The Effects of the Distinction Between Objective and Subjective Political Knowledge in the Context of Referenda on European Integration

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Bachelor Thesis

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Context of Referenda on European Integration

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Introduction

2016 was a year in which the Western political sphere was shaken up by multiple events that many had not foreseen happening. The most significantly notable of these events, especially from a Eurocentric perspective, would be the decision of the people of the United Kingdom to leave the European Union. On June 23rd 2016, the population of the United Kingdom voted to leave the EU and become the first member state since the inception of the supranational institution to become a former member. Former Prime Minister of the United Kingdom, David Cameron, promised the citizens of Britain a referendum on whether or not they should remain a member of the Union, in order to prevent citizens from voting on anti-European party UKIP, because of this specific issue. With a very close result of 51.89% voting for 'Leave' and 48.11% voting 'Remain', and a turnout of 72,2%, the United Kingdom's fate was sealed and the country became the first to invoke Article 50 of the Treaty of the European Union (TEU) on withdrawal from the European Union.

However, this process did not take place without the necessary controversy and even tumult at times. There were many within the United Kingdom that did not agree with the result of the referendum, in particular David Cameron himself, who had put his political future on the line. A day after the referendum following the result of the vote, on June 24th, he resigned as Prime Minister of the United Kingdom. Cameron was succeeded by fellow conservative party member Theresa May on July 13th, who coined the now infamous phrase 'Brexit means Brexit' in her first speech as Prime Minister. This meant that the British government would continue with the withdrawal process, officially triggering Article 50 of the TEU and initiating the process on March 29th 2017, with the initial official separation date being set two years later at March 29th 2019, which later got postponed several times on request from the British side.

More extensively elaborating on the aftermath of the referendum, and judging by the current economic situation of Britain, questions can be raised about whether leaving the European Union was the right decision for the people after all. Given the fact that the British people voted for this decision themselves, the question whether regular citizens are competent enough to decide over such complex multifaceted macro-political issues is certainly applicable and very interesting. Almost immediately after the Brexit referendum's polls, multiple channels of inquiry by numerous parties investigating the most prominent Google search terms after the referendum pointed out something that can only be classified as worrying. According to Google Trends, the day after the referendum was held, when the voting booths were closed, some of the most searched terms were 'What is the European Union?' and 'What does it mean to leave the European Union?', among other inquisitions that would be part of a deepening of the understanding of the EU and its workings (Cooney, 2016).

Extrapolating on this apparent complete lack of knowledge on the topic of a national referendum, one can only arrive at conclusions along the lines of the general population possibly not being adequately and properly informed on the topic in the least. But are they therefore not equipped and competent enough to preside over such sensitive and important political decisions? In the past couple decades, instruments of direct democracy have been an increasingly prominent topic of discussion. During this period numerous referenda have been held in multiple countries, some of which concerning European integration or similarly salient topics related to European matters. Considering the importance of such political decisions and the far-reaching effects that they might have for the population, it is important to ask questions about this and aim to answer these by way of research on this subject and its sub-topics. Earlier work on the influence of political knowledge on vote choice in referenda has made some interesting points. For instance, Elkink & Sinnott (2015) made a distinction

between objective and subjective political knowledge as explanatory factors of vote choice in referenda. They researched the Irish referendum on the Lisbon Treaty, and the yielded results provided an indication it might be interesting to look at the explanatory power of subjective knowledge as separate from objective knowledge. Particularly the case of the Brexit referendum, in relation to the grounded question whether average citizens are competent to decide over extremely complicated highly important political decisions is of great importance. Based on the aforementioned possible lack of knowledge on the topic at hand from the public's part in relation to the subject of the referendum, the main question that arises is: *Does subjective political knowledge predict voting choice in the context of referenda on European integration?*

For the case of Brexit, given its historical implications and unprecedented nature, the possible influence of subjective knowledge as a distinct phenomenon warrants further research. Building on the work by Elkink & Sinnott (2015), this paper intents to broaden the scope of research on the topic of objective political knowledge as a separate influencer from subjective political knowledge. Expanding from the earlier focus of referenda on treaty ratification to referenda on European Union membership. Aiming to explore the effect of subjective knowledge on vote choice.

Literature Review

In order for this research to be as applicable and relevant to the scientific debate of direct democratic instruments as possible, the important concepts that play a part in this process will be shun a light on and elaborated on in relation to the research question. On the basis of this, the aim will be to meaningfully add to the literature on the subject of direct democratic processes in the context of European integration.

Direct Democracy

In an ideal situation, the outcome of a referendum would be the aggregate accumulation of every individuals' opinion reflecting an outcome that portrays the will of the majority. However, questions can be raised concerning the extent to which voters will consistently vote in their own interest. Some political matters or circumstances might be too complicated for a portion of the population to get an understanding of the political matter at stake vis-à-vis their own preference and voting accordingly.

Atikcan (2018) found that in case referendums do get called, the anti-treaty campaigners enjoy, as she expected, an asymmetrical political advantage. This advantage stems from the availability of arguments, which is dependent on the multidimensionality of the subject of the referendum. She describes how higher multidimensionality of a topic means the anti-side has more angles to attack from, "…without having to worry much about the cohesion of arguments" (p. 6). She stresses how campaigning for the anti-side mainly focusses on raising doubt and addressing the referendum subject in relation to other lesser liked topics. On the other hand this means that narrower subjects of referenda, such as specific policy questions, remove this advantage largely since there are less aspects of the topic to shed a negative light on. In the case of Brexit this 'anti-side advantage' is not as straightforward as in other cases, given the choice for the referendum was remain/leave as opposed to yes/no. This meant that both side held advantages. The remain-side enjoyed an advantage in terms of agenda-setting, while the leave-side had the advantage of multidimensionality. Meaning they were able to incorporate into their arguments against EU membership, anything that was not to their liking about the European Union. In combination with a general lack of familiarity of a sizable portion of the population with the Union's institutions and their workings. In an article by Hall & Henry (2019), the economic effects of Brexit that were used as arguments by the 'Leave' and the 'Remain' campaigns are

explained. The authors explain how the 'Leave' campaigners, in contrast to the 'Remain' campaigners, have only used one source of economic modelling to support their predictions on the effects Brexit would have. Intuitively, one would assume that the camp with the larger volume of academic research in combination with a wider variety of sources for its economic predictions would enjoy a big advantage in their campaign against Brexit, due to a wider range of arguments for one side of the discussion. This is assuming that the voter is a rational thinker that looks into the subject matter of a referendum to make a choice with their own best interests in mind. This turned out not to be the case, however. This analysis of the lack of evidence in the 'Leave' camp while still winning the vote, accurately illustrates the asymmetric political advantage that Atikcan (2018) describes. Therefore, one of the aims of this paper will be to further investigate whether political knowledge or lack thereof is a predictor of voting for a certain side of the dichotomous choice in referenda.

Elaborating on the topic of voting in one's own interest, Henderson et al. (2021) researched regional discrepancies in vote choice and the extent to which sentiments of regional identity are a predictor of vote choice, by using data from the British Election Study. They found that only Scottishness was a significant predictor of vote choice, more specifically Remain. This finding is not particularly interesting for this paper, however, Henderson et al. (2021) continue on their findings, pointing to the fact that, surprisingly, areas receiving higher levels of European Union funds were, rather counterintuitively, more likely to vote Leave in the referendum. Their findings provided an indication that lower levels of political awareness or political knowledge might results in individuals voting against their own interests.

Hobolt et al. (2020) hold a view of direct democracy in line with Atikcan's views on oversimplified binary form that a referendum makes of generally more nuanced and certainly often more complicated multifaceted issues. They state: "One of the challenges of direct

democracy is that voters are given a binary choice on issues that are often highly multifaceted" (p. 15). Their research focuses on Brexit and how the binary choice of either 'Remaining' or 'Leaving' the European Union, and whether such direct democratic decisions are eventually perceived as legitimate by the electorate. They made use of a "conjoint experiment to examine people's preferences over the key policy decision involved in the Brexit settlement." (p. 15) They build on this by explaining how "this approach is ideally suited to analyzing preferences towards complex decisions on policy that involve significant trade-offs" since it poses a more nuanced conception of the question at hand, as opposed to the very limiting dichotomous approach of a closed question. They interestingly concluded from this experiment that "when facing actual policy bundles rather than simply the choice of 'Leave' or 'Remain', levels of perceived policy legitimacy are low among both Leavers and Remainer." (p. 16) This finding indicates that when provided with additional more nuanced information on the contents of the referendum, people are more critical of stances and might view 'their' side of the debate differently than when just being presented with a dichotomous choice. Considering the observed effects of voters being presented with more nuanced information on the consequences of their vote, provides further grounds to research the extent to which voters are aware of their vote in relation to the bigger picture. Especially in relation to the extent to which voters are knowledgeable on the topics on which they vote, and the predictive power this feature has. Information like this, in combination with the apparent widespread lack of knowledge on the contents of the referendum on the voters' side, warrants further scientific inquiry into referenda on voter competence in the context of referenda on European integration. Especially in the context of referenda with dichotomous choice options.

Moreover on the topic of direct democracy, one of the most recent examples of a referendum in the European context is the Dutch non-binding referendum, on the proposed association treaty of the European Union with the Ukraine. Given the recency of this referendum it is an excellent object of research in today's increasingly polarizing political climate in Europe, as seen in the article by Van der Brug et al. (2018). They performed a panel study to research the influence of party preference, EU-attitudes and considerations specific to the referendum, where they found that in the early stages of the campaign voters were highly reliant on party preferences and initial attitudes towards the European Union as a whole and much less so reliant on considerations specific to the treaty. Furthermore, as the campaign progresses, they found that the reliance on prior general attitudes towards the European Union diminished and treaty-specific consideration increased as determinants of vote choice. Treaty specific issues can become more important determinants of vote choice, especially when the matter of the referendum is rather narrow. This is due to the increase in the saliency of the few issues pertaining to the referendum in the case of narrow questions, over the course of the campaigns. In the case of referenda on EU membership, the multidimensionality as described by Atikcan (2018), this effect will expectedly not take place due to the asymmetrical advantage by the leave side. Surprisingly however, they also found that, despite incumbent parties for the most part not actively campaigning for one side of the debate, over the course of the campaign, partisan preferences and alliances only grew in terms of the influence on vote choice.

Lastly, and slightly underrepresented by Van der Brug et al. (2018) is the importance of incumbent satisfaction when researching the nuance and complexity of political decisions by referendum. In the case of the Dutch Ukraine-referendum, the initiators of the referendum even openly stated how the referendum was a chance for voters to voice their frustration at the European Union. Similarly, Cini (2004) showed this by researching the tendency of

people to not vote towards the matter at stake, but to vote according to their personal evaluation of the government, by performing a case study of the 2004 Maltese European Union accession referendum. This referendum exemplifies how domestic political relations and evaluation play an important role in shaping individuals' voting behavior, which is a factor that needs to be accounted for when researching referenda. These findings, in combination with the abovementioned information on direct democracy warrant additional research on this relationship, particularly in the specific context of referenda on European integration.

Political Knowledge

In general, before making important decisions, ideally, one would like to know the consequences of their decision and inform themselves enough to make an educated choice between the options available in order to reach the best possible outcome for themselves. In relation to politics, however, the decisions an individual has to make are more often than not highly complex and relate to a variety of aspects of individuals' lives that are possibly significantly influenced by these decisions. Moreover, the consequences of these decisions might not even always be clear or fully comprehensible for average voters. The question that arises in relation to politics is whether or not average citizens are equipped to deal with such multi-faceted decisions and how their level of knowledge, or lack thereof, corresponds to the extent to which they are able to reach the outcomes considered ideal for their personal preferences.

Over the years there has been an increasingly growing body of work on the topic of political knowledge. In this paper the concept will play an important role as its influence as a predictor of voting behavior in direct democratic processes will be researched. An example of work researching political knowledge in the context of referenda is an article by Elkink & Sinnott (2015), in which they studied the 2008 Irish referendum on the Lisbon Treaty. They

determined how political knowledge was one of the crucial factors in determining referendum outcome. They make an important distinction between objective and subjective knowledge amongst individuals during referendum campaigns, where objective knowledge refers to knowledge the individual has on the actual contents of a referendum, whereas subjective knowledge refers to the extent to which they feel informed about the issues at hand (p. 218). They elaborate by explaining how objective knowledge has a direct influence by enabling the voter to make an educated consideration of both sides and to carefully pick a side, where subjective knowledge has an indirect influence trough risk aversion. When individuals experience a lack of clarity on the contents and consequences of a referendum, they are more inclined to vote against the proposal in order to avoid agreeing to possible unidentified undesirable outcomes.

Relevant to the work of Elkink & Sinnott (2015), Atikcan (2018), in her work on the asymmetry of referendum campaign advantages, explains how exit referenda can create special circumstances, in which it is not completely clear which side is the anti-side. Thus, presenting both sides with the possibility to use fear of the consequences of leaving or remaining. This favored the leave-side due to the higher degree of multidimensionality regarding their arguments against EU membership. Elkink & Sinnott (2015) thereby make an important distinction in relation to campaign effects and partisan influence during a referendum, which will later be further operationalized. In line with these findings are suggestions from the work of Garry et al. (2005) who found that during the 2001 and 2002 Irish referendums on the Treaty of Nice, there was a noticeable influence of government satisfaction on vote choice, however the most prominent and influential factor in determining vote choice was by a significant margin people's attitudes towards the EU as a whole. This ties into Elkink & Sinnott's (2015) notion of the importance of subjective knowledge as an important determinant of vote choice in referenda on European integration, by taking into

account and acknowledging how individuals might express their dissatisfaction with their national government or the European political elite. This would indicate that the individuals possibly casted votes in an attempt at risk aversion, identifying risk in trusting the incumbent government due to prior disappointing experiences when trusting the extent to which the political elite had adequately informed them on the topic, resulting in a vote to the contrary.

The concept of subjective political knowledge as a substrata of political knowledge as a whole is an interesting avenue of research, however it can be difficult to quantitatively define. Earlier work on the concept of political internal efficacy does however, provide enough overlap with the concept of subjective political knowledge. Both concepts describe the extent to which an individual feels that they are able to understand and therefore participate in politics in relation to the extent to which individuals feel they have been adequately informed on a subject by the relevant politicians (Morrell, 2003). More specifically, the measures developed by Niemi, Craig, and Mattei (1991), comprised of individuals self-classifications on their understanding of political procedures and events. These measures will be elaborated on during the operationalization of variables.

Lastly, on the topic of objective knowledge playing an influential role in vote choice during referenda on European integration. Carl et al (2018) investigated whether there was a significant effect in terms of broader relevant political knowledge between 'Leave' and 'Remain' voters in the 2016 Brexit referendum. They found that there were no significant differences in objective knowledge in relation to voting behavior. This further exemplifies the need for elaborative research on the differences between objective and subjective knowledge and the importance of the incorporation of subjective knowledge as a determinant of vote choice in referenda on European integration.

Overcoming Possible Knowledge Deficits

Considering that research has pointed out that a very sizable chunk of the voting population has not all the necessary relevant political knowledge to their availability when they are making political decisions. This is by no means a new phenomenon, however it does bring up the question whether average voters are able to overcome such a knowledge deficit, a question on which, over the years many different angles have been argued. An important notion in this line of thinking was displayed by the work of Hooghe & Marks (2005), who found that national identity and a possible lack of a European communal identity are highly influential factors when studying voting behavior. Therefore, factors concerning subjective knowledge and possible negative preexisting attitudes regarding the European Union should be taken into account when researching these phenomena as predictors of voting behavior in the 2016 Brexit referendum.

There have been multiple inquiries of researches that have yielded results that seem to support the possibility to overcome knowledge deficits, in terms of the ability to produce politically desirable outcomes. Hobolt (2007) researched referenda in three different countries, and compared knowledgeable informed voters, who made their choice on the basis of their own political awareness, to those with lesser knowledge who used some form of shortcut to arrive at their decision. She found that when comparing voter choice to their personal preferences, the group with less knowledge did not differ that much from the group with more extensive political knowledge, in the case of the Norwegian referendum. From this she derived the notion that partisan preference and the accompanying campaign information are indeed useful measures to overcome informational deficits. Another example of research providing reasons for optimism on the topic of overcoming knowledge gaps and the influence on the competency of voting behavior is the work by Colombo & Kriesi (2017). However, they claim that a lack of informational provision by political parties is not suddenly justified

in the eyes of the individual when party cues are available. They claim that information provision and party cues both play an important role in voter behavior. However, besides party cues being obviously heavily influenced by partisan views, also information related to the contents of a referendum are viewed through a lens of partisan views. Therefore, partisan alliances, be it through party cues or through the lens through which individuals view policy information, are very important in researching voting behavior in direct democracy and should be accounted for when conducting research on the topic of political knowledge in direct democratic processes.

However, on the other hand there are other accounts that are not so positive on the employment of party cues as a means of reaching desirable political decisions. In the work of Gherghina & Silagadze (2021) on a multitude of referenda in Eastern Europe, they found that between the two groups they identified in the population, namely; cue-takers and people who follow their own opinions on the matters, there was virtually no overlap. Therefore, this would mean that people who do not have a strong opinion on the subject of a referendum, lower levels of subjective knowledge, are very susceptible to party influence. This is an important aspect to research in the context referenda on European integration, in relation to highly salient campaigns.

Lastly, on the negative implications of the work on informational shortcuts, in particular party cues as a compensation for a lack of political knowledge, the work of Hellwig & Kweon (2016) stands out. Their research pointed to an noteworthy finding. When individuals are facing issues that are very multidimensional and complicated, especially those on European integration, and individuals find their interests conflicting, it is the group of educated knowledgeable individuals that make a disproportionate use of shortcuts to overcome possible knowledge deficits. This finding is rather conflicting with existing research on the topic and provides ground for incorporating these implications in further

research on referenda. More particularly the mechanisms that come into play to help individuals bridge possible knowledge deficits, and lead them to the correct vote choice.

On the basis of the existing literature regarding political knowledge in the context of direct democracy, in combination with the findings on the topic of elite cues in voter decision making, certain hypotheses can be formulated. The hypothesis that was formulated on the basis of the previous research on the concepts relevant to this inquiry:

> *H1:   Individuals with lower levels of political knowledge, objective knowledge separate from subjective knowledge, are more likely to have voted 'Leave' in the Brexit referendum.*

> *H2:   Individuals with lower levels of government satisfaction are more likely to vote 'Leave' in the Brexit referendum.*

The foregoing hypothesis will be elaborated on in terms of operationalization to make it suitable for statistical analysis in relation to the research question in the subsequent section on research design.

Research Design

Data Selection

The statistical model that is most suitable for researching this particular relationship would be a logistic regression. This is because there are multiple independent variables that are expressed as numeric values on a scale, and the dependent variable is binary. Given the fact that this paper aims to research a possible predictive relationship between the concept of internal efficacy and vote choice in the context of referenda on European integration, running a binary logistic regression would be the most suitable and hopefully the most fruitful option.

First off, on the basis the data available, and the object of research being the dichotomous variable vote choice, a binary logistic regression model will be designed, ran and analyzed. This will be done in order to investigate the predictive power of internal efficacy on vote choice in the context of referenda on European Integration. This will be elaborated on and specified later in this section, but first process of data selection will be explained.

First and foremost the data that will be used for this paper are sampled from the British Election Study. This was a long-lasting panel survey spanning across decades and containing responses from than 100,000 different individual respondents, containing data on the respondents' voting habits, political engagement, demographic information, and personal characteristics. Given the sheer size of the panel survey we can assume that it is a representative sample of the British population. The respondents were requested to respond to the survey repeatedly over a period of time, to monitor possible changes in the political habits and electoral behavior of the respondents. The British Election Study has collected data since 1963 with the panel survey first being conducted in the early 1980s. Subsequentially in 2014 the British Election Study Internet Panel was initiated in order to extensively broaden the reach of the survey. This development allowed the organization to drastically increase the

number of respondents by a number of multitudes, in comparison to earlier versions of the survey. Since this exponential expansion every single one of the twenty waves of the Internet Panel Study, had significantly more than 30,000 respondents, where the survey conducted in 2010 only reached about half, and the even earlier records only recording multiple thousands.

For this particular research paper, given that the focus is primarily on the Brexit referendum, exclusively data from Wave 8 and Wave 9 will be selected. Filters were used to select only respondents from the bigger dataset that responded to both Wave 8 and Wave 9. With the variables providing an indication for this being coded as; 0 = Has not responded to Wave, 1 = Has responded to Wave. These particular waves were conducted right around the time of the referendum. Wave 8 was conducted right before the referendum, between May 6th and June 22nd 2016. Wave 9 was conducted right after the referendum between June 24th and July 4th 2016. Wave 8 and Wave 9 were both momentary polling of the sentiments and attitudes of the respondents as well as how they voted, collected during a short time-frame around the period of the referendum.

Variable Selection & Case Selection

The dependent variable for this research is of course how the individual voted in the Brexit referendum, being either 'Remain' or 'Leave', making the dependent variable a binary categorical variable. The data for this variable is taken from Wave 9 in which respondents were asked 'How did you vote in the EU referendum?'. The responses were coded as 0 = Remain and 1 = Leave. The distribution of votes is rather close to the actual outcome of the referendum, with 50,5% total Remain voters and 49,5% Leave voters in the sample.

The independent variables are a bit more complicated. The main predictor variable that was to be used in the model was internal efficacy, which was measured by four questions from the BES Internet Panel. The following four questions were selected on the basis of the measures as described by Niemi, Craig and Mattei (1991):

1. I have a pretty good understanding of the important political issues facing our country

2. I have a pretty good understanding of the important issues at stake in the European Union referendum

3. It is often too difficult for me to understand what is going on in government and politics

4. It takes too much time and effort to be active in politics and public affairs.

The responses were coded on a 5-point scale with 1 = Strongly disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Strongly agree. In order to make these variables comparable the latter two measures were recoded to be inverted so that for all four measures low value indicates low levels of internal efficacy. Then the four values were averaged into one measure for internal efficacy on a 5-point scale (mean = 3.46, std. deviation = 0.68; alpha = 0.686), Cronbach's alpha indicating a high enough value for the variables to be combined in such a manner.

The second main independent variable is objective political knowledge. The data for this variable was taken from Wave 8 and was to be measured by respondents' answers to six True / False statements about the European Union, its institutions, and its workings, that would be regarded as rather basic common knowledge. The six questions were the following:

1. Each European Union member state elects the same number of representatives to the European Parliament.

2. Switzerland is a member of the European Union.

3. Croatia is a member of the European Union.

4. The European Union spends more one agriculture than on any other policy.

5. The European Court of Human Rights only has jurisdiction over European Union member states.

6. The European Union is made up of 15 member states.

All six variables were recoded in order to reflect either correct answers, with a value of 1, or incorrect answers, with a value of 0. All the questions where the respondent answered 'I do not know' were also coded as incorrect. Then, the six statements were averaged into one measure for objective political knowledge on the subject of the referendum, with a value between 0.000 and 1.000 (mean = 0.422, std. deviation = 0.214; alpha = 0.560). Given the rather low value for Cronbach's alpha, it can be assumed that this was not the best possible bundled reflection of objective knowledge on the European Union, this is a point of improvement when better relative data are available, however this is the best comparable measure able to be derived from the dataset that was available. All cases incorporated into the analysis had utilizable data for these variables.

Furthermore, based on earlier theories on the topic of voting behavior in the context of referenda on European integration, several factors that were previously addressed as possible confounding variables were to be accounted for by the model. The first of which would be satisfaction with democracy, as studied by Cini (2004), in her work on the Maltese referendum on European Union accession. This displayed how individuals' level of satisfaction with the incumbent government could be one of the driving factors behind vote choice. In order to account for this mechanism. One measure addressing respondents' satisfaction with the democracy of the United Kingdom and one measure addressing respondents' satisfaction with European Union democracy. The former asking respondents 'How satisfied are you as a whole with the way democracy works in the United Kingdom?' and the latter asking the respondents 'How satisfied are you as a whole with the way democracy works in the European Union?'. Both variables were measured on a 4-point scale, coded as follows: 1 = Very dissatisfied, 2 = Dissatisfied, 3 = Satisfied, and 4 = Very Satisfied. The variables were not to be combined, given the low value for Cronbach's alpha and the lower levels of correlation, indicating no collinearity problems when put into the

model separately. Once again, cases that did not provide data for either one of the two variables relating to government satisfaction were to be excluded from the research.

Penultimately, several control variables, based on general demographic characteristic differences between individuals, were to be added to the model. These variable were 'age', 'education level', 'gender', and 'gross household income'. The variable 'gender' was to be included as a binary categorical variable in the model. The variable 'education level' was comprised of a 6-point scale, indicating the highest degree a respondent has completed, with a value of 0 indicated 'no qualifications' and a value of 5 indicating the individual has graduated university. Finally, 'gross household income' was originally measured on a 15-point scale classifying people's responses into fifteen income categories. However, for the purpose of this research, the variable was to be rescaled to a 5-point scale, with a value of 1 indicating low income and a value of 5 indicating a high income. This was done by grouping the different levels per three in one new category. Values of 1, 2, and 3 were recoded as 1, values of 4, 5, and 6, were recoded as 2, values of 7, 8, 9 were recoded as 3, values of 10, 11, and 12 were recoded as 4, and finally values of 13, 14, and 15 were recoded as 5.

Finally, in terms of case selection, also for the variables added to the model as demographic control variables, the cases that were missing data for one of the four variables were to be excluded from incorporation in the model.

Analysis & Results

The statistical model that is most suitable for researching this particular relationship would be a logistic regression. This is because there are multiple independent variables that are expressed as numeric values on a scale, and the dependent variable is binary. Given the fact that this paper aims to research a possible predictive relationship between the concept of internal efficacy and vote choice in the context of referenda on European integration, running a binary logistic regression would be the most suitable and hopefully the most fruitful option.

Fundamentally, before the results of the logistic regression analysis will be presented and elaborated on, the data must be tested to make sure that none of the assumptions of binary logistic regression analysis are violated. First and foremost, the majority of the assumptions of logistic regression have already been proven to be met. Namely, the assumption of binarity, has been proven through the dependent variable having two possible outcomes. This also applies to the assumption of independence, which has been proven by the section on case selection, indicating only different individuals were accounted for as cases with no presence of repeated measurements. Thirdly, the assumption of no multicollinearity has also been met. Through the collinearity diagnostics in SPSS, the Variance Inflation Factor can be calculated for all the different independent variables in de regression model. A value for the Variance Inflation Factor between 1 and 5 indicates moderate levels of multicollinearity and anything above a value of 5 indicates predictor variables having high levels of multicollinearity. When all the eight independent variables have been investigated in terms of the Variance Inflation Factor, the value ranged from 1.115 to 1.287, indicating hardly any to no multicollinearity issues within the model. Fourthly, the assumption of linearity between the independent variables and the log odds, will be come back to later on. Fifth and finally, after the dataset was trimmed and all the variables were rescaled in order for the cases incorporated into the model to contain data on all the relevant variables, the number of cases ended up at N = 3378. According to the formula developed by Peduzzi et al. (1996) to calculate the minimum sample size for binary logistic regression (10k / p), k denoting the number of covariates in the model and p denoting the smallest probability for the outcome variable, the minimum sample size for this regression is 10*8/0.485 = N = 165. With an N-value of 3378, the minimum sample size has been more than met. After all these assumptions were met, all the data was well treated to be incorporated in the model, the binary logistic regression was conducted, which yielded the results presented in Table 1. This table presents

two different models, Model 1 in which the most important independent variables are
presented on their own, and Model 2 in which demographic control variables have been
added to account for other potential confounding variables.

Table 1. *Logistic Regression Analysis of the Probability of Voting Leave*

	Model 1	Model 2
(Constant)	3.072	3.533 ***
	(0.279)	(0.373)
Internal Efficacy	- 0.071	0.115
	(0.069)	(0.73)
General Knowledge European Union	- 1.649 ***	- 1.142 ***
	(0.217)	(0.236)
Satisfaction with Democracy United Kingdom	0.566 ***	0.563 ***
	(0.056)	(0.059)
Satisfaction with Democracy European Union	- 1.988 ***	- 1.965 ***
	(0.070)	(0.072)
Age		0.003
		(0.003)
Education Level		- 0.342 ***
		(0.038)
Gross Household Income		- 0.213 ***
		(0.038)
Gender		0.320 ***
		(0.094)
-2LL	3359.175	3169.395
Cox & Snell's R^2	0.324	0.361
Nagelkerke's R^2	0.432	0.481
N	3378	3378

Note: binary logistic regression coefficients with standard errors in brackets.
*** p < 0.001, ** p < 0.01, * p < 0.05

In Table 1 I report results from the logistic regression predicting whether a respondent
voted 'Leave' in the 2016 Brexit referendum. In Hypothesis 1 I argued that individuals with
lower levels of internal efficacy would be more likely to vote 'Leave'. The evidence in

Table 1 is consistent with this hypothesis as the coefficient for Internal Efficacy in Model 1 is negative (i.e. moving to higher levels of internal efficacy increases probability to vote 'Remain'), though not statistically significant. Furthermore on the topic of political knowledge, Table 1 provides information on the to which objective political knowledge is related with vote choice. In Hypothesis 1 I argued that individuals with lower levels of political knowledge would be more likely to vote 'Leave' in the 2016 Brexit referendum. The findings in Table 1 are consistent with this hypothesis as the coefficient for general knowledge is negative (i.e. moving to higher levels of general knowledge will result in a higher probability of voting 'Remain'). This effect is statistically significant ($p < 0.001$)

The results in Table 1 report something else of interest. In Hypothesis 2 I argued that individuals with lower levels of democratic satisfaction with the United Kingdom are more likely to vote 'Leave' in the 2016 Brexit referendum. The evidence in Table 1 is surprisingly enough inconsistent with this as the coefficient for Satisfaction with Democracy United Kingdom is positive (i.e. moving to higher levels of democratic satisfaction with UK democracy increases the probability of a 'Leave' vote). This effect is statistically significant ($p < 0.001$). This result is very surprising, given that a secession from the European Union means that the government will have more power as opposed to when the UK would be a member of the EU, given the lower levels of satisfaction with UK democracy, one would assume that more power to the government would be an unwanted development.

Lastly, In Hypothesis 2 I expected that lower levels of government satisfaction are more likely to have voted 'Leave' in the 2016 Brexit referendum. Table 1 also show that this hypothesis is consistent with the results, rather unsurprisingly, given that the coefficient is negative (i.e. Moving to higher values for European Union government satisfaction, decreases the probability of voting 'Leave'.) This effect is statistically significant ($p < 0.001$).

Note, in order to be able to meaningfully say something about the relative strength of the relationship between political knowledge and vote choice in the Brexit referendum, the odds ratios, which can be seen in Table 2, will be used.

Table 2. Logistic Regression Analysis of the Probability of Voting Leave (Odds Ratios)

	Model 1
(Constant)	21.593***
Internal Efficacy	0.931
	[0.813; 1.067]
General Knowledge European Union	0.192***
	[0.119; 0.157]
Democratic Satisfaction United Kingdom	1.762***
	[1.579; 1.966]
Democratic Satisfaction European Union	0.137***
	[0.119; 0.157]
-2LL	3359.175
Cox and Snell's R^2	0.324
Nagelkerke's R^2	0.432
N	3378

Note: Odds Ratios with 95% Confidence Intervals in Brackets.
*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

In Hypothesis 1 I theorized that individual voters with lower levels of subjective knowledge, in this case measured by internal efficacy, would be more likely to have voted 'Leave' in the Brexit referendum. In Table 2 we can see the log odds ratios, providing an indication of the strength of the effect of an increase in the independent variables on the probability that the individual voted 'Leave'. Based on the information provided in Table 2, we can make certain deductions from the odds ratios. For instance, it can be seen that the

odds ratio of internal efficacy is 0.931, indicating that for each one-unit increase in the internal efficacy, the odds of having voted 'Leave' increase by a factor of 0.93. However, this effect is not significant.

Furthermore, we can also state on the basis of the odds ratios that for objective political knowledge, a one-unit increase in objective knowledge results in the odds of having voted 'Leave' decrease by a margin of 0.192. This effect is highly significant at the $p < 0.001$ level.

Lastly, from the odds ratios relating to European democratic satisfaction was well as British democratic satisfaction, further information about the effects can be drawn. For the variable Democratic Satisfaction United Kingdom, it can be stated that a one-unit increase in democratic satisfaction will result in decreased odds of voting 'Leave' by a factor of 1.762, with the results being highly significant, at the $p < 0.001$ level. This is quite surprising, given that individuals who are dissatisfied with the UK's government, have increased odds of voting in a way that would give more power to the government they are not satisfied with, which seems counterintuitive at least. For Democratic Satisfaction of the European Union, it can be deducted that a one-unit increase in this value will decrease the odds of having voted 'Leave' by a factor of 0.137. Also these results are highly significant at the $p < 0.001$ level.

Conclusion

On the basis of the growing body of literature concerning political knowledge as predictor of voting behavior, more particularly subjective political knowledge, measured as internal efficacy, as a concept separate from general objective political knowledge. As we have been able to see, on the basis of the models created by the binary logistic regression analysis, the model is a quite decent predictor of vote choice in the Brexit referendum, yielding significant results for all but one of the independent variables. However, given that one variable, the main predictor variable Internal Efficacy, is the only one without significant results, it can be concluded that internal efficacy itself is not an accurate predictor of vote choice in the context of referenda on European Integration. However, due to the scope of this paper, this research has some limitations that will be discussed. As said earlier, the measures for objective political knowledge vis-à-vis subjective political knowledge are probably not as representative of objective political knowledge as possible. The proxy-measures based on scores on general knowledge questions, did yield significant results, but can be questioned in terms of representativeness. This implies further research on the exact relationship between objective and subjective political knowledge is warranted, perhaps broadening the time-frame and conceptualization.

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