scale points or less, 55 respondents (3.1 percent) of all 1750 respondents – included those eleven with no variation in their answers - have placed all eight parties in such a way that there is only a range of three scale points or less. This is thus a very small proportion of all respondents included in the analyses of this study and thus does not seem to have a big influence on the data used in this study. The possibility of random answers therefore does not seem to provide any problems for the analyses of this study.

[8] Within this analysis only those parties are used that most people are able to place on the left-right dimension, and only those people are used that have been able to position all eight parties on the scale. This selection is made because than the problem with people that have given the answer "Don't Know" for certain parties is avoided; if people have only positioned for example the SP and GL on the left-right dimension the variance in the placements is probably very low, this does however not mean that these two placements are random. With this selection 1750 respondents are included in the analysis.

Table 1. Frequency of range for the eight placements provided by respondents

	%
0	0.6
1	0.2
2	0.6
3	1.7
4	3.4
5	5.0
6	11.3
7	18.0
8	23.6
9	22.2
10	13.4
(N)Total	1750

Operationalization of the dependent variables

In the first section of the analysis the hypotheses about the ability of respondents to place parties on the left-right dimension are tested. To test these hypotheses on the party level, the question whether people have been able to place individual parties on the left-right dimension or not is used as the dependent variable. On the system level the number of parties people have been able to place on the left-right dimension is the dependent variable[9].

In the second section of the analysis the hypotheses on the correctness of the placements due to knowledge are examined. To test these hypotheses it is important to create a measure – dependent variable - that can be used to investigate a person's level of deviance from the correct placement(s); the sample mean(s). Within this study the sample mean for each political party on the aggregated level will be used as the actual or "right" placement. It will be calculated how many scale-points the placement of a party by individual respondents differ from the mean position of this party. This indicator can be used on the party level but it can also be used on the system level; the mean deviation is simply calculated by adding the absolute deviances for the individual parties which will then be divided by the total number of parties included in the analysis. In this way a 'mean absolute deviation' scale is formed that gives you the mean deviance from the correct places of all parties within the political system per respondent. The sample mean might not be the actual or true position of the party on the left-right dimension; however, it is the best proxy that can be used for the perceived placement of parties by voters. The mean position of those parties are already shown in Figure 5 above.

[9] For further information of how the variable measuring the number of parties that has been placed on the left-right dimension by respondents is created, see Appendix 2.

In the third section of the complete analysis three other hypothesis are tested, for which multiple dependent variables will be used. First of all, it will be examined what the influence of party identification, self-positioning of the left-right dimension, and the underlying issues is on the actual positioning of the parties on the left-right dimension. So, it will be analysed what the influence of party identification is on the actual positioning of parties on the left-right dimension. However, as posed to the first two sections of the complete analysis, here a division will be made between adherences to different political parties. The same logic is followed when testing the hypothesis about self-positioning on the left-right dimension. With regard to the issues that might underlie the interpretation of the left-right dimension, it will be examined how the respondents own position on these issues influences the positioning of the parties on the left-right dimension. Secondly, the relative ordering of parties is investigated to see whether the relative ordering of parties on the left-right scale is correct or incorrect for different groups of people in which also the range of these eight placements is taken into account. Thirdly, it is investigated whether the mean deviation[10] on the party system level is different for different groups of people. It will thus be investigated if there is for example a difference in the mean deviation measure for people with more moderate self-positioning on the left-right dimension compared to people with a more extreme self-positioning on the left-right dimension.

Operationalization of the independent variables

For the first section of the whole analysis, in which the hypothesis about the ability to place political parties on the left-right dimension are tested, four independent variables are used; level of education, level of political interest, level op political knowledge, and party adherence[11]. For the respondent's level of education the respondent's completed educational level is used as the independent variable. For the hypothesis about the effect of someone's level of political interest on the ability to place parties on the left-right dimension the level of political interest as indicated by the respondents themselves will be used as the independent variable. With regard to the hypothesis about the effect of someone's level of political knowledge on the ability to place parties on the left-right dimension, a knowledge scale is used as the independent variable. This knowledge scale is based on the knowledge respondents have about the name, party and function of a politician when a photo of that

[10] With regard to the mean deviation measure in the analysis of the issues that may underlie the interpretation of the let-right dimension, the mean score is based on the deviation from the correct positions of ten parties – thus including the SGP and PvdD – instead of eight parties.

[11] Table 3 serves as a summary of the variables used in the different parts of the analysis as discussed above.

politician is shown to the respondent[12]. For hypothesis about the effect of party identification it is taken into account whether people are adherent to a party or not.

In the second section of the analysis, the four hypotheses about the correctness of placements of political parties on the left-right dimension that are related to knowledge are tested. For this second part of the analysis the same independent variables will be used as those that are used in the first part of the analysis.

In the third part of the analysis the possible biases are investigated. For the bias of party identification on the correct positioning of political parties on the left-right dimension, the same logic is used for the independent variable as the one used in the earlier analyses on party identification; the whole group of respondents is divided into people who are and people who are not adherent to a political party. However, a deviation is made between different political parties to which people are adherent to. This division is important because a bias due to identification with a specific political party can not be measured when all parties are examined together. A bias due to identification with a leftist party might be different from the bias caused by identification with a rightist political parties. Due to the fact that the number of people that are adherent to a certain party is for most parties quite small[13], not all parties will be incorporated in this analysis. There will only be a difference made between people that are adherent to the CDA, VVD and PvdA. For all three parties there will due be a difference made between people that are adherent to that certain party and people that are not adherent to a party.

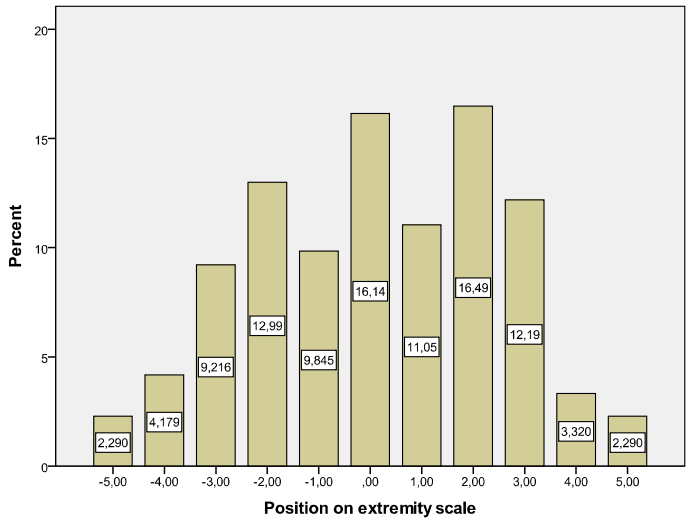
To test the influence of someone's own political position on the correctness of the placements of parties on the left-right dimension, the question "How would you position yourself on the left-right dimension?" is used as a starting point for the independent variable. This variable is then made in to a new scale for self-placements in which the intensity of "extremity" is measured. On this scale 0 is the middle point of the scale (scale point 5 on the old scale) and (-)1 up to (-)5 indicate the extremity of the respondent's position on the left-right scale. A position of -5 or 5 on this scale thus means that the respondents has positioned himself respectively on the most extreme leftist or rightist position possible (scale point 0 or 10 on the old left-right scale). This variable will than serve as the independent variable. Through the usage of such a scale one can not only examine the deviation between moderate

[12] The creation of the four-point scale is based on the one created in the earlier DPES's and goes as follows; people are given one point when they have answered all three questions related to a politicians (name, party and function) correctly. In total four politicians are included in the DPES, which thus means that people can get a minimum of zero points and a maximum of four points.

[13] CDA: N = 103, PvdA: N = 119, VVD: N = 125, GL: N = 39, SP: N = 29, D66: N = 42, CU: N = 30, PVV: N = 34.

and extreme self-placements but also the deviation between different levels of extremity. Also, with this scale a differentiation can be made between the left and right side of the scale to see if there are any differences between people on the extreme left side of the scale and people on the extreme right side of the scale. Figure 6 below shows the distribution of self-placements for all 1750 respondents on this scale. The PVV, SP and sometimes GL are often regarded as extreme (populist) parties (e.g. Hakhverdian & Koop, 2007: 408; De Lange & Art, 2011: 1229). Looking at the number on which these parties are positioned in Figure 5 above – GL and SP on 2 and PVV on 8 – one might make the claim that respondents regard these positions – numbers – on the scale as extreme positions. One could therefore also argue that people that have positioned themselves on a 0, 1, 2, 8, 9, or 10 on the left-right dimension also have extreme self-placements. On the new intensity scale, this might mean that from point (-) 3 on the scale onwards people have an extreme position on the left-right dimension.

Figure 6: Left-right self rating by respondents (N = 1750)



To test the influence of different important issues underlying the left-right dimension on the positioning of political parties on the left-right dimension there are four important issues included in this study that may be important in the interpretation of the left-right dimension. Table 2 below shows which variables will be used as measurements for these issues. These variables are all be recoded in such a way that the left and right end of the answering-scales correlate with the meaning of left and right on the left-right dimension. The variable used to measure religion needs some explanation. This variable is used as an indicator for religion because someone's opinion on whether euthanasia should be allowed or not is strongly correlated with how religious someone is. If one looks at the correlation for religious people

between one's position on euthanasia and the number of times someone attends religious services, it becomes clear that people who are more religious – and thus attend religious services more often than less religious people – also more often hold the (stronger) opinion that euthanasia should be forbidden (Pearson's r = .536, p. = < .001). Due to the strong correlation between religiousness and opinion about euthanasia this issue can be used as a suitable indicator for the intensity of the religiousness of people.

Table 2. The measures that will be used for as issues

Issue	Variables
Economy	"Government should not interfere in the economy."
	1 = fully disagree & 5 = fully agree
Cultural	"The immigration of Muslims should be stopped."
	1 = fully disagree & 4 = fully agree
Religion	"The respondent's position of euthanasia: forbidden or allowed."
	1 = allowed & 7 = forbidden
Europe	"Preferred speed of EU integration."
	1 = as far as possible & 7 = standstill

Table 3. Dependent and independent variables used in this study

	Independent variable	Dependent variable
Part I: Ability		
Individual party level	Education	Ability to place a party or not.
	Political interest	Ability to place a party or not.
	Political knowledge	Ability to place a party or not.
	Party identification	Ability to place a party or not.
Party system level	Education	Number of parties that have been placed.
	Political interest	Number of parties that have been placed.
	Political knowledge	Number of parties that have been placed.
	Party identification	Number of parties that have been placed.
Part II: Correctness		
Individual party level	Education	Deviation from mean position of a party.
	Political interest	Deviation from mean position of a party.
	Political knowledge	Deviation from mean position of a party.
	Party identification	Deviation from mean position of a party.
Party system level	Education	Mean deviation of the positions of the parties.
	Political interest	Mean deviation of the positions of the parties.
	Political knowledge	Mean deviation of the positions of the parties.
	Party identification	Mean deviation of the positions of the parties.
Part III: Biases		
Individual party Level	Party identification	Actual positioning of parties.
	Self-positioning	Actual positioning of parties.
	Issues underlying L-R dimension	Actual positioning of parties
Party system level	Party identification	Relative positioning of all eight parties, range & mean deviation measure.
	Self-positioning	Relative positioning of all eight parties, range & mean deviation measure.
	Issues underlying L-R dimension	Mean deviation measure & relative positioning of all ten parties.

Selection of political parties and respondents

In the first part of the analysis all eleven parties that have participated in the parliamentary elections of 2010 and which have been incorporated in the NKO of 2010 will be included. This thus also means that the political party TON is included in the analysis. Even though this was a fairly new political party in 2010, one can assume that people are able to place this party on the left-right scale.

In the second section of the analysis a mean deviation measure is created, there is however one problem with this measure. If one wants to create a proper mean deviation measure for each respondent, respondents have to have positioned a considerable number of parties on the left-right scale; creating a "mean deviation measure" based on three placements is not the same as one based on eleven placements. There are two simple ways that can be used to deal with this problem. Table 4 below shows the number of respondents for each party that have said they do not know the party and thus do also not know how to place the party on the left-right dimension. This group is especially large for two of the eleven parties, namely the Political Reformed Party (SGP) and the Animals Party (PvdD). Because both parties are small parties these two parties will be excluded from the analyses in this party of the study. The political party Proud of the Netherlands (TON) will also be excluded from the analysis; this party was a new party in parliamentary elections of 2010 and soon after this election the party stopped playing a role of significance in national politics.

Table 4. Percentage of answer "Don't know party" per party

Political party	%
CDA	9.0
PvdA	9.1
VVD	9.6
D66	12.0
GL	9.7
SP	12.1
PVV	10.8
CU	14.2
SGP	22.6
PvdD	24.4
TON	16.6
N (Total)	2153

Secondly, the respondents that have answered "don't know" for one or more of the remaining eight parties are also excluded from the analysis. When only those respondents are selected that have positioned all remaining eight parties on the left-right dimension a proper "mean

deviation measure" can be calculated. Because of this selection 1750 out of 2153 are included in this part of the analysis.

For the first two hypothesis of the third part of the complete analysis also only those parties are included that most people are able to place on the left-right dimension, and also only those people are included that have been able to position all eight remaining political parties on the scale. This selection is made because than again the problem with people that have given the answer "Don't Know" for certain parties as outlined above will be solved.

For the third hypothesis of the third part of the analysis, the importance of underlying issues in the interpretation of the left-right dimension, the positioning of smaller parties like the SGP and PvdD is important. Very religious people might for example place the SGP as the most rightist party because they construct a left-right dimension that is in line with the *antithese*. Therefore also the SGP and PvdD will be included in this analysis. TON will not be included in this analysis because the party does not play a role in Dutch national politics anymore. However, when the SGP and PvdD are included in the analysis, it is also important that only those respondents are included in this part of the analysis that have also positioned all ten parties on the left-right dimension; in total 1423 out of 2153 respondents have positioned all ten parties on the left-right dimension and will be included in this part of the analysis. Also, a new mean deviation measure is constructing in which the deviation from the correct position of the SGP and PvdD are also taken into account.

Model setup

To test the four hypotheses about someone's ability to place individual parties on the left-right dimension on the party level, it will be investigated whether there is a considerable difference in the expected and observed distribution of people who have or have not been able to place a party on the left-right scale by making use of a chi-square analysis for people with for example different educational levels. On the party system level, it will be investigated whether there is a considerable difference in the average number of parties that have been placed on the left-right dimension by for example people with different levels of education by making use of an ANOVA analysis or T-test.

To test the four hypotheses about the influence of knowledge on the correctness of placements on the party level, an ANOVA analysis or T-test analysis is used to analyse whether there is a considerable difference in the average amount of deviation from the party's mean position for people with for example different levels of political knowledge. On the party system level it will be analysed if there is a significant differences in the average

deviation from the sample means for people with different levels of for example political knowledge by making use of an ANOVA analysis or T-test analysis.

For the hypotheses about the bias due to party identification and self-placement on the left-right dimension a regression analysis is first conducted to see how these two factors influence the actual positioning of (individual) parties on the left-right scale. As a second step the ordering of parties for the different groups will be analysed by using the average positions of the parties for the different groups of respondents. To investigate the different in the range of all placements another ANOVA analysis will be used. Thirdly, it will be investigated whether there is a difference in the average deviation from the sample means for people who do and who do not identify with a political party and people with different self-placements on the left-right dimension while making use of an ANOVA analysis.

For the final hypothesis about which issues underlie the left-dimension, a regression analysis is conducted for each party individually to see which issues have the most influence on the actual position of that party on the left-right dimension. This is done by looking at how the respondent's position on the four variables measuring the four issues influences the party's position on the left-right dimension. Secondly, the ordering of parties for the different groups will be analysed by using the average positions of the parties for the different groups of respondents. To investigate the different in the range of all placements another ANOVA analysis will be used. And finally an ANOVA analysis is used to study the difference in the average deviation from the mean positions of the parties.

Results

1. The influence of knowledge on the ability to place parties on the left-right dimension.

Table 5 below shows for each individual party how many percent of all respondents has been able to place an individual political party on the left-right dimension. This table shows that the percentage of people that is able to place a political party on the left-right dimension is lower for smaller parties than for larger political parties. To give an example, only 77.4 percent of the people has been able to place the SGP on the left-right dimension compared to 91.0 percent that has been able to place CDA on the left-right dimension.

Table 5. Number of people that were able to make a placement per party

Party	%
CDA	91.0
PvdA	90.9
VVD	90.4
D66	88.0
GL	90.3
SP	87.8
PVV	89.2
CU	85.8
SGP	77.4
PvdD	75.6
TON	83.4
N (Total)	2153

When a variable is created for the party system level, one can see how many parties in total people have been able to place on the left-right dimension. These results are shown in Table 6 below. This frequency distribution shows that even though a large majority of the people has been able to place all eleven parties on the left-right dimension, a considerable number of people (35.7 percent) is not able to place all eleven political parties on the left-right dimension. As all ready shown in Table 5 above, more people find it difficult to place smaller parties on the left-right dimension.

Table 6. The frequency distribution of how many parties people have been able to place on the left-right dimension

Number of parties that have been placed	%
0	7.2
1	0.9
2	0.5
3	0.6
4	0.5
5	0.6
6	1.1
7	1.4
8	3.3
9	5.3
10	14.4
11	64.3
N (Total)	2153

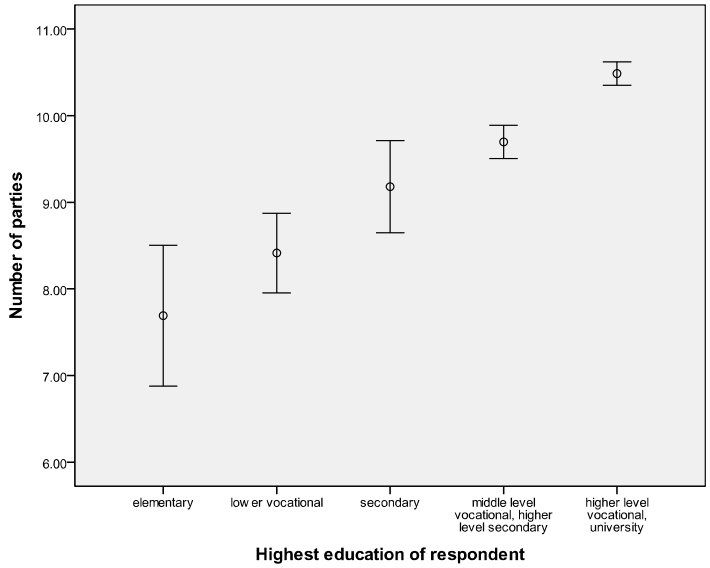
1.1 The influence of education

The expectation is that people with a higher level of education are more able to place parties on the left-right dimension than people with a lower level of education. When examining the ability to place political parties individually, chi square tests have shown[14] that there is a significant difference in the ability to place parties on the dimension for people with different levels of education (all chi squares above critical value of 9.488); people with a higher educational level are more able to place political parties on the left-right dimension than people with a lower educational level.

On the party system level, Figure 7 below already indicates that there is a considerable difference in the average number of parties people with different educational levels are able to place on the left-right dimension. People with the lowest level of education are on average able to place eight parties on the left-right dimension while people with the highest level of education are able to place on average ten parties on this dimension. The results of the ANOVA analysis also show that there is an overall statistically significant effect of someone's educational level on the ability to place parties on the left-right dimension (Welch F= 36.429, df = 4, p = <.001). There is significant linear trend (F = 115,811, df = 1, p = <.001) indicating that as the level of education goes up, the number of parties someone is able to place on the left-right dimension also gets higher.

[14] All tables displaying the output of the analyses are shown in Appendix 1.

Figure 7. Number of parties placed on L-R dimension by educational level



* Elementary: N = 107, lower vocational: N = 302, secondary: N = 160, middle lower vocational / higher level secondary: N = 822, higher level vocational / university: N = 615.

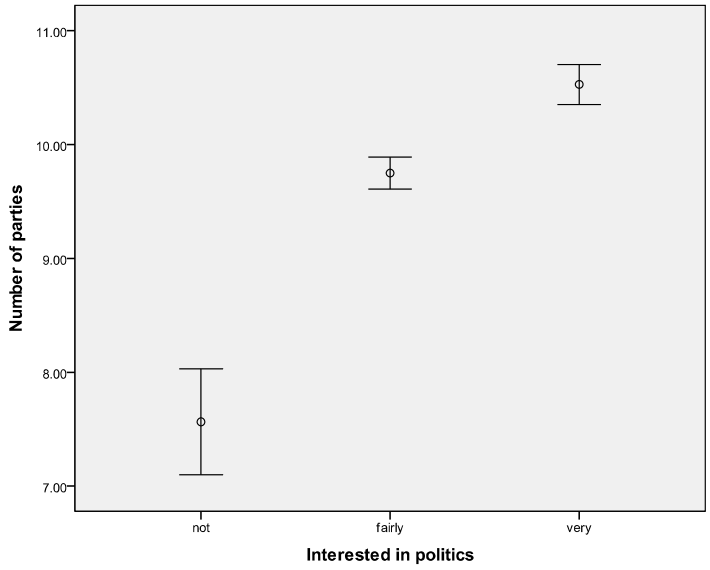
1.2 The influence of political interest

Concerning political interest, the expectation is that people with a higher level of political interest are more able to place parties on the left-right dimension than people with a lower level of political interest. While evaluating the ability to place individual parties, the chi square tests showed that there is a significant difference in the ability to place individual parties on the left-right dimension for people with different levels of political interest (all the chi-square statistics are higher than the critical value of 5.991) These chi-square analyses thus show that people with a higher level of political interest are better able to place political parties on the left-right dimension than people with no or a lower level of political interest.

Figure 8 below indicates that on the party system level there is a difference in the average number of parties people with different levels of political interest are able to place on the left-right dimension. The confidence intervals of the three groups do not overlap, which indicated that the difference in the number of parties people have been able to place on the left-right dimension is probably significant. Figure 8 also shows that on average, people with no political interest are able to place eight parties on the left-right dimension, while very politically interested people are able to place eleven parties on this scale. The results of the ANOVA analysis also showed that there is an overall statistically significant effect of someone's level of political interest on the ability to place parties on the left-right dimension (Welch F = 75.283, df = 2, p = < .001). The affect is linear (F = 164,970, df = 1, p = <.001) which means that if someone level of political interest gets higher, the number of parties that a

person is able to place on the left-right dimension also goes up. Overall, the results thus show that the average number of parties people are able to place on the left-right dimension increases significantly with each higher level of political interest.

Figure 8. Number of parties placed on L-R dimension by level of political interest



* Not: N = 358, fairly: N = 1479, very: N = 316.

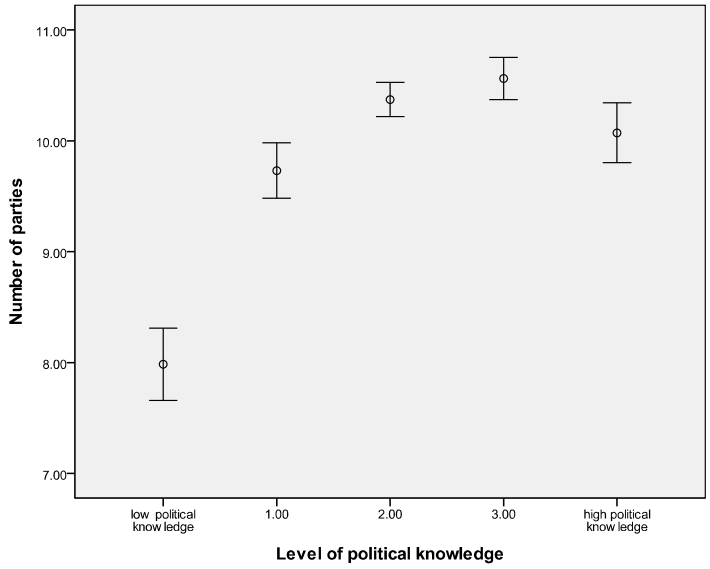
1.3 The influence of political knowledge

Political knowledge should also have a positive effect on the ability to place parties on the left-right scale; people with a higher level of political knowledge are suppose to be more able to place parties on the left-right dimension than people with a lower level of political knowledge. On the party level the chi square tests show that there is indeed a significant difference in this ability the for people with different levels of political knowledge (all chi-square statistics are higher than the critical value of 9.488); people with a higher level of political knowledge are better able to place parties on the left-right dimension than people with a lower level of political knowledge.

On the party system level, as indicated by Figure 9 below, there is a difference in the average number of parties people with different levels of political knowledge are able to place on the left-right dimension. The confidence interval for the group with the highest level of political knowledge overlaps with the confidence intervals of some groups with a lower level of political knowledge; this indicates that the difference in the average number of parties people are able to place on the left-right dimension for these groups is probably not significant. Also, for the highest level of political knowledge, the average number of parties

people have been able to place is – surprisingly - lower than for the two groups next to it. On average people with the lowest level of political knowledge are able to place eight parties on the left-right scale, compared to ten to eleven parties by people with a higher level of political knowledge. An ANOVA analysis shows that there is an overall statistically significant effect of someone's level of political knowledge on the ability to place parties on the left-right dimension (Welch F = 51.314, df = 4, p = < .001). Even though there is statistically significant linear trend (F = 115,574, df = 1, p = <.001), Figure 9 indicates that the relationship is not completely linear but u-shaped. If one tests for a quadratic trend, the analysis indeed shows that the relationship is curvilinear (F = 85.459, df = 1, p = < .001) which means that the number of parties people are able to place on the left-right dimension does not go up with every higher level of political knowledge, but after a certain level of political knowledge the number of parties people are able to place on the left-right dimension decreases. However, overall, one can conclude that political knowledge has a positive effect on the number of parties someone is able to place on the left-right dimension.

Figure 9. Number of parties placed on L-R dimension by level of political knowledge



* Low political knowledge: N= 644, 1: N = 432, 2: N = 520, 3: N = 210, high political knowledge: N = 347.

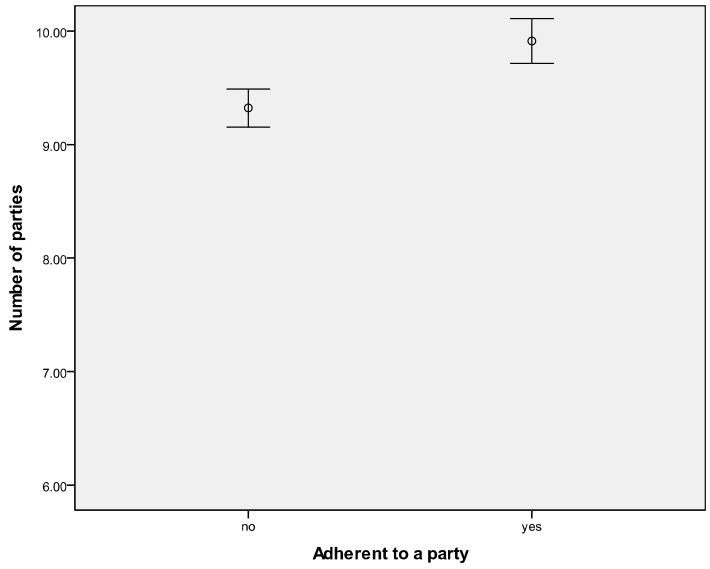
1.4 The influence of party identification

Party identification might also positively effect someone's ability to place parties on the left-right dimension. On the individual party level, there indeed seems to be an effect of party identification; the chi square tests show that there is a significant difference in the ability to place parties on the left-right dimension between people who are or who are not adherent to a

political party (all chi-square statistics are higher than the critical value of 3.841). Only for one party, the PvdD, there is not a significant difference in this ability (chi-square = 1.147, p = .284). However, overall these chi-square analyses show that people who are adherent to a party are better able to place parties on the left-right dimension than people who are not adherent to a party.

However, on the party system level, there seems to be no real effect of party identification on the ability to place parties on the left-right dimension. Figure 10 below indicates that there is a difference in the average number of political parties people are able to place on the left-right dimension for people who are and who are not adherent to a political party, but this difference is not very large because these two groups are respectively able to place, on average, nine and ten parties on the left-right scale. Thus, even though the results of the T-test analysis are significant (t-value = -4.471 df = 1544.96, p = < .001 (one-tailed)) the effect of party identification on the ability to place political parties on the left-right dimension should not be overestimated.

Figure 10. Number of parties placed on L-R dimension by people who are and who are not adherent to a party



* No: N= 1512, yes: N = 636

1.5 Looking at the four factors at once

When a regression analysis is conducted, one can see what the effect of these factors is on the number of placements for a one unit change in these factors. Table 7 below shows that with one unit increase in the level of education the number of parties someone is able to place on

the left-right dimension increases with .502. The effect of interest in politics is also quite large (B-coefficient of .830) while the effect of political knowledge is a little bit smaller (B-coefficient of .334). There is a significant change in the number of placements in a one-unit change for three factors; educational level, political interest and political knowledge. The effect of a one unit change for the variable measuring party identification is weak and also not significant. This is not very surprising when taking the earlier results into account. The effect size – which is the difference between the average number of parties people on the first and last scale point for each factor have been able place on the left-right dimension – shows that political interest has the largest effect on the ability to place parties on the left-right dimension. The effect size of education and political interest is the same, however, remember that the effect of political knowledge is curvilinear. Party identification has the lowest effect.

Table 7. The influence of the factors on the ability to place parties on the L-R dimension

Factors	B coefficient	Std. error	Effect size
Highest education	.502*	.055	2
Interest in politics	.830*	.124	3
Political knowledge	.334*	.048	2
Party adherence	.209	.140	1

* Significant at a level of .05
** R Square = .137
*** Constant not mentioned in table.

2. The influence of knowledge on the correctness of placements

In the four subsections below it will be analysed whether the deviation measure per party and the mean deviation measure on the party system level decreases when someone's educational level goes up, when someone is more interested in politics, when someone's level of political knowledge gets higher, and when someone identifies with a political party.

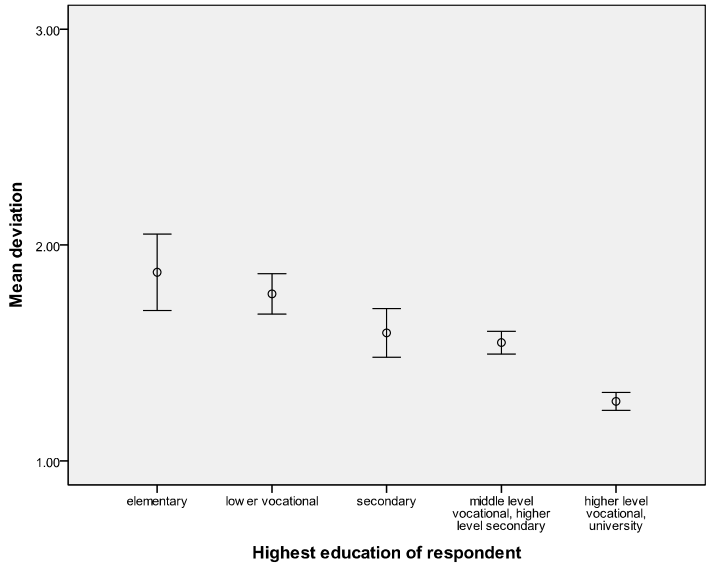
2.1 The influence of education

The ANOVA analyses conducted for all parties individually all show that there is a statistically significant relationship between someone's educational level and the average amount of deviation from the mean position of a political party (all Welch F statistics fall between 3.180 and 24.991 and p between .014 and <.001). Overall the models show that the average amount of deviation from the mean position of a party decreases when the level of education gets higher.

Figure 11 shows the average score for people with different education levels on the mean deviation measure. Figure 11 indicates that education has a positive effect on the deviation from the mean positions of all eight political parties, because the mean deviation get

lower when the level of education get higher. People with the lowest level of education have an average deviation of 1.87 and people with the highest level of education have an average deviation of 1.50 on the mean deviation measure. The results of the ANOVA analysis also show that there is an overall statistically significant effect of the level of education on the correctness of the positioning of parties on the left-right dimension (Welch F = 38.889, df = 4, p = < .001). The analysis also shows that this effect is linear (F = 66.632, df = 1, p = <.001) which means that the mean deviation from the correct placements of the parties decreases when the level of education becomes higher. Someone's educational level thus has a positive significant effect on the correctness of the positioning of political parties on the left-right dimension.

Figure 11. Correctness of placements by educational level



* Elementary: N = 164, lower vocational: N = 208, secondary: N = 127, middle lower vocational / higher level secondary: N = 681, higher level vocational / university: N = 571.

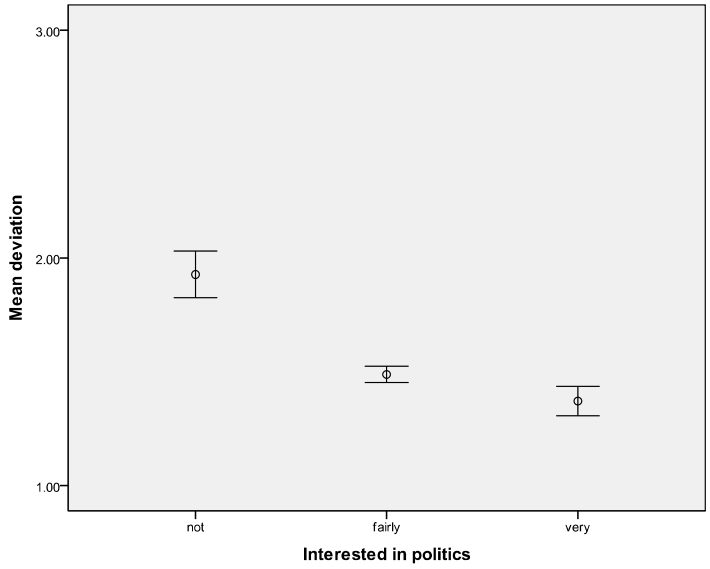
2.2 The influence of political interest

On the party level, the ANOVA analyses all show that there is a statistically significant relationship between someone's level of political interest and the average amount of deviation from the mean position of a political party (all Welch F statistics fall between 4.739 and 21.580 and *p* between .009 and <.001). Thus, the average amount of deviation from the mean position of a party decreases when the level of political interest gets higher.

The mean score for people with different levels of political interest on the mean deviation measure are shown in Figure 12 below. Figure 12 indicates that there is a significant difference in the average score on the mean deviation measure for people with different levels

of political interest since the confidence intervals do not overlap. On average, people with no political interest have an average deviation of 1.93 and people that are very politically interest have an average deviation of 1.37 on the mean deviation measure. An ANOVA analysis shows that this effect is statistically significant (Welch F = 41.480, df = 2, p = < .001) and that this effect is linear (F = 91.416, df = 1, p = <.001). This means that the average deviation from the correct positions of the parties decreases significantly when someone's political interest gets higher.

Figure 12. Correctness of placements by level of political interest



* Not: N = 220, fairly: N = 1233, very: N = 297.

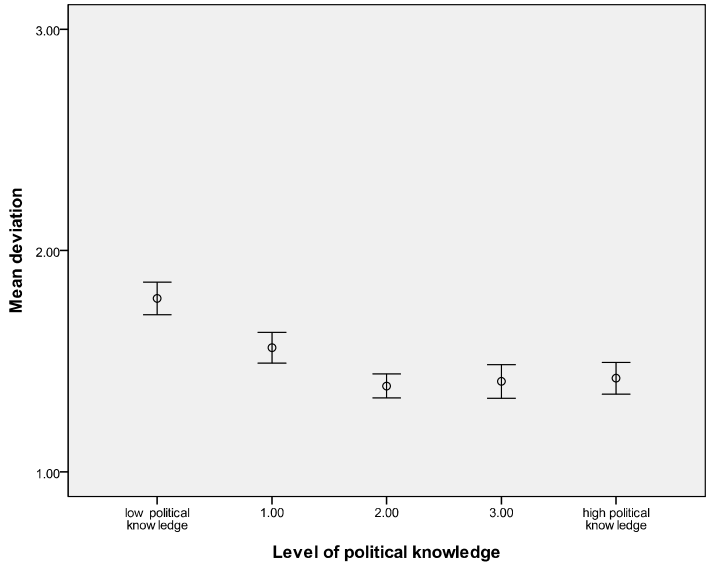
2.3 The influence of political knowledge

The deviation measure for each individual party, as almost all ANOVA analyses show, is statistically different for people with different levels of political knowledge (all Welch F statistics fall between 3.520 and 15.165; p between .007 and <.001). This indicates that when the level of political knowledge gets higher the average amount of deviation from the mean position of a party decreases. For D66 the analysis shows that there is not a significant difference in the average amount of deviation from the mean position of the party for people with different levels of political knowledge (F-ratio= 1.028, p = .392). Political knowledge thus does not seem to have an influence on the correctness of the placements given for D66.

With regard to the mean deviation measure, Figure 13 below show that the effect is not completely linear. There seems to be a significant difference in the average deviation from the mean positions of parties when making a comparison between people with the two lowest

levels of political knowledge (deviation of 1.78 and 1.56) and people with the three highest levels of political knowledge (deviations between 1.38 and 1.42). The results of the ANOVA analysis show that the effect of political knowledge is statistically significant (Welch F = 21.645, df = 4, p = < .001). Even though there is statistically significant linear trend (F = 58.408, df = 1, p = <.001), Figure 13, as already said, shows that the effect is curved. When tested for a quadratic effect, the results indeed show that the effect is curvilinear (F = 26.819, df = 1, p = <.001) which means that after a certain level of political knowledge the mean deviation from the correct positions does not decrease but it increases again. Overall, the results show that the average amount of deviation from the mean positions of parties decreases only up to a certain point when the level of political knowledge gets higher.

Figure 13. Average deviation of placements by level of political knowledge



* Low political knowledge: N= 407, 1: N = 351, 2: N = 482, 3: N = 199, high political knowledge: N = 311.

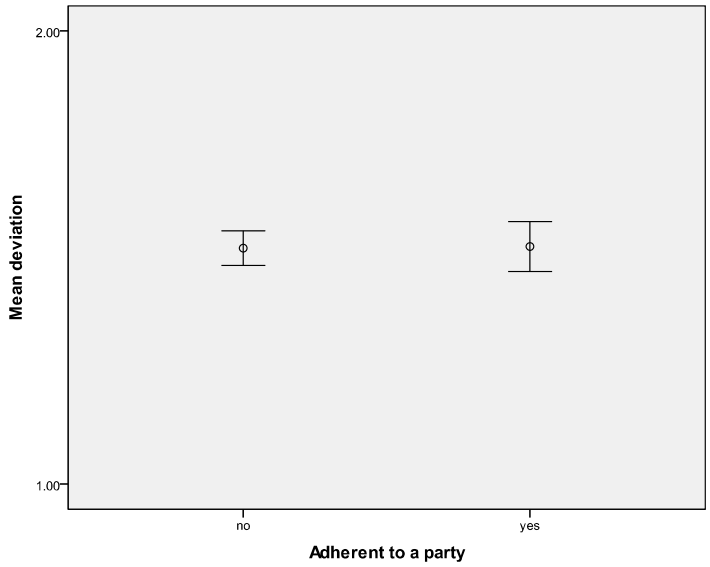
2.4 The influence of party identification

On the party level the T-tests indicate that there is not a significant difference (t-values between -1.180 and 1.139, p between .113 and .498 (one-tailed)) in the average deviation from the mean position of a party for most parties between people who are and who are not adherent to a party. Overall these T-tests thus already show that people who are adherent to a party are not necessarily more correct in their positioning of parties on the left-right dimension than people who are not adherent to a party.

Figure 14 below shows that on the party system level that there is no difference in the average of deviation from the correct positions of the parties for people who are or who are

not adherent to a political party because the average score for both groups is 1.52 for this mean deviation measure. The results on the T-test analysis also show that there is a not significant difference in the average deviation measure between people who can identify with a political party and those who do not measured through party adherence (t-value = -.106, df = 1734, p = .458 (one-tailed)).

Figure 14. Correctness for people that are and are not adherent to a party



* No: N = 1199, yes: N = 546.

2.5 Looking at the four factors at once

Table 8 below shows the effect of the four factors on the correctness of the placements for a one unit change in those four factors. One can for example see that a one unit change in the level of education causes a .128 decrease in the mean deviation measure. The effect of political interest is also pretty large (B-coefficient of -.155) while that of political knowledge is a bit smaller (B-coefficient of -.051). These three factors have a significant effect on the correctness of the placements of parties on the left-right dimension. The effect size shows that interest in politics has the strongest effect on the correctness of the placements provided by respondents. The effect size of 0.56 shows that people that are very interested in politics are on average 0.56 scale points less removed from the correct position of a party compared to people who are not interested in politics. The effect size of education and political knowledge is roughly the same, however, remember that the effect of political knowledge is curvilinear. The effect for a one unit change in party identification is small and also not significant. The effect size of party adherence also shows that this has absolutely no effect on the correctness

of placements because the average score on the mean deviation measure is the same for people who are adherent to a party and people who are not adherent to a party.

Table 8. The influence of the factors on the correctness of placements

Factors	B coefficient	Std. Erorr	Effect size
Highest education	-.128*	.014	0.37
Interest in politics	-.155*	.031	0.56
Political knowledge	-.051*	.012	0.36
Party adherence	.065	.034	0.0

* Significant at a level of .05
** R Square = .103
*** Constant not mentioned in table.

3. The influence of systematic biases on the placements of parties on the left-right dimension.

The correctness of the placements of political parties on the left-right dimension can also be influenced by systematic biases. In this section three possible biases are examined; the systematic influence of party identification, the systematic influence of someone's own position on the left-right dimension, and finally, the influence of those issues that are important in the interpretation of the left-right dimension by respondents.

3.1 The systematic influence of party identification on the positioning of political parties on the left-right dimension.

In this part of the analysis the expected effect of party identification is the opposite of that in the analyses above. The expected effect is that people that do not identify with a political party are more likely to place political parties on correct places on the left-right dimension because they are less biased in their perceptions than people that do identify with a political party. Thus, as said before, even though party identification can have a positive effect on the accuracy of the placements because it leads to stronger politically involvement and more politically awareness, party identification can also lead to a bias in the perceived positions of political parties on the left-right dimension because partisan preferences distort the views on the positions for specific (preferred or disliked) parties. So far, no difference is made between adherence to different political parties. However, it might be possible that, when looking within the group of people that has indicated to be adherent to a party, there are differences in the positioning of parties on the left-right dimension for people who are adherent to different political parties. Therefore, in this part of the analysis the influence of being adherent to a specific political party on the placement of parties on the left-right dimension compared to the placements provided by people who are not adherent to a party is examined for three parties: PvdA, CDA and VVD.

The results of the regression analyses measuring the influence of adherence to a specific political party compared to not being adherent to a party are displayed in Table 9 below. Table 9 shows that there is a difference in the three comparisons. People who are adherent to the PvdA position the SP and PvdA significantly more to the left and the CU, CDA, VVD and PVV significantly more to the right compared to people who are not adherent to a party. For people who are adherent to the CDA the results are totally different; these people place the GL, CU and CDA significantly more to the left than people who are not adherent to a political party and there is no significant difference on the right side of the scale for people who are adherent to the CDA and people who are not adherent to a party. For the comparison with the VVD the results show that people who are adherent to the VVD place the SP and PvdA significantly more to the left and the D66 and VVD significantly more to the right than people who are not adherent to a party. One can thus already conclude that the party to which a person is adherent to has an effect on the placement of parties on the left-right scale when compared to the placements provided by people who are not adherent to a party. However, for people that are adherent to the VVD or PvdA, this effect is not in line with the expected effect. The expectation was that party identification would cause people to position all parties more to the right or more to the left. This is however not the case because leftist parties are more positioned to the left and rightist parties to the right side of the dimension. For people that are adherent to the CDA the effect is slightly different. The most extreme party – GL and PVV – are positioned more to the centre which might indicate that these people make less of a difference between different political parties.

Table 9. The influence of party identification on the positioning of a party split by adherence to different political parties.

Adherent to:	**PvdA**		**CDA**		**VVD**	
Positioning of:	**B**	**SE**	**B**	**SE**	**B**	**SE**
GL	-.097	.158	.424*	.169	-.084	.153
SP	-.493*	.192	-.298	.207	-.800*	.189
PvdA	-.797*	.183	-.092	.196	-.484*	.176
D66	-.128	.151	.134	.160	.611*	.144
CU	.510*	.200	.974*	.213	.047	.194
CDA	.580*	.182	1.199*	.195	.051	.175
VVD	.559*	.192	.061	.206	.627*	.183
PVV	.747*	.246	-.670*	.269	.064	.244

* Significant at a level of .05
** Constants not mentioned in table.
*** CDA: N = 103, PvdA: N = 119, VVD: N = 125.

Taking into account the mean deviation measure, the difference in this measure for people who are adherent to the PvdA and people who are not adherent to a party is not significant

different (t-value = .142, df = 1316, p = .444 (one-tailed)). Thus, people who are adherent to the PvdA (mean = 1.51) do not score significantly higher on the mean deviation measure than people who are not adherent to a political party (mean = 1.52). The ordering of parties shows only one small difference; people who are adherent to the PvdA place the SP as the most leftist party while people who are not adherent to a political party place the GL as the most leftist party. The difference in the position of the GL and SP is not a very surprising difference since these two parties are often positioned very close to each other. However, the average range of the placements provided by these two groups is significantly different; the range for people that are adherent to the PvdA (range of 8.09 scale points) is significantly larger than that of people how are not adherent to a political party (range of 7,51 scale points) (t-value = -3.520, df = 149.429, p < .001 (one-tailed)). This also indicates that people that are adherent to the PvdA make a clearer or bigger difference between different political parties when positioning them on the left-right dimension.

For the comparison between people who are adherent to the CDA and people who are not adherent to a party, the mean deviation measure is also not significantly different (t-value = -1,407, df = 1300, p = .080 (one-tailed)). Thus, people who are adherent to the CDA (mean = 1.62) do not score significantly higher on the mean deviation measure than people who are not adherent to a political party (mean = 1.52). The ordering of parties shows some small differences; a) people who are adherent to the CDA place the SP as the most leftist party while people who are not adherent to a political party place the GL as the most leftist party, and b) the VVD is seen as the most rightist party by people who are adherent to the CDA while people who are not adherent to a political party place the PVV as the most rightist party. The difference is the position of the GL and SP is, again, not a very surprising. The difference in the positioning the VVD and PVV is not surprising when looking at Table 9; people who are adherent to the CDA place the PVV significantly more to the right than people who are not adherent to a political party. Also, the average range of the placements provided by these two groups is not significantly different; the range for people that are adherent to the CDA (range of 7,47 scale points) is not larger compared to that of people how are not adherent to a political party (range of 7,51 scale points) (t-value = .200, df = 1300, p = .421 (one-tailed)).

There is, however, a significant difference in the average score on the mean deviation measure for people who are adherent to the VVD and people who are not adherent to a party (t-value = 3.434, df = 170.483, p < .001 (one-tailed)). People who are adherent to the VVD score significantly lower on the mean deviation measure (mean = 1.35) than people who are not adherent to a political party (mean = 1.52). The fact that the mean deviation from the

correct positions of parties is lower for people that are adherent to the VVD than for people who are not adherent to a party might indicate that the hypothesis of this section should be rejected; party identification does not lead to a bias in people's perceptions and in the correctness of people's positioning of parties on the left-right scale. The ordering of parties also shows some small differences; people who are adherent to the VVD place the SP as the most leftist party and the VVD is as the most rightist party, while people who are not adherent to a political party place the GL as the most leftist party and the PVV as the most rightist party. The difference is the position of the GL and SP is, again, not a very surprising. The difference in the positioning the VVD and PVV is not surprising when looking at Table 9; the VVD is placed significantly more to right by people who are adherent to the VVD compared tp people who are not adherent to a political party. The average range of the placements provided by these two groups is also significantly different; the range for people that are adherent to the VVD (range of 7,80 scale points) is larger than that of people how are not adherent to a political party (range of 7,51 scale points) (t-value = -1.892, df = 164.437, p = .030 (one-tailed)). This also indicates that people that are adherent to the VVD make a clearer or bigger difference between different political parties when positioning them on the left-right dimension.

Overall, one can conclude that party identification has an influence on the actual positioning of parties on the left-right dimension because it leads to a bias in the positioning of parties. However, it does not have a very strong influence on the correctness of these placements when taking the mean deviation measure into account.

3.2 The systematic influence of someone's own position on the left-right dimension on the positioning of political parties on this dimension.

The assumption in this study is that people that have a moderate self-positioning on the left-right dimension are more likely to place political parties on correct places on the left-right dimension than people who do not have a moderate self-positioning on the left-right dimension due to less biased perceptions of political parties and the political spectrum. Therefore, people with a lower value on the new extremity scale should place parties on more correct places on the left-right dimension compared to people with a higher value on the extremity scale. Table 10 below shows that – when disregarding the direction of either left or right - self-placement has a significant influence on the positioning of most political parties. Table 10 shows that the more extreme a respondent's self-placement on the left right dimension is, the more leftist parties are positioned on the left side of the scale and rightist

parties more on the right side of the scale. However, this effect is again not in line with the expected effect, because the expectation was that party identification would cause people to position all parties more to the right or more to the left.

Table 10. The influence of self-placement on the positioning of a party

Positioning of:	B Coefficient	Std. Error
GL	-.194*	.029
SP	-.185*	.036
PvdA	-.298*	.033
D66	-.112*	.028
CU	.142*	.037
CDA	.205*	.034
VVD	.175*	.036
PVV	.095*	.047

* Significant at a level of .05
** Constants not mentioned in table.

Figure 15 up to Figure 22[15] below show that when taking the difference between extreme left and extreme right into account, the effect is more or less the same. Both groups place leftist parties more to the left and rightist parties more to the right compared to people that have positioned themselves in the middle of the dimension. However, one has to keep in mind that the number of people positioning themselves on the very extremes on the left-right dimension is rather small, and therefore these results are less reliable. An ANOVA analysis has also shown that the relationship for GL, PvdA, D66, CU and CDA is indeed quadratic, which means that the relationship is curvilinear (F between 7.821 and 38.317, p between <.001 and .005). The relative orderings constructed by these groups of people are roughly the same.

Figure 15. L-R rating of GL

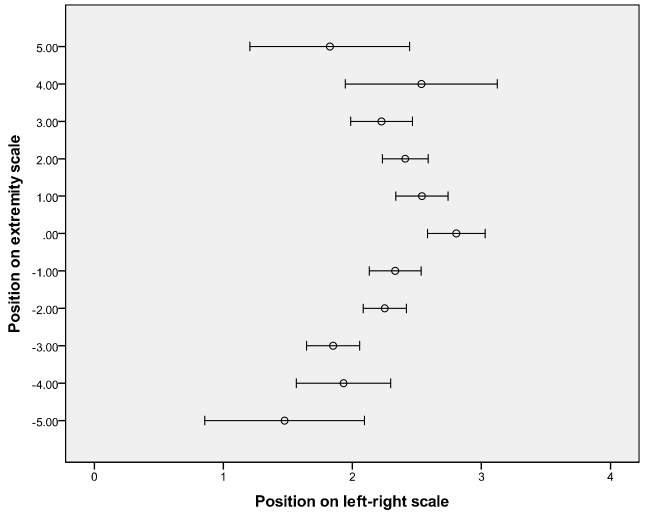
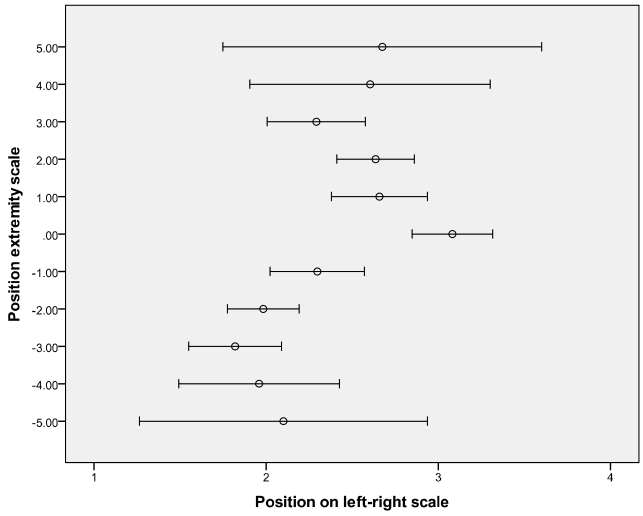


Figure 16. L-R rating of SP



[15] -5 (extreme left): N = 40, -4: N = 73, -3: N = 161, -2: N = 227, -1: N = 172, 0: N = 282, 1: N = 193, 2: N = 288, 3: N = 213, 4: N = 58, 5 (extreme right): N = 40.

Figure 17. L-R rating of PvdA

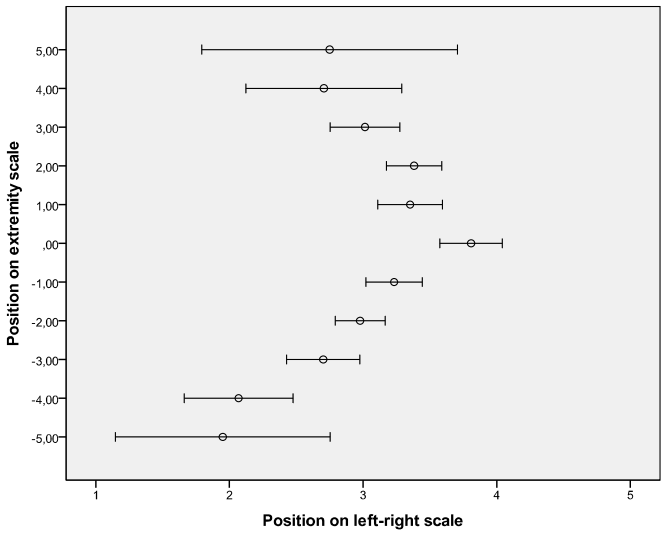


Figure 18. L-R rating of D66

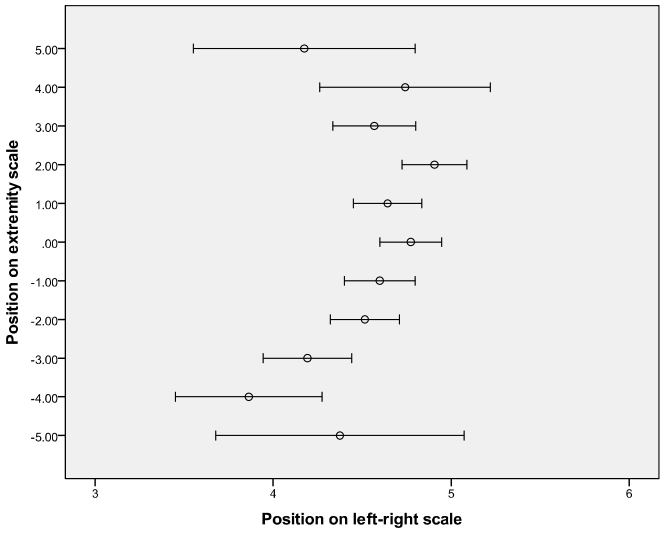


Figure 19. L-R rating of CU

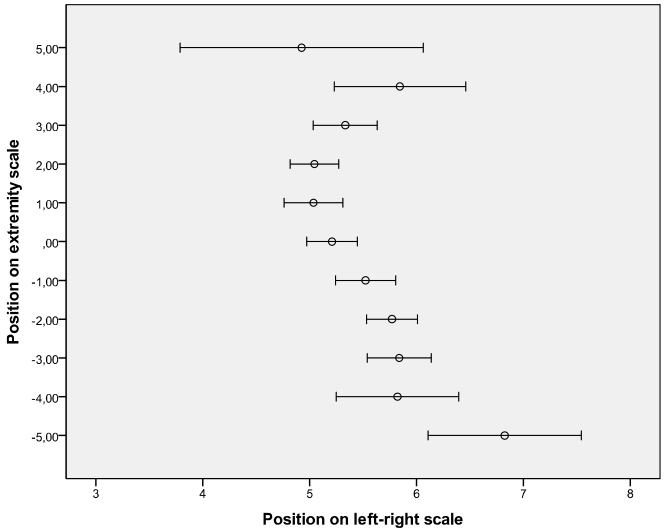


Figure 20. L-R rating of CDA

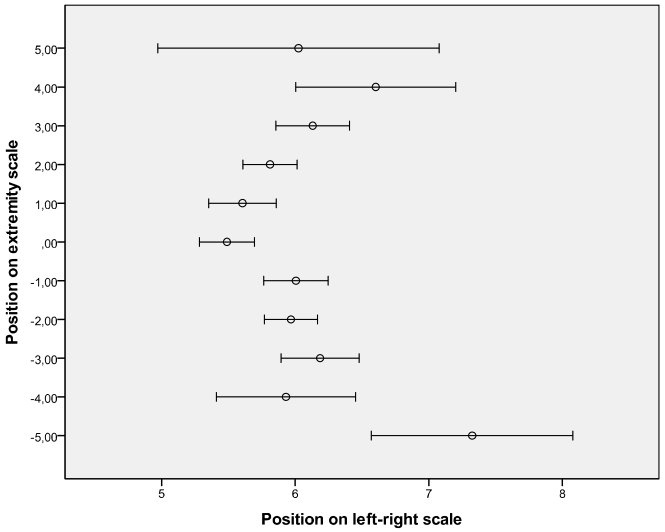


Figure 21. L-R rating of VVD

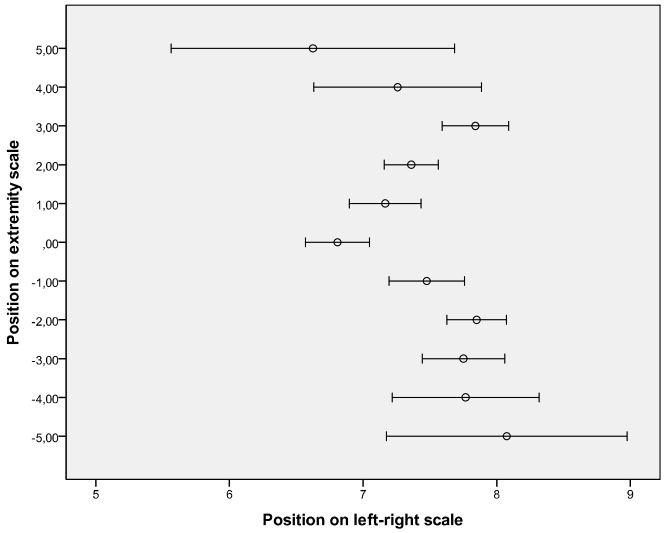
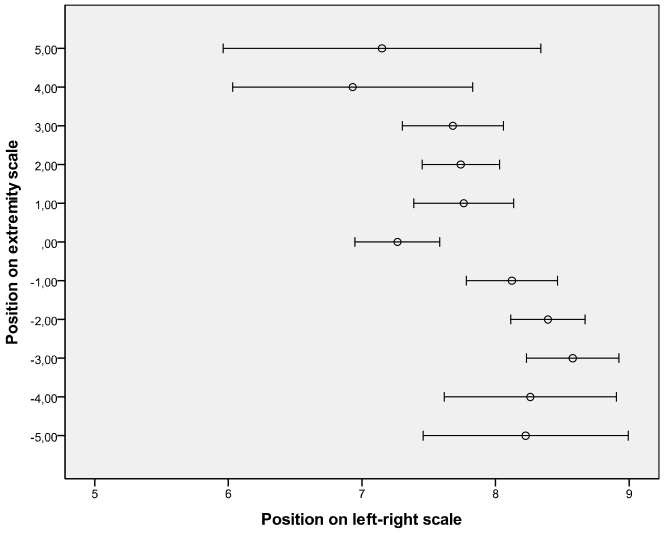
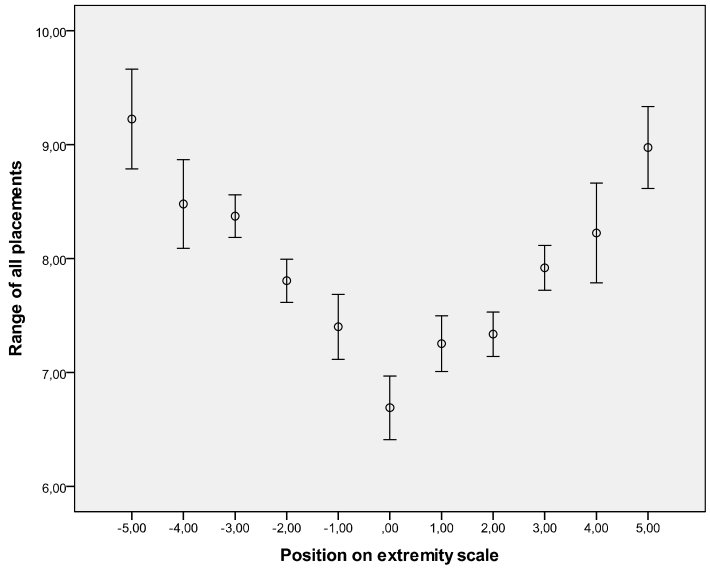


Figure 22. L-R rating of PVV



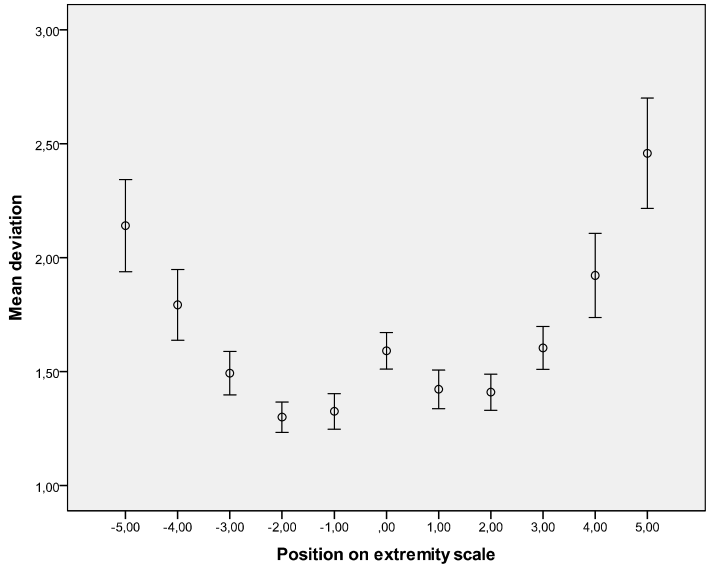
This effect is also visible when looking at the range in the placements provided. Figure 23 below shows that the range of all placements is larger for people that have positioned themselves at the extreme left or extreme right on the left-right dimension. An ANOVA analysis has shown that the average range for people with an extreme self-positioning is significantly different from that of people with a more moderate self-placement (Welch F = 24.750, df = 10, p = <.001). The analysis has also shown that this is quadratic trend (F = 108.100, df = 1, p = <.001) which means that the effect is curved. This indicates that people with extreme self-placements make a clearer or bigger difference between different political parties when positioning them on the left-right dimension than people with moderate self-placements.

Figure 23. Range of placements split by position of extremity scale (N = 1750)



For the average deviation measure, Figure 24 below shows that the average deviation from the correct placements of the eight parties for people with more extreme self-placements on the left-right dimension is higher than for people with a more centrist self-placements. An ANOVA analysis has shown that the mean deviation for people with an extreme self-positioning is most of the time significantly higher from that of people with a more moderate self-placement (Welch F = 20.837, df = 10, p = <.001). The trend is quadratic (F = 174.986, df = 1, p = <.001) which means that the relationship is curved. This means that the average deviation from the correct positions of parties on the left-right scale increased when one moves to the extreme left or extreme right side of the scale.

Figure 24. Mean deviation split by position of extremity scale (N = 1750)



Overall, these results thus provide support for the expectation that extreme political view points of respondents (extreme self-placements on the left-right dimension) have a negative influence on the correctness of the placements of parties on the left-right dimension. However, the direction of the bias is skewed to both left and right instead of to one side of the dimension.

3.3 The systematic influence of the issues that underlie someone's interpretation of the left-right dimension.

Four possible underlying issues are included in this analysis; an economic issue, a cultural issue, a religious issue and an European issue. Looking at table 11 below, one can see the difference in the influence of the four issues on the position of individual parties on the left-right dimension. The economic issue and the cultural issue have a significant effect on almost every party-positioning. The B coefficients of the economic issue show that the more a person agrees with the statement that the government should not interfere in the economy the more the VVD, PVV and SGP are placed to the left and the GL and SP to the right. People with a desire for a (very) liberal / free economy thus make less of a distinction between leftwing and rightwing parties. The B coefficients of the cultural issue show that the more a person agrees with the statement that the immigration of Muslims should be stopped, the more the CDA, VVD, PVV, and SGP are put to the left and the GL, SP, and PvdD to the right side of the left-right dimension. People with a desire for a more monocultural state thus also make less of a difference between leftwing and rightwing parties.

Someone's position on the European issue only has a significant effect on the positioning of the VVD; the B coefficient shows that the more a person prefers a slow speed or stop of further European integration, the more the VVD is placed to the right. For the PvdA and D66 none of the four issues has a significant effect on the positioning of these parties.

Table 11. The influence of issues on the positioning of parties on the left-right dimension.

	Economic		Culture		Religion		Europe		N	R^2
Party	**B**	**SE**	**B**	**SE**	**B**	**SE**	**B**	**SE**		
GL	.157*	.052	.182*	.061	-.007	.032	.005	.035	1423	.021
SP	.287*	.064	.419*	.075	-.022	.040	-.052	.042	1423	.060
PvdA	.107	.060	.025	.071	.004	.037	-.006	.040	1423	.004
PvdD	-.024	.061	.214*	.072	-.078*	.038	-.079	.041	1423	.016
D66	-.008	.053	-.003	.063	-.061	.033	.034	.035	1423	.004
CU	-.064	.069	-.066	.081	.091*	.043	-.068	.046	1423	.008
SGP	-.347*	.077	-.445*	.091	.206*	048	-.006	.051	1423	.066
CDA	-.070	.061	-.229*	.072	.140*	.038	-.018	.041	1423	.025
VVD	-.214*	.065	-.463*	.077	-.097*	.041	.087*	.043	1423	.061
PVV	-.238*	.086	-.429*	.101	-.172*	.053	.104	.057	1423	.043

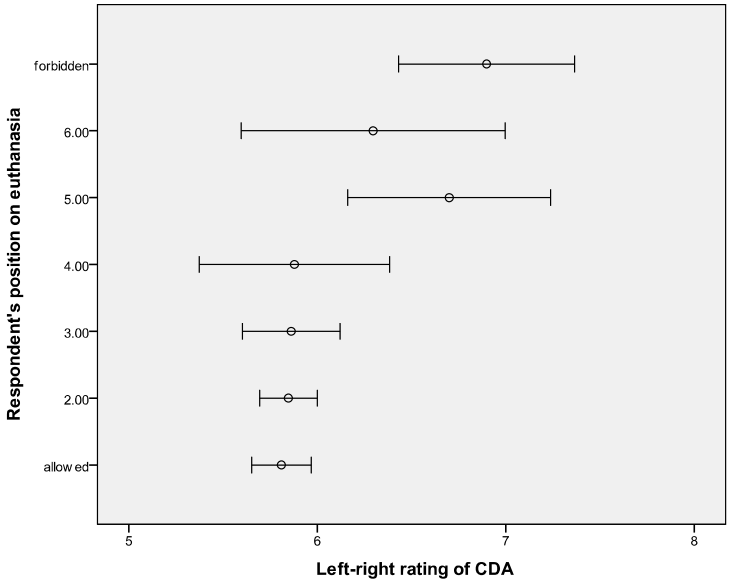
* Significant at a level of .05
** Constant not mentioned in table.

Someone's position on the religious issue has a significant influence on the positioning of religious parties (CDA, CU, SGP) and on the positioning of some secular parties (VVD, PVV, PvdD), however, not on positioning of every party. The way the positioning of parties is influenced by the religious issue is also in line with our expectations; the more a person wants to forbid euthanasia, the more religious parties are placed to the right side of the scale and the more the secular parties are placed to the left side of the scale.

Figure 25 below provides a graphical presentation of this effect for the CDA; people with a more religious standpoint on euthanasia – people that thus are stronger convinced that euthanasia should be forbidden – place the religious party CDA considerably more to the right than people with a more liberal standpoint on euthanasia.

Table 11 above provides the indication that different groups of people construct different left-right orderings. This should be taken into account when judging the correctness of the placements provided by certain respondents; the correctness should be judged with regard to the relevant left-right interpretation. If the general ordering – which might be in line with the socio-economic left-right dimension - is used to judge the correctness of the ordering made by for example religious people the deviation from the correct positions might be higher.

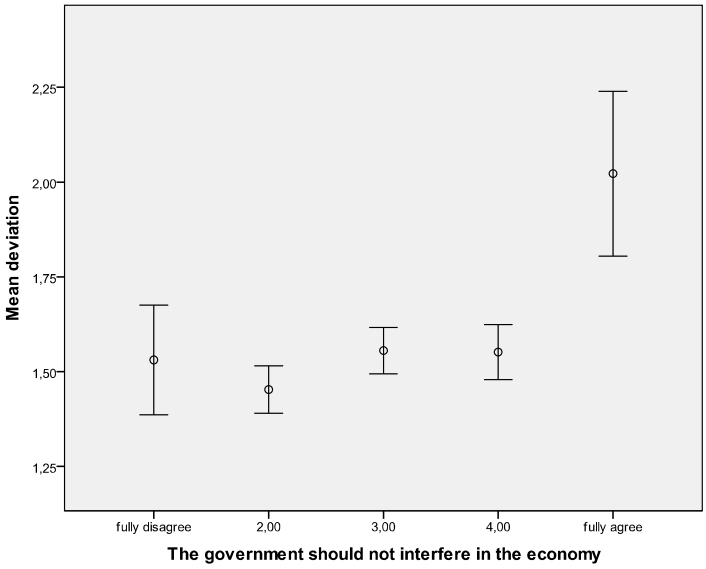
Figure 25. The ordering of CDA split by position on euthanasia



* 1 (allowed): N = 631, 2: N = 411, 3: N = 188, 4: N = 66, 5: N = 30, 6: N = 27, 7 (forbidden): N = 69.

The average deviation from the mean positions of the parties for people that want (absolutely) no interfere of the government in the economy is higher than for people that do not hold this opinion, as is shown by Figure 26 below. An ANOVA test has shown that the difference between the average deviation for the people that fully agree with the statement that the government should not interfere in the economy and the average deviations for people holding a different opinion is statistically significant (Post Hoc Scheffe, mean difference between .46684 and .56939, p between .000 and .004).

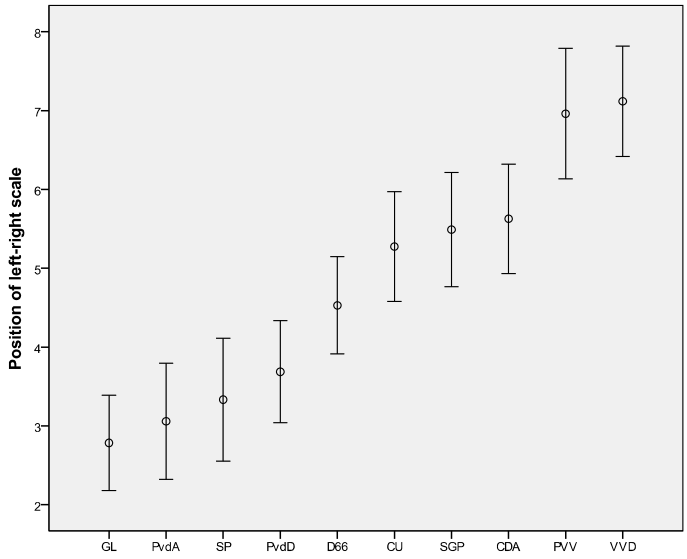
Figure 26. Mean deviation split by position on government interference in economy



* Fully disagree: N = 44, disagree: N = 321, disagree nor agree: N = 398, agree: N = 266, fully agree: N = 51

The ordering of parties, as is shown by Figure 27 below, by people that fully agree with the statement that the government should not interfere in the economy is different on two aspect compared to the correct left-right ordering; the PvdA and SP are reversed and the PVV and VVD are reversed. The reversion of the PVV and VVD is logical since the VVD is the most liberal political party on this issue. The reversion of the PvdA and SP is however surprising. The orderings constructed by people with another position on this issue were not different on important aspects from the correct ordering; only the SP and GL and the SGP and CDA were sometimes reversed, however, this is not really surprising.

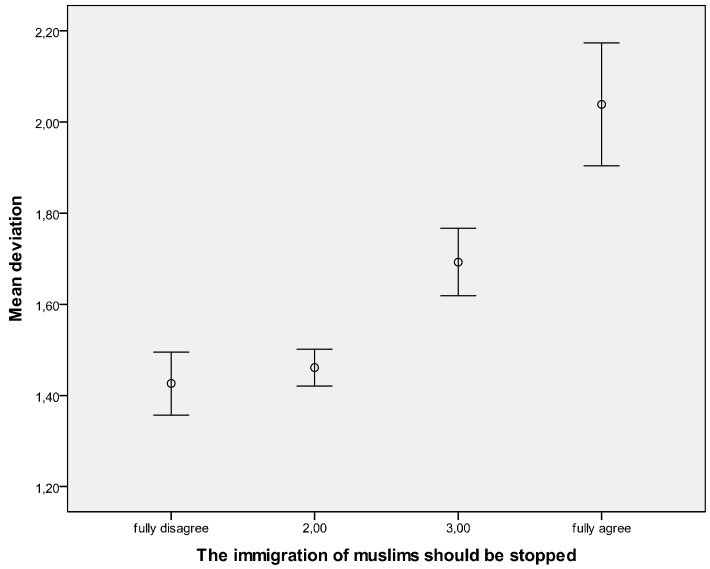
Figure 27. Left-right ordering by people strongly in favor of no interference of the government in the economy (N = 51)



As Figure 28 below shows, the average deviation from the mean positions of parties for people that want the immigration of Muslims to be stopped is higher than for people that do not hold this opinion. The results of an ANOVA analysis have shown that only the difference between fully disagree and people that disagree with this statement on the mean deviation measure is not significantly different (Post Hoc Scheffe, mean difference = .03478, p = .900). The average score on the mean deviation measure for people that fully agree with the statement that the immigration of Muslims should be stopped is significantly higher than for people that hold another opinion (Post Hoc Scheffe, mean difference between .34615 and .61241, p = <.001). The same can be concluded for the comparison between people that agree with this statement and people that hold another opinion (Post Hoc Scheffe, mean difference between .23148 and .34615, p = <.001). The ordering of parties for people that (fully) agree with the statement that the immigration of Muslims should be stopped is slightly different

from the left-right ordering by people with a different opinion on this matter; the PvdA is positioned as the second leftist party and the SP as the third leftist party, however, this might be due to the fact the PvdA is – more than the SP – a party with a lot of politicians with an Islamic background.

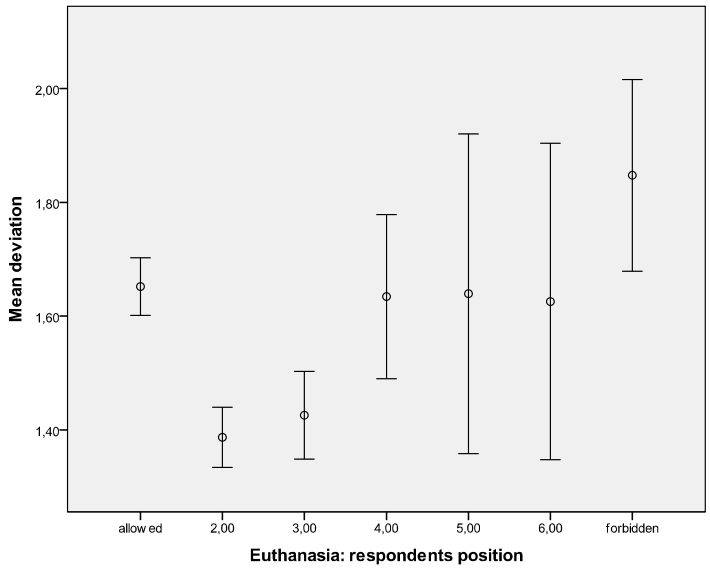
Figure 28. Mean deviation split by position on the immigration of Muslims



* Fully disagree: N = 225, disagree: N = 770, agree: N = 301, fully agree: N = 118.

Figure 29 below shows the average deviation from the mean positions of parties for people with a different standpoint on euthanasia. This figure shows that this deviation is higher for people with a more religious standpoint on euthanasia than for people with another opinion. If the error bars for people on point 5 and 6 on the scale are disregarded, since the total number of people taking these positions on this scale is rather small, an ANOVA analysis has shown that the average deviation for people that are on the ends of the scale – thus people that absolute allow or absolutely forbid euthanasia - is significantly higher than for people that have positioned themselves on the second or third point of the scale, and thus take a more moderate position on this subject (Post Hoc Scheffe, mean difference between .22628 and .46050, p between .000 and .003).

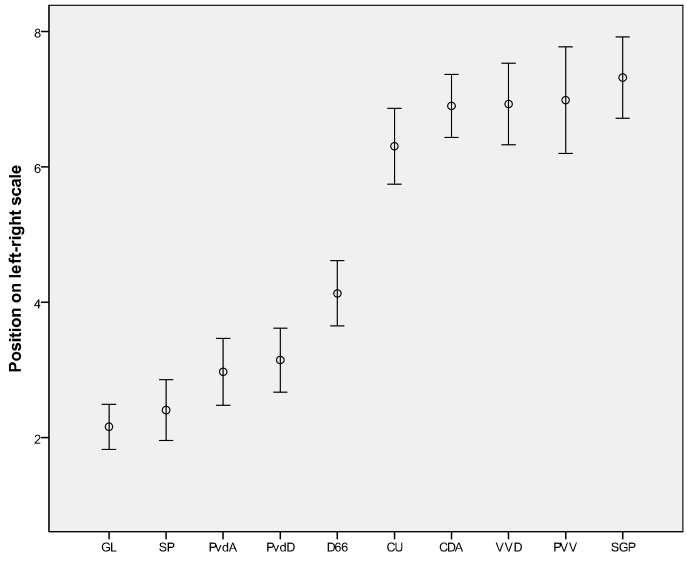
Figure 29. Mean deviation split by position on euthanasia



* 1 (allowed): N = 631, 2: N = 411, 3: N = 188, 4: N = 66, 5: N = 30, 6: N = 27, 7 (forbidden): N = 69.

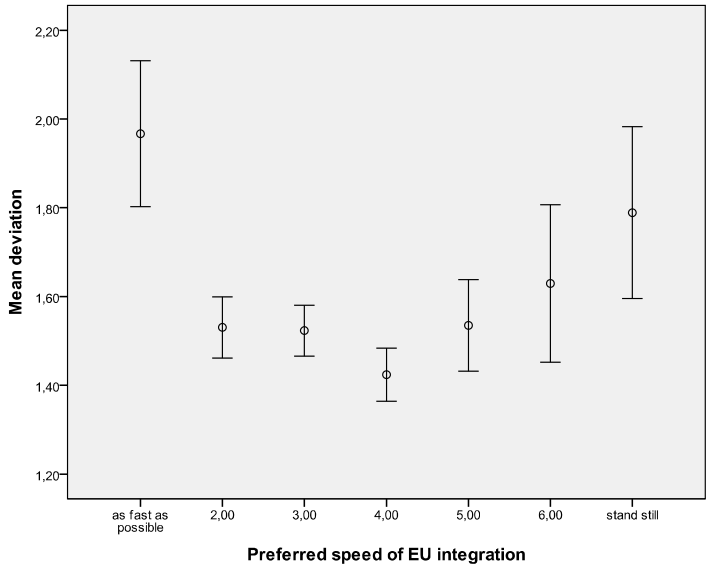
People that think euthanasia should be absolutely forbidden, as is show in Figure 30 below, position the SGP as the most rightist party of all parties. For people with a different position on this issue, no important differences in the ordering of parties has been shown; the differences - like the reversion of the GL and SP – are not very surprising. Also, the orderings constructed by people with position of 5 and 6 on this issue scale might also not be very trustworthy due to the small number of people taking these positions.

Figure 30. Left-right ordering by people that strongly forbid euthanasia (N = 69)



The average deviation on the mean deviation measure for people that hold a more extreme opinion on the speed of European integration is higher than for people that hold a more moderate opinion on this issue, as is shown in Figure 31 below. The results of an ANOVA analysis have shown that the average deviation for people that prefer an EU integration of maximum speed is significantly higher than the average deviation for people with a more moderate position – position on point 2 to 5 - on this issue (Post Hoc Scheffe, mean difference between .43158 and .54258, p = <.001). The average deviation for people that prefer a stand still of the EU integration is only significantly different for people that take the middle position (point four) on the issue dimension (Post Hoc Scheffe, mean difference = .36495, p = .012). However, there are only slight (not very important) differences in the ordering of all ten parties.

Figure 31. Mean deviation split by position on EU integration



* 1 (as fast as possible): N = 100, 2: N = 276, 3: N = 424, 4: N = 295, 5: N = 152, 6: N = 54, 7 (stand still): N = 55).

Overall the conclusion can be made that the interpretation of the left-right dimension has an influence on the correctness of the placements and orderings provided by people that hold a strong position on different issues.

Discussion

The results show that education, political interest and political knowledge have a positive influence on the ability to place political parties on the left-right dimension. Education and political interest have a linear effect on this ability which means that the number of parties someone is able to place on the left-right dimension increases with each higher level of education or political interest. The effect of political knowledge, however, is curvilinear, which means that the number of parties someone is able to place on the left-right dimension only increases up to a certain level of political knowledge. After that point, with every higher level of political knowledge the number of parties someone is able to place on the left-right dimension decreases. Looking at the leading question of this whole study, one can thus say that people are more able to place parties on the left-right scale when they are highly educated or politically interested or when they have a sufficient amount of political knowledge. Party identification seems to have no significant influence on this ability. Furthermore, the data shows that most people are able to place all eleven political parties on the left-right dimension. Also, the percentage of people that is able to place a larger political party on the left-right dimension is very high. Only for smaller parties more people have answered that they do not know where to place that party on the left-right dimension. Also, when looking at those people with the lowest level of education, lowest level of political interest and lowest level of political knowledge, still a large number of political parties has been placed on the left-right scale. The results of the analyses related to the ability to place political parties on the left-right dimension provide a positive picture about the usability of this dimension for voters.

The results of the second section show that education, political interest and political knowledge also have a positive influence on the correctness of the placements provided by voters. Education and political interest, again, have a linear effect. Which means that the correctness of placements increases with each higher level of education or political interest. The effect of political knowledge, however, is again curvilinear. This means that the correctness of placements only increases up to a certain level of political knowledge. After that point, with every higher level of political knowledge the correctness of placements decreases. When looking at the actual question of this study, one can thus argue that the incorrect positioning of parties on the left-right dimension by some respondents can be explained by their lack of education, political interest or political knowledge. Party identification has no significant influence on the correctness of placements provided by voters. The expectation that respondents who do identify with a party are more familiar with the left-right dimension, the meaning of this dimension, and the positions of parties on this

dimension than respondents who do not identify with a party can thus not be confirmed. Overall the results of the second section show that most people are able to place political parties on more on less correct positions on the left-right dimension. Even though some groups of people - like people with the lowest level of education and people with no political interest - are on average almost two scale points removed from the correct positions of parties, one has to remember that this are only small groups within the whole set of respondents. Here again, the data provides a positive image of the usability of the left-right dimension for voters because the majority of the voters is able to place most political parties on correct positions on the left-right dimension.

Party identification only seems to have a limited effect on the actual positioning of parties on the left-right scale. People that identify with a political party - in this study with the CDA, PvdA or VVD - tend to make a clearer distinction between leftwing and rightwing parties because they position leftwing parties more to the left and rightwing parties more to the right side of the left-right dimension. Party identification consequently, also has an influence on the range of the placements provided by voters. The range of the placements provided by people who identify with a party is (most of the time) larger than for people who do not identify with a political party. This observed bias is not in line with the expected bias because the expectation was that party identification would cause people to position all parties more to the right or more to the left. Only for the comparison between people who are adherent to the VVD and people who are not adherent to a party a significant difference was found in the mean deviation measure. The fact that the mean deviation from the correct positions of parties is lower for people that are adherent to the VVD than for people who are not adherent to a party indicates that the hypothesis of this section should be rejected. Party identification does lead to a bias in people's perceptions and in people's positioning of parties on the left-right scale, however, it has no significant influence on the correctness of these placements. Party identification has also no influence on the ordering of political parties on the left-right scale.

The respondent's own position on the left-right dimension has a similar effect. People that position themselves on the extremes of the left-right dimension position leftist parties more to the left side and rightist parties more to the right side of the left-right dimension compared to people with a more centrist position on the left-right scale. These people thus also make a clearer distinction between different political parties, and the range of all placements is also significantly larger compared to that of people with a centrist position on the left-right dimension. There is however no significant difference found between people

who position themselves on the extreme left and people who position themselves on the extreme right side of the left-right dimension with regard to the positioning of parties on this dimension. Again, this observed bias is not in line with the expected bias because the expectation was that extreme self-placements would cause people to position all parties more to the right or more to the left. Due to this bias for people with extreme self-placements, the average score on the mean deviation measure is also higher compared to that of people with a more moderate or centrist self-placement. The relative ordering of parties on the left-right dimension is not influenced by the extremity of the respondent's own position on the left-right scale. Extreme self-placements on the left-right dimension thus do lead to a bias in people's perceptions and in the positioning of parties on the left-right scale and it has a significant influence on the correctness of these placements. However, the average deviation from the correct positions of parties on the left-right dimension for all groups is below 2.50 scale points, which means that the average deviation for people with extreme self-placements is not extremely high.

The issues that underlie people's interpretation of left-right dimension also have a biased effect on the placements provided by voters. People that for example hold the strong opinion that euthanasia should be forbidden – an opinion that is in line with the opinion of very religious people – construct a left-right ordering in which the SGP is positioned as the most rightist political party of the whole party system. This ordering is thus more in line with the old ordering of parties in which religious parties were positioned on the right side of the scale and secular parties on the left side of the scale. Despite the fact that, with regard to the three other issues, the ordering of parties is not surprisingly different from the correct ordering, people that hold a strong opinion on these three issues tend to have a (significantly) higher score on the mean deviation measure. Strong political opinions that underlie the interpretation of the left-right dimension thus seem to have a negative effect on the correctness of the placements of parties on the left-right dimension. However, again, one has to keep in mind that the average deviation from the correct positions of parties on the left-right dimension for all groups is below 2.25 scale points, which means that the average deviation for people a with strong opinion an issue is not extremely high.

Overall, it can be concluded that education, political interest, political knowledge, someone's own position on the left-right dimension and the interpretation of the left-right dimension have a significant effect on the ability to place parties on the correct positions on the left-right dimension. Secondly, it can be concluded that, even though we can not carelessly assume that everybody is able to use and interpret the left-right dimension in the right way,

most people however seem to have a pretty good (and correct) picture of how and where political parties should be placed on the left-right dimension. It thus seems to be a useful tool for voters. The findings of this study thus provide another argument in favor of the usefulness of the left-right dimension as a communication tool for voters.

Further research

Further research should focus on more factors that might influence the ability to place parties on correct places on the left-right dimension. Further research could for example focus on the newness of parties. If a party is new people might not know the party's position in the political system. Consequently, people might also not yet be able to position it on the correct position on the left-right dimension which could also result in a great variance in the positioning of this party on the left-right dimension. It is important to focus on this subject because a lot is still unknown about the actual usability of this dimension for voters. If academics and political actors want to work with left-right dimensions that are construct by voters, more should be known about the ability of voters to position parties on the left-right dimension and the correctness of these placements.

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Appendix 1: Statistical tests (of results section 1 en 2)

Ability: Educational level

Table 1: Results of the Chi-Square analyses for each party individually

Party	Chi Square	df	Critical Value	Sign.
CDA	100.852	4	9.488	< .001
PvdA	93.490	4	9.488	< .001
VVD	105.372	4	9.488	< .001
D66	129.728	4	9.488	< .001
GL	130.689	4	9.488	< .001
SP	128.404	4	9.488	< .001
PVV	92.314	4	9.488	< .001
CU	94.176	4	9.488	< .001
SGP	120.614	4	9.488	< .001
PvdD	81.256	4	9.488	< .001
TON	108.987	4	9.488	< .001

Table 2. Descriptives of the ANOVA analysis for the aggregated level

	N	Mean	Std. Deviation	CI Lower Bound	CI Upper Bound
Elementary	107	7.6916	4.23911	6.8791	8.5041
Lower vocational	302	8.4139	4.06642	7.9534	8.8744
Secondary	160	9.1813	3.40527	8.6496	9.7129
Middle level vocational, higher level secondary	822	9.6971	2.78494	9.5064	9.8877
Higher level vocational, university	615	10.4862	1.69384	10.3520	10.6203
Total	2006	9.5977	3.01189	9.4658	9.7296

* The Levene's test showed that there is a significant (< .001) difference in the variances of the different groups, therefore the Welch F-ratio was (36.429 & p = < .001).

Ability: Political interest

Table 4. Results of the Chi-Square analyses for each party individually

Party	Chi Square	df	Critical Value	Sign.
CDA	140.089	2	5.991	< .001
PvdA	144.256	2	5.991	< .001
VVD	141.052	2	5.991	< .001
D66	165.809	2	5.991	< .001
GL	153.069	2	5.991	< .001
SP	162.352	2	5.991	< .001
PVV	124.486	2	5.991	< .001
CU	123.788	2	5.991	< .001
SGP	139.232	2	5.991	< .001
PvdD	79.129	2	5.991	< .001
TON	100.710	2	5.991	< .001

Table 5. Descriptives of the ANOVA analysis on the aggregated level

	N	Mean	Std. Deviation	CI Lower Bound	CI Upper Bound
Not interested in politics	358	7.5642	4.48465	7.0981	8.0304
Fairly interested in politics	1479	9.7492	2.75818	9.6085	9.8898
Very interested in politics	316	10.5285	1.59039	10.3525	10.7045
Total	2153	9.5002	3.12296	9.3682	9.6322

* The Levene's test showed that there is a significant (< .001) difference in the variances of the different groups, therefore the Welch F-ratio was used (75.283 & p = < .001).

Ability: Political knowledge

Table 7. Results of the Chi-Square analyses for each party individually

Party	Chi Square	df	Critical Value	Sign.
CDA	179.317	4	9.488	< .001
PvdA	175.357	4	9.488	< .001
VVD	174.496	4	9.488	< .001
D66	215.707	4	9.488	< .001
GL	169.914	4	9.488	< .001
SP	189.360	4	9.488	< .001
PVV	131.653	4	9.488	< .001
CU	210.141	4	9.488	< .001
SGP	259.053	4	9.488	< .001
PvdD	72.542	4	9.488	< .001
TON	119.864	4	9.488	< .001

Table 8. Descriptives of the ANOVA analysis on the aggregated level

	N	Mean	Std. Deviation	CI Lower Bound	CI Upper Bound
0 (low political knowledge)	644	7.9860	4.21448	7.6599	8.3121
1	432	9.7315	2.63954	9.4819	9.9811
2	520	10.3731	1.78174	10.2196	10.5266
3	210	10.5619	1.39324	10.3724	10.7514
4 (high political knowledge)	347	10.0720	2.55867	9.8019	10.3422
Total	2153	9.5002	3.12296	9.3682	9.6322

* The Levene's test showed that there is a significant (< .001) difference in the variances of the different groups, therefore the Welch F-ratio was used (51.314 & p = < .001).

Ability: Party identification

Table 10. Results of the Chi-Square analyses for each party individually

Party	Chi Square	df	Critical Value	Sign.
CDA	21.637	1	3.841	< .001
PvdA	18.257	1	3.841	< .001
VVD	11.627	1	3.841	.001
D66	15.857	1	3.841	< .001
GL	11.901	1	3.841	.001
SP	11.090	1	3.841	.001
PVV	7.474	1	3.841	.006
CU	16.841	1	3.841	< .001
SGP	22.905	1	3.841	< .001
PvdD	1.147	1	3.841	.284
TON	4.497	1	3.841	.034

Table 11. Descriptives of the T-test analysis on the aggregated level

Is the respondent adherent to a political party?	N	Mean	Std. Deviation	Std. Error Mean
No	1512	9.3228	3.32753	.08557
Yes	636	9.9135	2.53922	.10069

* Levene's test has shown that the variance within the two groups is significantly different (p = .000). The t-statistic (-4.471, df = 1544,945) is significant at <.001 (one-tailed).

Correctness: Educational level

Table 12. Results of the ANOVA analysis per party

Party	Welch F	Sign.
CDA	24.991	< .001
PvdA	19.037	< .001
VVD	17.405	< .001
D66	3.180	.014
GL	14.959	< .001
SP	8.201	< .001
PVV	4.957	.001
CU	5.865	< .001

Table 13. Descriptives of the ANOVA analysis on aggregated level

	N	Mean	Std. Deviation	CI Lower Bound	CI Upper Bound
Elementary	64	1.8736	.70801	1.6967	2.0504
Lower vocational	208	1.7734	.68498	1.6798	1.8671
Secondary	127	1.5929	.64204	1.4801	1.7056
Middle level vocational, higher level secondary	681	1.5477	.69875	1.4951	1.6003
Higher level vocational, university	571	1.2758	.50577	1.2342	1.3174
Total	1651	1.4982	.65796	1.4664	1.5300

* The Levene's test showed that there is a significant (< .001) difference in the variances of the different groups, therefore the Welch F-ratio was used (38.889 & p = < .001).

Correctness: Political interest

Table 15. Results of the ANOVA analysis per party

Party	Welch F	Sign.
CDA	19.519	< .001
PvdA	19.047	< .001
VVD	21.580	< .001
D66	4.739	.009
GL	10.282	< .001
SP	10.253	< .001
PVV	6.682	.001
CU	6.174	.002

Table 16. Descriptives from the ANOVA analysis on the aggregated level

	N	Mean	Std. Deviation	CI Lower Bound	CI Upper Bound
Not interested in politics	220	1.9271	.77195	1.8245	2.0297
Fairly interested in politics	1233	1.4883	.65020	1.4520	1.5246
Very interested in politics	297	1.3712	.56678	1.3065	1.4359
Total	1750	1.5236	.67237	1.4921	1.5551

* The Levene's test showed that there is a significant (< .001) difference in the variances of the different groups, therefore the Welch F-ratio was used (41.480 & p = < .001).

Correctness: Political Knowledge

Table 18. Results of the ANOVA analysis per party

Party	Welch F	Sign.
CDA	15.165	< .001
PvdA	12.162	< .001
VVD	14.206	< .001
D66	1.014*	.399
GL	5.021	.001
SP	5.629	< .001
PVV	3.520	.007
CU	4.455	.001

* Since the Levene's test is not significant the normal F can actually be used (=1.028, p. = .392)

Table 19. Descriptives of the ANOVA analysis on aggregated level

	N	Mean	Std. Deviation	CI Lower Bound	CI Upper Bound
0 (low political knowledge)	407	1.7843	.75672	1.7106	1.8580
1	351	1.5613	.65655	1.4924	1.6302
2	482	1.3881	.60889	1.3336	1.4426
3	199	1.4089	.54207	1.3331	1.4847
4 (high political knowledge)	311	1.4231	.64273	1.3514	1.4948
Total	1750	1.5236	.67237	1.4921	1.5551

* The Levene's test showed that there is a significant (< .001) difference in the variances of the different groups, therefore the Welch F-ratio was used (21.645 & p = < .001).

Correctness: Party identification

Table 21. Results of the T-test analysis per party

Party	Levene's test	T	df	Sign. (two-tailed)
CDA	Not significant	-0.595	1743	.552
PvdA	Significant	1.058	1126.686	.290
VVD	Not significant	-.007	1743	.995
D66	Not significant	-1.180	1743	.238
GL	Not significant	1.139	1743	.225
SP	Not significant	0.952	1743	.341
PVV	Not significant	-.937	1743	.349
CU	Not significant	-.718	1743	.473

Table 22. Descriptives of the T-test analysis on the aggregated level

Is the respondent adherent to a political party?	N	Mean	Std. Deviation	Std. Error Mean
No	1199	1.5208	.67810	.01958
Yes	546	1.5245	.65350	.02797

* Levene's test has shown that the variance within the two groups is not significantly different (p = .109).

The t-statistic (-.106, df = 1743) is significant at .458 (one-tailed).

Appendix 2: Syntax for creating a measure of how many parties respondents have been able to place on the left-right dimension.

```
RECODE LiReCDA (0 thru 10=1) (11=0) (997=0) (ELSE=Copy) INTO
DummyAbility_LiReCDA.
EXECUTE.

Etc.

COMPUTE DummyAbility_Aggregated=DummyAbility_LiReCDA  +
DummyAbility_LiRePvdA +
   DummyAbility_LiReVVD + DummyAbility_LiReD66 + DummyAbility_LiReGrL +
DummyAbility_LiReSP +
   DummyAbility_LiRePVV + DummyAbility_LiReChrU + DummyAbility_LiReSGP +
DummyAbility_LiRePvdD +
   DummyAbility_LiReTON.
EXECUTE.
```

Appendix 3: Selection of respondents that have given a valid answer for the positioning of the eight parties.

```
DATASET ACTIVATE DataSet1.
RECODE LiReCDA (11=2) (0 thru 10=1) (ELSE=Copy) INTO DummyDK_LiReCDA.
EXECUTE.
```

Etc.

```
COMPUTE DummyDK_Aggregated=DummyDK_LiReCDA * 10000000 +
DummyDK_LiRePvdA * 1000000 + DummyDK_LiReVVD *
   100000 + DummyDK_LiReD66 * 10000 + DummyDK_LiReGrL * 1000 +
DummyDK_LiReSP * 100 + DummyDK_LiRePVV * 10
   + DummyDK_LiReChrU.
EXECUTE.
```

Dummy1_Aggregated

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	11111111.00	1750	66.8	97.7	97.7
	11111112.00	16	.6	.9	98.5
	11111121.00	3	.1	.2	98.7
	11111211.00	4	.2	.2	98.9
	11111212.00	1	.0	.1	99.0
	11112111.00	1	.0	.1	99.1
	11112211.00	1	.0	.1	99.1
	11112212.00	1	.0	.1	99.2
	11121111.00	3	.1	.2	99.3
	11121112.00	1	.0	.1	99.4
	11121211.00	1	.0	.1	99.4
	11222212.00	1	.0	.1	99.5
	12111111.00	1	.0	.1	99.6
	12211111.00	1	.0	.1	99.6
	21111111.00	1	.0	.1	99.7
	22222222.00	6	.2	.3	100.0
	Total	1792	68.4	100.0	
Missing	System	829	31.6		
Total		2621	100.0		

For the remaining part of the analysis only those respondents will be selected (1750 respondents in total) that have positioned all eight parties on the left-right dimension.