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The political side of life satisfaction: the effect of political engagement on life satisfaction and the influence of trust in institutions

What is the effect of political engagement on life satisfaction of Dutch people and is this mediated by trust in institutions?

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Abstract

Dutch citizens are very satisfied with their lives and the Netherlands is a well-functioning democracy. An essential element of democracy is the voicing of citizens' opinions through political engagement. This thesis aims to get an understanding of the connection between political engagement and the high levels of life satisfaction in the Netherlands. Additionally, the influence of trust in institutions on this relationship is studied. The research question for this thesis is the following: *What is the effect of political engagement on life satisfaction of Dutch people and is this mediated by trust in institutions?* To answer this question, two hypotheses are formulated based on the literature findings. The first hypothesis is: *people who engage in politics score higher on life satisfaction than people who do not engage in politics.* The second is: *the positive effect of political engagement on life satisfaction is partly explained by the amount of trust in institutions people have.* To answer these hypotheses, data from the LISS panel is used. The sample of this data used in this thesis consists of 4432 respondents. These respondents have all filled in online surveys every year on various subjects. With the data, a multiple linear regression analysis was done. The results of this analysis partly support the hypotheses. It was found that voting has a positive effect on life satisfaction and that trust in institutions shows a slight mediating effect on this relationship. No significant effect of political party participation on life satisfaction was found. In future research, more ways to engage in politics should be analyzed and more institutions should be used to measure trust in institutions. Finally, the recommendation is done to invest more in mini publics, because they are a way to get citizens to engage in politics with the possible result of higher levels of life satisfaction.

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1 Introduction

The Netherlands ranks number 6 on the list of happiest countries in the world (*The World Happiness Report*, 2024). 83,4% of people in the Netherlands are satisfied with life (CBS, 2023). However, while people in the Netherlands tend to be satisfied with their own lives, they tend to be less satisfied with the functioning of the Netherlands as a country in general (Ministerie van Volksgezondheid, Welzijn en Sport, 2024b). This is reflected for instance, by how in recent years there has been a decline in how satisfied Dutch citizens are with the functioning of politics (Ministerie van Volksgezondheid, Welzijn en Sport, 2024). An ongoing trend is that many Dutch citizens do not feel heard by politicians. This can be connected to whether people still feel motivated to engage in politics and if people feel this engagement matters. The Netherlands is a democracy and political engagement leads to the legitimacy of this democracy (Dahlgren, 2009). Therefore, it is interesting for both politicians and policymakers to look into the relationship between political engagement and life satisfaction. It can give insights into the functioning of democracy, trends of political engagement, whether people feel their voices are heard, and whether people are content in society.

This thesis aims to contribute to a better understanding of life satisfaction in the Netherlands and the effect of political engagement on life satisfaction. A lot of research has been done on the subject of life satisfaction (Bjørnskov et al, 2008; Proctor et al, 2017; Veenhoven 1996). Many different components influence life satisfaction and research has sometimes shown contradicting results. So have some studies related elements such as income equality and higher education to life satisfaction (Böhnke, 2007). However, there have also been studies in which the results do not show an effect of income equality and higher education levels (Bjørnskov, 2008). Despite contradictions such as these, an average of higher levels of life satisfaction has been found in more egalitarian and equal societies where human rights and political freedom are respected (Gundelach & Kreiner, 2004; Veenhoven, 1996). A part of political freedom is being able to engage in politics freely. Engagement in politics is considered to be the most crucial element of democracy; one reason for this is the fact that political engagement is a way for people to voice their opinions (Cain et al., 2003).

Political engagement and life satisfaction have been positively related in research. People find having a say in the political process very important because it enhances a person's individual utility. Political engagement makes people feel useful, which then leads to life satisfaction (Pachego & Lange, 2010). This thesis will try to explain the relationship between political engagement and life satisfaction, using the Self-Determination Theory.

Next, this thesis aims to look into a possible mediating effect of trust in institutions on the relationship between political engagement and life satisfaction. Only 29,0% of the Dutch population trust the Tweede Kamer, 23,8% trust politicians, and 36,6% trust the media (CBS, 2024). This indicates that trust in institutions is not necessarily very high. It has been a subject of great relevance in recent years. For example, the Toeslagenaffaire has led to a decline in trust in Dutch government for a large part of Dutch citizens (Wiegman & Wiegman, 2021). The state of trust in institutions in the Netherlands is interesting when keeping in mind that people in the Netherlands tend to be satisfied with their own lives but they tend to be less satisfied with the functioning of the Netherlands as a country in general. Therefore, it is relevant to look into trust in institutions, since it can help explain the underlying mechanisms of both democratic functioning and political engagement.

Trust in institutions is a widely researched topic in the field of sociology. Trust in institutions has often been related to trust between individuals (Sønderskov & Dinesen, 2015; Eek & Rothstein, 2005). Research frequently claims that institutional trust results in generalized trust between people (Eek & Rothstein, 2005). It is noticeable in the literature, that trust in institutions is not often related to both political engagement and life satisfaction. Therefore, this thesis aims to connect different views of political engagement, trust in institutions, and life satisfaction. It is the intent to find insights into this mediating effect. When connecting this to the concept of life satisfaction, it can help provide insights in the overall well-being of individuals in society, as well as the political functioning. The research question that is central to this thesis, is the following: *what is the effect of political engagement on life satisfaction of Dutch people and is this mediated by trust in institutions?*

To answer this question, a theoretical framework is made, which results into two hypotheses. These hypotheses are tested using a linear regression analysis. This is followed by an interpretation of the results, a conclusion and a discussion.

2 Theoretical framework

In this theoretical framework, different concepts will be explained and possible connections between these concepts will be elaborated. To start, the concept of life satisfaction will be discussed. This will be followed by an overview of political engagement in a democracy and trust in institutions. Finally, three concepts that are used as controlling variables in this thesis will be explored.

2.1 Defining life satisfaction

To get an idea of the effect political engagement on *life satisfaction*, life satisfaction first has to be defined. This can be done in many different ways. The terms ‘life satisfaction’ and ‘subjective well-being’ are often used interchangeably in research. This is because determining how satisfied one is with life, is inherently a subjective experience. Life satisfaction can be defined as an “individual cognitive evaluation of life as a whole” (Proctor et al, 2017, p. 1). This can be formulated more straightforwardly, according to Veenhoven (1996, p. 6), a person is satisfied with life if he or she “likes the life he or she lives”. Elements such as income, subjective health, education levels, religion, sense of social support and marital status all play a role (Bjørnskov et al, 2008). A distinction can be made between components of life satisfaction that play a role at the micro level and the macro level of society. Veenhoven (1996) made this distinction between the following categories: the quality of society, position in society, and personal abilities. An average of higher levels of life satisfaction has been found in more egalitarian and equal societies where human rights and political freedom are respected (Gundelach & Kreiner, 2004; Veenhoven, 1996). Additionally, it has been found that social interaction and integration in society are highly correlated with life satisfaction and well-being (Puntscher et al., 2014).

2.2 Political engagement and life satisfaction

The Netherlands is a democracy, meaning that this thesis is about political engagement in a *democracy*. This distinction is important to make since political engagement will presumably mean different things to people in different political systems. One important element of democracy is the

freedom to make one's own decisions (Inglehart & Welzel, 2005). Having ownership over your life and filling it the way you want is a core value. Engagement in politics is considered to be the most crucial element of democracy because it grants people the opportunity to voice their opinions (Cain et al., 2003).

Political engagement is a broad concept, and it can manifest itself in different ways for different individuals. The different actions that are part of political engagement, can be arranged according to the political participation pyramid. Talking about politics is the lowest level, followed by voting, then by being a member of a political party, volunteering and petitioning, and finally, taking on a political position (Bovens, 2010). Generally, voting is the simplest act of political engagement, whereas activities such as volunteering for political parties and joining community groups tend to be less easy for people to engage in. This is because these acts of political engagement are less simple (Dalton, 2013). Two key elements of political engagement have thus far been mentioned: freedom and the opportunity to voice one's opinion. When thinking of political engagement in democracy, one thinks of having the freedom to vote for whomever you want, to go wherever you want to, and to stand for things you believe in. This leads to questions on how people are motivated to engage in politics and what the outcome of this engagement is. To answer these questions, the Self Determination Theory (SDT) can be used.

According to SDT, people are intrinsically motivated to meet certain needs (Ryan & Deci, 2022). There are three basic psychological needs: competence, autonomy, and relatedness. These needs are highly associated with higher levels of well-being (Ryan & Deci, 2022). The first need is autonomy: the feeling that one is free to make one's own choices (Van Den Broeck et al., 2016). As mentioned, one of the basic fundamentals in democracy is that people feel free to voice their opinions. By voting for example, a person is making their own choice in who they want to vote for. This fosters a sense of autonomy. When people experience more freedom and have the opportunity to express themselves, this will result in more trust between people, altruism, and tolerance in the face of differences (Inglehart & Welzel, 2005).

The second need is competence: to feel confident in your ability, and that you are efficacious. (Russo & Stattin, 2017). To use voting as an example again, when you vote and you feel like your

environment is changing because of this vote, you have a sense of efficacy. This happens as well when you have fruitful discussions with people around you about politics or when you volunteer for organizations that accomplish goals that you believe in. This way by taking action to engage in politics, one gets positive feedback from their environment. This fosters the belief in one's abilities.

The final need is relatedness: to feel part of something and to be connected to peers (Van den Broeck et al, 2016). When people are part of for example political parties or volunteering organizations, they can feel part of something greater than themselves; of something they find important. Even when talking to others about political ideas and opinions and agreeing or knowing you and another person vote for the same party or politician, can make one feel more connected to one another.

Political engagement can help people fulfill the basic psychological needs as established by the Self-Determination Theory. In a functioning democracy especially, where freedom and voicing one's opinion are such core values, people will feel motivated to meet their need for autonomy, competence, and relatedness. It has been established in research that social environments which stimulate people to fulfill the basic needs of the Self Determination Theory, help people to self-regulate (Ryan & Deci, 2022). Research has shown that the fulfillment of the basic psychological needs is positively associated with life satisfaction and that not fulfilling these needs is associated with apathy and depression (Tang et al., 2019). Together, this results in the following hypothesis:

People who engage in politics score higher on life satisfaction than people who do not engage in politics.

2.3 The role of trust in institutions

This thesis will examine the effect of *trust in institutions* on the relationship between political engagement and life satisfaction. Institutions are entities above the individual level, that interact with the results of the political engagement of citizens (Amenta & Ramsey, 2010). Examples of institutions are the government, the law, and the media. A person shows trust in another when the person starts to expect that the other has good intentions and that they can rely on the other, which puts them in a state

of vulnerability (Yang, 2006). This means that when a person trusts institutions, they feel they can rely on these institutions. When people trust institutions less, this is often because they are afraid that the people who work for these institutions, will put their interests before the interests of society (Cain et al, 2003).

Political engagement can result in people trusting institutions more. According to the social cognitive theory, people with a greater sense of self-efficacy also feel more control over situations (Schwarzer & Luszczynska, 2008). For a person to feel self-efficacious, they need to believe in their own abilities to achieve something (Ter Huurne & Gutteling, 2009). Political engagement is a way for people to feel self-efficacious. An example is that when people vote and the elections give a certain result, these results are expected to be reflected in the new cabinet. When the opinions that people voice through political engagement are heard by institutions and changes are made accordingly, it shows that these institutions listen to people. This has multiple consequences. First, it shows that people are able to achieve things by engaging in politics, which heightens their sense of self-efficacy. Second, the institutions stimulate people's sense of control over the political situation, and this results in trust (Ter Huurne & Gutteling, 2009). This shows that the way in which institutions respond to the efforts of people trying to voice their opinions in politics is an important factor in how much people trust these institutions (Fitzgerald & Wolak, 2014). When people feel they can trust institutions more, they experience society and life to be more predictable and stable (Ciziceno & Travaglino, 2018; Warren, 2018). Additionally, people who feel more efficacious feel less helpless and anxious than people who feel less efficacious (Ter Huurne & Gutteling, 2009). The other side of this is that people who do not trust institutions tend to be more cynical and feel more alienated from the institutions as well as society as a whole (Erber & Lau, 1990).

People's sense of self-efficacy is emphasized by the response of institutions. This leads to higher levels of trust in institutions. This then leads to people feeling more in control, to them being more productive and to having faith in themselves. These are all related to higher levels of life satisfaction and well-being (Gundelach & Kreiner, 2004). This shows that part of the effect of political engagement on life satisfaction, comes from the fact that people's sense of self-efficacy is stimulated by their trust in institutions. As a result, the following hypothesis is formulated:

The positive effect of political engagement on life satisfaction is partly explained by the amount of trust in institutions people have.

2.4 Controlling variables

In this thesis, three variables are used to control the effect of political engagement and trust in institutions on life satisfaction. The first control variable to be discussed is the *level of education*. The level of education can mask the relationship between political engagement and life satisfaction. Research has shown that there is a positive connection between education levels and life satisfaction (Durst, 2021; Kaase & Newton, 1998). On a global level, the countries with a higher average level of education tend to score higher on life satisfaction than countries with a lower average level of education. Research has found that education leads to the fulfillment of needs such as confidence and self-actualization (Cheung & Chan, 2009). Additionally, studies have shown that higher levels of education are connected to a higher trust in institutions (Mingo & Faggiano, 2020). This shows that the level of education can affect both political engagement and trust in institutions, in addition to an effect on life satisfaction.

The second control variable to be discussed is *age*. Age can mask or affect the relationship between political engagement and life satisfaction. At different stages in life, people can score differently on life satisfaction. It has been reported in studies, that this takes on a “U-shape”. On average life satisfaction is higher in youth, then it is lower later in life and tends to increase when people are middle-aged (Ji et al ,2022).

The third control variable is *gender* since gender could also mask a relationship between political engagement and life satisfaction. There is evidence for women scoring higher on life satisfaction than men (Becchetti & Conzo, 2021), as well as men scoring slightly higher on life satisfaction than women (Veenhoven, 1996). This is reason for using gender as a control variable in this thesis.

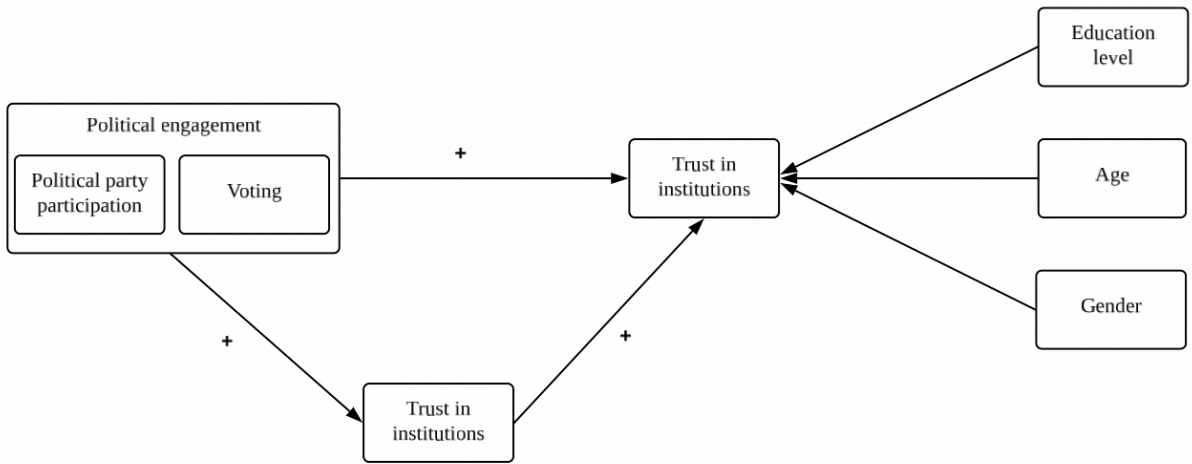


Figure 1: conceptual model

3 Methods

3.1 Dataset

The data used in this thesis comes from the LISS Panel (*Longitudinal Internet Studies for the Social Sciences*), which was started in 2007. It was founded by the non-profit institute Centerdata and is part of the Measurement and Experimentation in the Social Sciences Project (MESS). Centerdata is part of the organization ODISSEI (Open Data Infrastructure for Social Sciences and Economic Innovations). The primary goal of collecting the data for the LISS Panel is to provide information for policymakers and scientific researchers of the social and behavioral sciences. The LISS Panel is a core study, which means the data is collected yearly (LISS Panel, 2023).

The LISS Panel collects data through online surveys. Households in the Netherlands are selected through random sampling and based on invitation only. The sample is drawn from lists which are provided by Centraal Bureau Statistiek. This means that people cannot register to partake in the Panel themselves. People are asked to take part in the surveys by letters and visits to the house (Methodology - LISS Panel, 2023).

The Panel is made up of 5,000 households which consist of 7,500 individuals, aged 16 years and older. The surveys are done online and to ensure responsiveness, households who do not have access to internet or a computer are provided one. The respondents take part in the online survey once a month, with an average duration of one hour. Respondents are rewarded with money for each survey they complete. In addition to the monthly surveys, there is the LISS Core Study. This is a longitudinal study, for which data is collected yearly. Here it is monitored how the specific topics change yearly for the households. This way, change in people's lives is monitored. Subjects such as politics and values, religion, leisure time, work, personality, and economic situation are measured (LISS Core Study - LISS Panel, 2023).

3.2 Research design

For this thesis, multiple surveys were used. The surveys were, as mentioned before, administered online. Data used for this thesis comes from a combined dataset containing the Social Integration and

Leisure-Survey of Wave 13 of October 2020 (sample size was 6,680, with a response rate of 89,4%, resulting in 5,970 respondents), the Personality-Survey of Wave 13 of May 2021 (sample size was 6514, with a response rate of 82,4%, resulting in 5,309 respondents) and the Politics and Values-Survey of Wave 13. This last survey was split into three parts, administered at different moments. Data taken from part 1, of December 2020 and part 2 of January 2021. For part 1 the sample size was 6,782, with a response rate of 88,1%, resulting in 5,979 respondents. For part 2 the sample size was 6,708, with a response rate of 88,5%, resulting in 5,934 respondents.

3.3 Operationalizations

From the above-mentioned surveys, several questions were picked to measure the concepts as talked about in the theory. In this paragraph, an overview is given of the questions and their answer categories. In appendix 1, an extensive record of the operationalization is shown.

Life satisfaction was measured with the question: “How satisfied are you with the life you lead at the moment?”. Respondents could answer on a scale of 0 (*not satisfied at all*) to 10 (*fully satisfied*). For this question, respondents could also answer “*I don't know*”, which is indicated by -9. This category was filed under missing data since it does not provide useful information for this thesis.

Political engagement was measured using two different questions. The first being: “Did you vote in the most recent parliamentary elections, held on 15 March 2017?”. Respondents could answer with “yes”, “no”, “*not eligible to vote*” or “*I don't know*”. Here, the categories “*not eligible to vote*” and “*I don't know*” were filed under missing data, since these questions do not provide useful information for this thesis. The second question that was used is: “Can you indicate, for each of the organizations listed, what applies to you at this moment or has applied to you over the past 12 months?”. In this thesis, only answers for “political party” were used. This is divided into five items. The items are “*no connection*”, “*donated money*”, “*participated in an activity*”, “*member*” and “*performed voluntary work*”. Respondents could answer with either no (0) or yes (1). The items did not show any internal consistency, resulting in them not being able to be combined into one scale (Cronbach's alpha = .880). To make the items fit together, the item for “*no connection*” had to be mirrored. After this was done, the items did show a high level of internal consistency (Cronbach's

alpha = 0,69). The items were combined into one scale for the variable called *political party participation*. The higher one scores on this, the more different ways of participation with political parties one practices. It was checked if the scales for *voting* and *political party participation* could be combined into one variable for political engagement. Since the items showed a very low level of internal consistency, the decision was made to use both variables separately (Cronbach's alpha = 0,11). Both variables show different but equally important aspects of political engagement.

Trust in institutions was measured using the following question: "Can you indicate, on a scale from 0 to 10, how much confidence you personally have in each of the following institutions?". Only the category for "Dutch government" was used for this thesis. The respondents could give an answer on a scale of 0 (*no confidence at all*) to 10 (*full confidence*). There was also an answer category "*I don't know*". This category is filed under missing data since it does not provide useful information for this thesis.

Gender was divided into two categories: man (1) and woman (2). This was recoded into man (= 0) and woman (= 1).

Level of education was measured by the following scale: *primary school* (1), *vmbo* (2), *havo/vwo* (3), *mbo* (4), *hbo* (5) and *wo* (6). There were categories as well for "*other*" "*not (yet) completed any education*" and "*not yet started any education*". The category "*other*" was filed under missing data, since it does not provide useful information for this thesis. "*Not (yet) completed any education*" and "*not yet started any education*" were combined into one category (0), indicating no completed education.

Finally, *age* did not use any pre-fixed categories. Respondents could fill in their age, using years.

3.4 Analysis design

This thesis uses a hierarchical linear regression analysis to test the hypotheses. Beforehand, the univariate and bivariate distributions of all variables are examined. A distinction between continuous and categorical variables is made, to inspect the bivariate distributions. To estimate the association between the continuous variables and the dummy variables, the Pearson correlation is used and to

estimate the association between the categorical variables the Cramers V is used. To estimate the association between the categorical and continuous variables, the ANOVA procedure is used. An extensive overview of the univariate and bivariate distributions can be found in appendix 1.

To be able to do a linear regression analysis, the four assumptions of linear regression have to be checked. These assumptions are the use of independent samples, linearity, homoscedasticity, and normality. Next, it is examined whether there is multicollinearity between the variables and if there are outliers that must be removed from the dataset. The results of this can be found in appendix 3.

In total, three separate linear regression analyses are done. Since political engagement is split into two variables (*political party participation* and *voting*) these variables will be used in separate analyses, which all go the same way. In the first analysis, the relationship between political engagement, trust in institutions, and life satisfaction is tested, using *political party participation* as political engagement. In the second analysis *voting* is used as political engagement and in the third analysis both *political party participation* and *voting* are used. This way, the results of the effect of political engagement will be as complete as possible. Together the three different analyses are all used to test both hypotheses central to this thesis.

In all three analyses, model 1 is the same. Here, the effect of the control variables *gender*, *age*, and *education level* on the dependent variable *life satisfaction* is tested. In model 2, the independent variable for political engagement is added. For analysis 1 this is *political party participation*, for analysis 2 this is *voting* and for analysis 3 these are both *political party participation* and *voting*. This model is used to test hypothesis 1. In model 3, *trust in institutions* is used as the dependent variable instead of life satisfaction and the independent variable is still political engagement. Model 3 is used to test the first part of hypothesis 2: the effect of political engagement on trust in institutions. In model 4, *life satisfaction* is again used as the dependent variable. Here, the effect of both political engagement and trust in institutions on life satisfaction, controlling for gender, age, and education level are tested. This model is used to test the rest of hypothesis 2: whether there is an effect of trust in institutions on life satisfaction and whether there is a mediating effect of trust in institutions on the relationship between political engagement and life satisfaction. In analysis 1 this is once again done

with just *political party participation*, in analysis 2 with just *voting*, and in analysis 3 with both *political party participation* and *voting*.

4 Results

4.1 Descriptive statistics

4.1.1 Univariate statistics

In table 1, the univariate statistics of all variables used are shown. The dependent variable of this thesis is *life satisfaction*, which has a mean of 7,28 ($SD = 1,51$) on a scale from 0 to 10. This shows that people on average score quite high on life satisfaction. *Political party participation* has a mean of 0,16 ($SD = 0,58$) on a scale of 0 to 5, which indicates that most people do not participate in any way with political parties. If people do engage with political parties, it is mainly only in one of the five ways. The variable for *voting* is a binary variable, which is why it is expressed in percentages. 83,7% did vote during the last elections at the time of the survey, against 16,3% of people who did not vote. *Trust in institutions* has an average of 6,18 ($SD = 2,13$) on a scale from 0 to 10. The standard deviation shows that the amount of trust people have towards institutions is quite varied. The percentages for *gender* show that 52,7% of participants are female and 47,3% are male. This is quite an even distribution and an equal representation of both genders. The variable for *age* shows a mean of 54,17 ($SD = 17,66$), a minimum age of 17, and a maximum age of 97, which shows that there may be an underrepresentation of young adults. Finally, the variable for *education level* shows a mean of 3,92 ($SD = 1,47$) on a scale of 0 to 6, indicating an average education level of MBO.

Table 1: Univariate statistics of all variables used in the analysis: mean, standard deviation, minimum, and maximum (n = 4432)

Variable	Mean	SD	Minimum	Maximum
Life satisfaction	7,280	1,509	0,00	10,00
Political party participation (scale 5 items)	0,160	0,579	0,00	5,00
Voting (0 = no, 1 = yes)	16,3% = no 83,7% = yes	0,369	0,00	1,00
Trust institutions	6,182	2,130	0,00	10,00
Gender (0 = men, 1 = women)	47,3% men 52,7% women	0,499	0,00	1,00
Age	54,17	17,664	17	97
Education level (scale 7 items)	3,918	1,473	0,00	6,00

4.1.2 Bivariate statistics

In table 2 the association values between the variables are shown. A couple of these associations are most interesting for the hypotheses of this thesis. To start, there seems to be no association between *political party participation* and *life satisfaction* ($r = 0,00$, $p < 0,01$). There also seems to be no significant association between *political party participation* and *trust in institutions* ($r = 0,00$; $p = 0,574$). However, there does seem to be a relatively strong, positive, and significant correlation between *voting* and *life satisfaction* ($r = 0,09$; $p < 0,01$), as well as between *voting* and *trust in institutions* ($r = 0,10$; $p < 0,01$). This may indicate that there is more of an effect of voting as an act of political engagement than of political party participation. This could be because generally, people do not tend to participate with political parties, as shown in table 1. People who do vote may be more satisfied with life as well as more trusting of institutions than people who do not vote. Another interesting part is that the correlation between *life satisfaction* and *trust in institutions* is quite strong and significant ($r = 0,18$; $p < 0,01$), suggesting that these two influence one another.

When looking at the controlling variables, there seems to be a very low and insignificant association between *life satisfaction* and *gender* ($r = 0,01$; $p = 0,574$). This indicates that there may be no difference in life satisfaction between men and women. Additionally, there seems to be no correlation between *life satisfaction* and *education level* ($r = 0,00$; $p < 0,01$). Finally, there does seem to be a relatively strong, positive, and significant correlation between *life satisfaction* and *age* ($r = 0,12$; $p < 0,01$).

The two highest, positive, and significant correlations are between *voting* and *age* ($r = 0,24$; $p < 0,01$) and between *voting* and *education level* ($r = 0,23$; $p < 0,01$). These indicate that people who do vote may be slightly older and higher educated than people who do not vote.

Most associations are significant, but relatively small. This indicates that there is probably no multicollinearity between the variables, meaning that they are not too highly correlated.

Table 2: bivariate distributions of all variables used in the analysis ($N = 4432$)

	Life satisfaction	Political party participation	Voting	Trust institutions	Gender	Age	Education level
Life satisfaction	-	0,00*** ^c	0,09*** ^a	0,18*** ^a	0,01 ^a	0,12*** ^a	0,00*** ^c
Political party participation	-	-	0,07*** ^b	0,00*** ^c	0,06*** ^b	0,01*** ^c	0,07*** ^b
Voting	-	-	-	0,10*** ^a	0,04*** ^b	0,24*** ^a	0,23*** ^b
Trust institutions	-	-	-	-	0,05 ^a	0,03 ^a	0,03*** ^c
Gender	-	-	-	-	-	-0,09*** ^a	0,09*** ^b
Age	-	-	-	-	-	-	0,09*** ^c
Education level	-	-	-	-	-	-	-

* significant at 0,05, ** Significant at 0,01; ^a = Pearson correlation; ^b = Cramer's V; ^c = ANOVA

4.2 Model evaluation

4.2.1 Model fit

For all three analyses, an examination of the fit of each model is done. The better the fit of the model, the more variance in life satisfaction is explained by the variables. The examination will be done for the models of all three linear regression analyses, of which the results are shown in table 3, table 4, and table 5.

Analysis 1

To start, the model fit for the first analysis will be examined (table 3). In this analysis, the independent variable is *political party participation*. Model 1 in table 3 shows the effect of the control variables *gender*, *age*, and *education level* on *life satisfaction*. The average score on life satisfaction is predicted by gender, age, and education level for 1,9% ($R^2_{adjusted} = 0,019$). This is a very low percentage, but it is an increase in explained variance in life satisfaction, compared to the empty model ($F_{change} (3, 4428) = 29,75; p < 0,01$). In model 2 the variable for political party participation is added. The addition of this variable shows no greater prediction of life satisfaction ($R^2_{adjusted} = 0,019$), ($F_{change} = 0,24 (1, 4427); p = 0,62$). In model 4, the variable for *trust in institutions* is added. The addition of this variable results in the explanation of 4,8% of the variation in life satisfaction ($R^2_{adjusted} = 0,048$). This is almost double the percentage of explained variance than shown in the models without trust in institutions ($F_{change} = 137,16 (1, 4426); p < 0,01$). In model 3 of this analysis, *trust in institutions* is the dependent variable and *political party participation* is the independent variable, controlled for gender, age, and education level. The variation in trust in institutions is predicted by the control variables and political party participation for 3,2% ($R^2_{adjusted} = 0,032$), ($F_{change} (3, 4428) = 49,24; p < 0,01$).

Analysis 2

In table 4, the analysis with *voting* as the independent variable is shown. Here, model 1 is the same as discussed in the second above, since here again is shown what the effect is of the control variables gender, age, and education on life satisfaction. In model 2 the variable for *voting* is added. The addition of this variable shows a very small addition in the prediction of life satisfaction ($R^2_{adjusted} =$

0,021), ($F_{change} = 10,80 (1, 4427)$; $p < 0,01$). Compared to the previous analysis, this shows that the act of voting as political participation predicts more of the variance in life satisfaction than political party participation does. However, this is a very small, almost nothing. In model 4 the variable for *trust in institutions* is added. The addition of this variable results in results in the explanation of 5,0% of the variation in life satisfaction ($R^2_{adjusted} = 0,050$). This is almost double the percentage of explained variance than shown in the models without trust in institutions ($F_{change} = 133,01 (1, 4426)$; $p < 0,01$). In model 3 of this analysis *trust in institutions* is the dependent variable and *voting* is the independent variable, controlled for gender, age, and education level. The variation in trust in institutions is predicted by the control variables and voting for 3,5% ($R^2_{adjusted} = 0,035$), ($F_{change} (3, 4428) = 49,24$; $p < 0,01$). This is a slightly higher percentage than shown in model 3 of table 3 ($R^2_{adjusted} = 0,032$). This means that the variation in trust in institutions is predicted a slightly bit better by voting than by political party participation. Again, this difference is very small.

Analysis 3

In table 5, the analysis with both *political party participation* and *voting* as the independent variables is shown. Here, model 1 is again the same as discussed in the first two analyses. In model 2, the variables of *political party participation* and *voting* are added. The addition of these variables shows a very small addition in the prediction of life satisfaction ($R^2_{adjusted} = 0,021$), ($F_{change} = 5,483 (1, 4426)$; $p = 0,004$). 2,1% of the variance in the prediction of life satisfaction was also estimated in the model with just voting as the independent variable. This can mean that in this model where both political party participation and voting are added, political party participation does not add to the prediction, but it all comes from voting. In model 4 the effect of the control variables, political party participation, voting, and trust in institutions on life satisfaction is examined. Together, these variables predict 5,1% of the variation in life satisfaction. This is a higher percentage than the models before ($F_{change} = 132,131 (1, 4425)$; $p < 0,001$). In model 3 of this analysis *trust in institutions* is the dependent variable and *voting* is the independent variable, controlled for gender, age, and education level. The variation in trust in institutions is predicted by the control variables and political party participation and voting for

3,6% ($R^2_{adjusted} = 0,036$), ($F_{change} (2, 4426) = 8,48 ; p < 0,01$). This is slightly higher than in the previous analyses.

4.2.2 Assumptions, multicollinearity, and outliers

In appendix 3, an elaborate explanation considering the assumptions for linear regression, multicollinearity, and outliers can be found. First, the assumptions for linear regression were checked. The first assumption is that the data should be an independent sample. The data used for the analysis stems from the LISS Panel, which uses independent sampling to gather data. However, the data is collected at the household level, which means that more than one person from the same household may be a respondent. People from the same household can influence one another, therefore the assumption of independent sampling is violated. Additionally, slight violations of the assumptions for linearity, homoscedasticity, and normality were found. This is because the dependent variable life satisfaction is not a perfect continuous variable, but an ordinal variable with a ten-point scale. The choice was made to still see the consider the dependent variables as continuous. This results in slight violations of all assumptions.

After this, it was checked whether there is multicollinearity between the independent variables. Since all VIF scores are below four, there is no evidence for multicollinearity. Finally, multiple diagnostics were done to identify any outliers in the dataset. This resulted in finding several outliers. However, after deleting these outliers and running the regression analysis again there were no large changes in the results of the analysis. This is why the decision was made not to remove the outliers.

4.3 Hypothesis testing

The first hypothesis to be tested is the following: *People who engage in politics score higher on life satisfaction than people who do not engage in politics.* In model 2 of table 3, the effect of *political party participation* on life satisfaction is shown. It seems that political party participation does not have a significant effect on life satisfaction ($b = 0,019, p = 0,621$). In model 2 of table 4, the effect of *voting* on life satisfaction is shown. It seems that voting has a relatively large and significant effect on

life satisfaction ($b = 0,212, p < 0,01$). This shows that people who do vote, score 0,212 higher on life satisfaction than people who do not vote. In model 2 of table 5, the effect of both *political party participation* and *voting* on life satisfaction is shown. There seems to be no difference in effect when the two are used at the same time. Political party participation still shows a very small and insignificant effect ($b = 0,016, p = 0,683$) and voting still shows a large and significant effect ($b = 0,212, p < 0,01$). The results partly support the first hypothesis. There is an indication that people who engage in politics score higher on life satisfaction than people who do not engage in politics. However, it is only the act of voting as political engagement that affects life satisfaction, and not political party participation.

The second hypothesis to be tested is: *the positive effect of political engagement on life satisfaction is partly explained by the amount of trust in institutions people have*. As established, there partly seems to be a positive effect of political engagement on life satisfaction. The following step is to analyze the effect of *political engagement* on *trust in institutions*. As shown in model 3 of table 3, there seems to be a negative, insignificant effect of political party participation on trust in institutions ($b = - 0,40; p = 0,471$). This indicates that political party participation does not influence the amount of trust one has in institutions. As shown in model 3 of table 4, there seems to be a relatively large and significant effect of voting on trust in institutions ($b = 0,365; p < 0,01$). This indicates that people who vote score 0,365 higher on trust in institutions than people who do not vote. In model 3 of table 5, the effect of both political party participation and voting on trust in institutions is shown. There seems to be no difference in effect when the two variables are used at the same time. This indicates that it is the act of voting as political engagement which has effect on trust in institutions, and not political party participation.

The next step is to analyze the effect of *trust in institutions* on *life satisfaction*. In model 4 of all tables, the same significant effect of trust in institutions of life satisfaction is apparent ($b = 0,124; p < 0,01$). This is quite a strong effect. It shows that for every point somebody scores higher on trust in institutions, that person scores 0,124 higher on life satisfaction. This means that a person who scores the maximum score on trust in institutions scores 1,24 points higher on life satisfaction than a person who scores the minimum on trust in institutions.

The third step is to analyze the mediating effect of *trust in institutions* on the effect between *political engagement* and *life satisfaction*. When looking at model 4 of table 5, there seems to be an increase in the effect of *political party participation* on life satisfaction when trust in institutions is added, compared to model 2 ($b = 0,022, p = 0,577$). As shown in appendix 2, there is also almost complete overlap in the confidence intervals of political party participation when comparing model 2 and 4. Together this indicates that there is no mediating effect of trust in institutions on the relationship between political party participation and life satisfaction. There appears to be a decrease in the effect of *voting* on life satisfaction when trust in institutions is added, compared to model 2 ($b = 0,167; p < 0,01$). As shown in appendix 2, the confidence intervals for voting when comparing model 2 and 4 do not completely overlap. Together, this shows that there is a slight mediating effect of trust in institutions on the relationship between voting and life satisfaction. This partly supports the second hypothesis. The same effects are shown in table 3 and 4.

Finally, the results of the control variables are interpreted. In table 3, 4, and 5, model 1 examines the effect of the control variables *gender*, *age* and *education level* on the dependent variable for life satisfaction. The average score on life satisfaction is 6,34 when the scores on gender, age, and education level are 0 ($b = 6.348, p < 0.01$). There seems to be no significant difference in life satisfaction between men and women ($b = 0.072, p = 0.110$). There seems to be a small effect of age on life satisfaction ($b = 0.012, p < 0.01$). This means that when age increases by one year, the mean score on life satisfaction increases by 0.012. This is not a very large increase. There also appears to be a positive and significant, but small effect of education level on life satisfaction ($b = 0.068, p < 0.01$). This means that when education level increases by one level, the average score on life satisfaction increases by 0.068. Again, this is not a very large increase.

Table 3: linear regression analysis with political party participation as independent variable and life satisfaction as dependent variable (N = 4432).

	Model 1 ^a	Model 2 ^a	Model 3 ^b	Model 4 ^a
	B	B	B	B
	(SE)	(SE)	(SE)	(SE)
Constant	6,348** (0,108)	6,351** (0,108)	4,654** (0,151)	5,776** (0,117)
Gender	0,072 (0,045)	0,073 (0,045)	0,256** (0,064)	0,042 (0,045)
Age	0,012** (0,001)	0,012** (0,001)	0,008** (0,002)	0,011** (0,001)
Education level	0,068** (0,016)	0,067** (0,016)	0,253** (0,022)	0,036* (0,016)
Political party participation		0,019 (0,039)	- 0,040 (0,471)	0,024 (0,039)
Trust Institutions				0,124** (0,011)
R ²	0,020	0,020	0,032	0,049
R ² Adjusted	0,019	0,019	0,032	0,048
F _{Change}	29,745**	0,244	0,520	137,156**

* significant at 0,05, ** Significant at 0,01

^a dependent variable is life satisfaction, ^b dependent variable is trust in institutions

Table 4: linear regression analysis with voting as independent variable and life satisfaction as dependent variable (N = 4432).

	Model 1 ^a	Model 2 ^a	Model 3 ^b	Model 4 ^a
	b	b	b	b
	(SE)	(SE)	(SE)	(SE)
Constant	6,348** (0,108)	6,289** (0,109)	4,566** (0,153)	5,734** (0,118)
Gender	0,072 (0,045)	0,073 (0,045)	0,258** (0,063)	0,041 (0,045)
Age	0,012** (0,001)	0,010** (0,001)	0,005** (0,002)	0,010** (0,001)
Education level	0,068** (0,016)	0,055** (0,016)	0,229** (0,022)	0,027 (0,016)
Voting		0,212** (0,065)	0,365** (0,091)	0,168* (0,064)
Trust Institutions				0,122** (0,011)
R ²	0,020	0,022	0,036	0,051
R ² Adjusted	0,019	0,021	0,035	0,050
F _{Change}	29,745**	10,802**	16,284**	130,012**

* significant at 0,05, ** Significant at 0,01,

^a dependent variable is life satisfaction, ^b dependent variable is trust in institutions

Table 5: linear regression analysis with political party participation voting as independent variable and life satisfaction as dependent variable (N = 4432).

	Model 1 ^a	Model 2 ^a	Model 3 ^b	Model 4 ^a
	b	b	b	b
	(SE)	(SE)	(SE)	(SE)
Constant	6,348** (0,108)	6,291** (0,109)	4,549** (0,153)	5,737** (0,118)
Gender	0,072 (0,045)	0,073 (0,045)	0,256** (0,063)	0,042 (0,045)
Age	0,012** (0,001)	0,010** (0,001)	0,005** (0,002)	0,010** (0,001)
Education level	0,068** (0,016)	0,054** (0,016)	0,231** (0,023)	0,026 (0,016)
Political party participation		0,016 (0,039)	-0,045 (0,055)	0,022 (0,039)
Voting		0,212** (0,065)	0,367** (0,091)	0,167** (0,064)
Trust Institutions				0,122** (0,011)
R ²	0,020	0,022	0,036	0,051
R ² Adjusted	0,019	0,021	0,035	0,049
F _{Change}	29,745**	5,583**	8,484**	133,131**

* significant at 0,05, ** Significant at 0,01

^a dependent variable is life satisfaction, ^b dependent variable is trust in institutions

5 Conclusion and discussion

5.1 Conclusion

This thesis is an attempt to answer the following question: *what is the effect of political engagement on life satisfaction of Dutch people and is this mediated by trust in institutions?*

The goal of this thesis was to give insights into the relationship between political engagement and life satisfaction. Additionally, the aim was to investigate whether there is a mediating effect of trust in institutions. To answer the research question, data from the LISS Panel was used and a multiple linear regression analysis was done. Two hypotheses were formulated and tested.

The first hypothesis goes as follows: *People who engage in politics score higher on life satisfaction than people who do not engage in politics.* Political engagement was divided into political party participation and voting. No significant effect of political party participation on life satisfaction was found. This indicates that people who participate in any way with political parties do not score higher on life satisfaction than people who do not. The results show that people who vote tend to be slightly more satisfied with life than people who do not vote. Together, this shows that the first hypothesis was partly supported by the results. These findings reflect the arguments made in the theoretical framework. Here, it was argued that the psychological needs as established in the *Self Determination Theory*, are fulfilled by engaging in politics. These needs are autonomy, competence, and relatedness (Van den Broeck et al, 2016; Russo & Stattin, 2017). It was also established that a distinction can be made between more complex and more simple acts of political engagement. Voting is considered to be the simplest act, whereas volunteering and joining political parties is considered to be more complex (Dalton, 2013). This can be a reason as to why the results do not show a significant effect of political party participation. It is an act of political engagement that comes less easy to people than voting.

The second hypothesis goes as follows: *The positive effect of political engagement on life satisfaction is partly explained by the amount of trust in institutions people have.* The results support the second hypothesis as well. Here, only a mediating effect of trust in institutions was found on the positive effect of voting on life satisfaction. Since no significant effect of political party participation

was found on life satisfaction, no mediating effect of trust in institutions was found. The results reflect the arguments made in the theoretical framework. Here, it was argued that positive feedback of institutions toward people's attempts to be self-efficacious leads to higher levels of trust in institutions. According to the social cognitive theory, people with a greater sense of self-efficacy also feel more control over situations (Schwarzer & Luszczynska, 2008). Trust in institutions leads to people having a sense of stability (Ciziceno & Travaglino, 2018; Warren, 2018), and higher levels of self-efficacy lead to people feeling less helpless and anxious than people feel less efficacious (Ter Huurne & Gutteling, 2009). Together, this indicates that the positive effect of political engagement on life satisfaction is partly due to the trust people have in institutions.

5.2 Discussion

There are a few limitations to this research, which must be kept in mind when interpreting the results of this thesis. Future research could address these limitations. If the same results are found after eliminating these limitations, the results of this thesis will be strengthened.

First, the concept of trust in institutions was only measured in this thesis according to trust in the Dutch government. This may not give a complete and clear image of the effect of trust in institutions on the relationship between political engagement and life satisfaction. In future research, trust in more diverse institutions could be used as well. These could be institutions such as the legal system, economic institutions, and the media.

Second, two actions of political engagement of different magnitudes were used to analyze the influence of political engagement. These were political party participation and voting. Voting is considered to be a simple way of engaging in politics, while working for a political party or joining a community is considered more complicated (Dalton, 2013). Political party participation and voting were both used to attain a broad a view of political engagement as possible. It has been found that in this thesis, political party participation as a form of political engagement is not a good predictor of life satisfaction. This can be attributed to the fact that not many people actually interact with political parties. When looking at statistics of CBS, for example only 4,4% of society is a member of a political party and only 1,1% of society does volunteer work for any political party (Centraal Bureau voor de

Statistiek, 2023). This was also reflected in the data used in this thesis. This thesis has given insights into the different effects political party participation and voting as acts of political engagement can have on life satisfaction. An even more complete view of the effect of political engagement on life satisfaction could be created if in following studies, more acts of political engagement are measured. These could be acts such as talking about politics, volunteering and petitioning, and taking on a political position (Bovens, 2010).

Third, in this thesis it was argued that there is a causal relationship between political engagement, trust in institutions, and life satisfaction. A problem here is that people who are more satisfied with life, might also feel more inclined to participating in politics, and/or have more trust in institutions. It has been found in research that people who are more satisfied with life also tend to be more inclined to engage in politics (Flavin & Keane, 2012). This is a problem for the internal validity of this research. This should be kept in mind while interpreting the results of this research.

Fourth, the four assumptions of linear regression were all slightly violated. This was because the dependent variable of this thesis was not a perfect continuous variable, but an ordinal variable with a ten-point scale. When the assumptions of linear regression are violated even slightly, the results should be interpreted with caution. The assumptions for linearity, homoscedasticity, and normality were only violated slightly because of this. The assumption for independence was violated because the sampling of the data was done at the household level. In future research, data could be used that ensures the assumption for independence. Another option could be to use ordinal logistic regression to do the analysis.

A final limitation that could be reconsidered for future research is to look at the political engagement of youth in the Netherlands. In the dataset used for this research youth was underrepresented, since the average age of the respondent was 54. Political engagement in youth could show a more in-depth view of political engagement as a whole. For example, younger people tend to engage in politics more online (Keating & Melis, 2017). This is something which was not considered in this thesis, but which could add a lot to future research.

The limitations of this research are reasons for the results to be interpreted with caution. In future research, the limitations could be addressed as explained above. Despite the limitations, the

research question which was central to this thesis was largely answered. To end this thesis, policy advice can be given based on the results. A positive effect between political engagement and life satisfaction was found, as well as a mediating effect of trust in institutions on this relationship. This shows the importance of political engagement and trust in institutions on both individual well-being as well as the functioning of the democracy that is the Netherlands. A way to foster would be to stimulate citizens to participate in mini publics. An example of this is the G1000. These are events where a group of randomly selected citizens are invited to come together to talk about specific political topics. The goal of these events is to open up the dialogue and hear citizen's opinions and ideas (Michaels, 2019). This type of political engagement could then be an ideal way of functioning democracy since it grants people an opportunity to voice their opinions. Stimulating people to participate could help people to feel autonomous, competent, and related.

6 Literature

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Appendix 1: operationalization and univariate descriptives

1.1 Life satisfaction

Original variable

Frequencies and a histogram are made to show what the original variable *cp21m011* looks like.

```
FREQUENCIES VARIABLES=cp21m011
```

```
/NTILES=4
```

```
/STATISTICS=STDDEV MINIMUM MAXIMUM MEAN MEDIAN
```

```
/HISTOGRAM NORMAL
```

```
/ORDER=ANALYSIS.
```

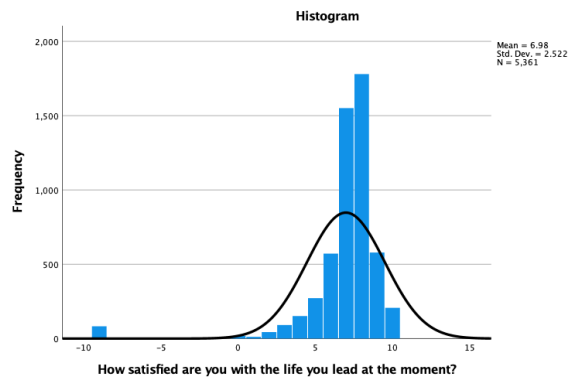
Statistics

cp21m011 How satisfied are you with the life you lead at the moment?

N	Valid	5361
	Missing	1433
Mean		6.98
Median		7.00
Std. Deviation		2.522
Minimum		-9
Maximum		10
Percentiles	25	7.00
	50	7.00
	75	8.00

cp21m011 How satisfied are you with the life you lead at the moment?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-9 I don't know	83	1.2	1.5	1.5
	0 0 not at all satisfied	18	.3	.3	1.9
	1	12	.2	.2	2.1
	2	44	.6	.8	2.9
	3	91	1.3	1.7	4.6
	4	152	2.2	2.8	7.5
	5	272	4.0	5.1	12.5
	6	572	8.4	10.7	23.2
	7	1551	22.8	28.9	52.1
	8	1780	26.2	33.2	85.3
	9	579	8.5	10.8	96.1
	10 10 completely satisfied	207	3.0	3.9	100.0
	Total	5361	78.9	100.0	
Missing	System	1433	21.1		
	Total	6794	100.0		



Changes

The category “I don’t know” will be filed under missing data, because it does not provide useful information for this thesis. All other categories of this item are kept the same. The variable is called ‘*LifeSatisfaction*’.

```
RECODE cp21m011 (-
9=SYSMIS) (0=0) (1=1) (2=2) (3=3) (4=4) (5=5) (6=6) (7=7) (8=8) (9=9)
(10=10)

      INTO LifeSatisfaction.

EXECUTE.
```

Final variable

Frequencies and a histogram are made to show what the final variable of *life satisfaction* looks like.

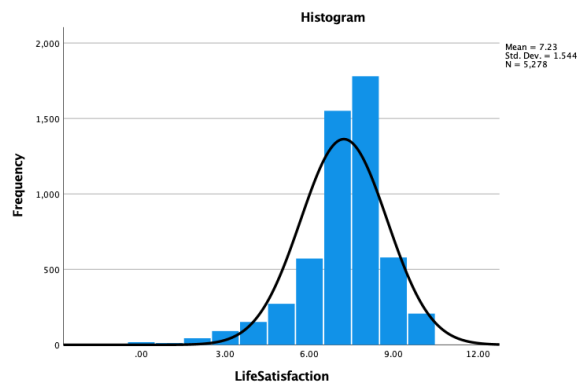
```
FREQUENCIES VARIABLES=LifeSatisfaction
  /NTILES=4
  /STATISTICS=STDDEV MINIMUM MAXIMUM MEAN
  /HISTOGRAM NORMAL
  /ORDER=ANALYSIS.
```

Statistics

LifeSatisfaction		
N	Valid	5278
	Missing	1516
Mean		7.2283
Std. Deviation		1.54411
Minimum		.00
Maximum		10.00
Percentiles	25	7.0000
	50	7.0000
	75	8.0000

LifeSatisfaction

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid				
.00	18	.3	.3	.3
1.00	12	.2	.2	.6
2.00	44	.6	.8	1.4
3.00	91	1.3	1.7	3.1
4.00	152	2.2	2.9	6.0
5.00	272	4.0	5.2	11.2
6.00	572	8.4	10.8	22.0
7.00	1551	22.8	29.4	51.4
8.00	1780	26.2	33.7	85.1
9.00	579	8.5	11.0	96.1
10.00	207	3.0	3.9	100.0
Total	5278	77.7	100.0	
Missing System	1516	22.3		
Total	6794	100.0		



1.2 Political party participation

Original variables

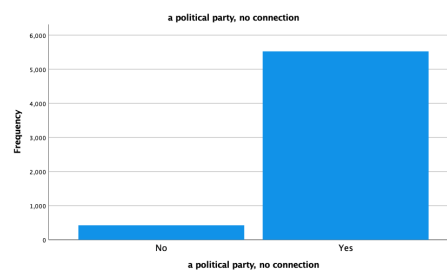
Frequencies and barcharts are made to show what the original variables of political party participation look like. Five different items belong to political party participation. The items are *cs20m43* ('no connection'), *cs20m44* ('donated money'), *cs20m45* ('participated in an activity'), *cs20m46* ('member'), *cs20m47* ('performed voluntary work').

```
FREQUENCIES VARIABLES=cs20m043 cs20m044 cs20m045 cs20m046
cs20m047
  /NTILES=4
  /STATISTICS=STDDEV MINIMUM MAXIMUM MEAN
  /BARCHART FREQ
  /ORDER=ANALYSIS.
```

		Statistics				
		cs20m043 a political party, no connection	cs20m044 a political party, donated money	cs20m045 a political party, participated in an activity	cs20m046 a political party, member	cs20m047 a political party, performed voluntary work
N	Valid	5950	5950	5950	5950	5950
	Missing	844	844	844	844	844
Mean		.93	.02	.02	.04	.01
Std. Deviation		.258	.128	.141	.196	.072
Minimum		0	0	0	0	0
Maximum		1	1	1	1	1
Percentiles	25	1.00	.00	.00	.00	.00
	50	1.00	.00	.00	.00	.00
	75	1.00	.00	.00	.00	.00

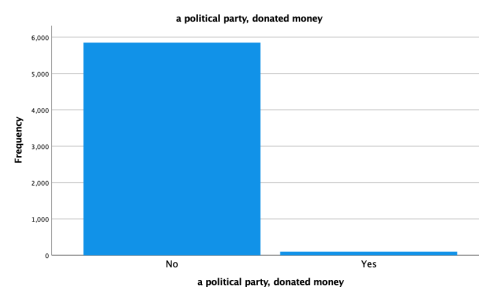
cs20m043 a political party, no connection

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 No	425	6.3	7.1	7.1
	1 Yes	5525	81.3	92.9	100.0
	Total	5950	87.6	100.0	
Missing	System	844	12.4		
Total		6794	100.0		



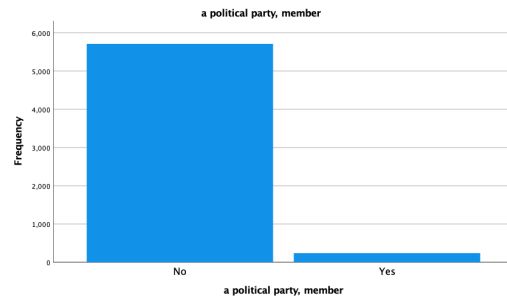
cs20m044 a political party, donated money

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 No	5851	86.1	98.3	98.3
	1 Yes	99	1.5	1.7	100.0
	Total	5950	87.6	100.0	
Missing	System	844	12.4		
Total		6794	100.0		



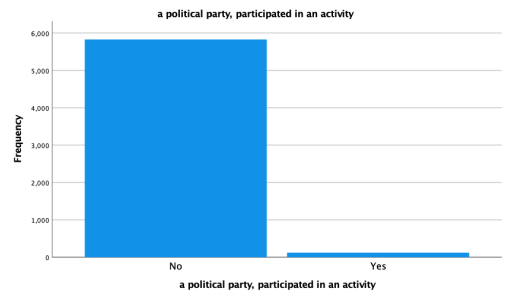
cs20m046 a political party, member

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 No	5711	84.1	96.0	96.0
	1 Yes	239	3.5	4.0	100.0
	Total	5950	87.6	100.0	
Missing	System	844	12.4		
Total		6794	100.0		



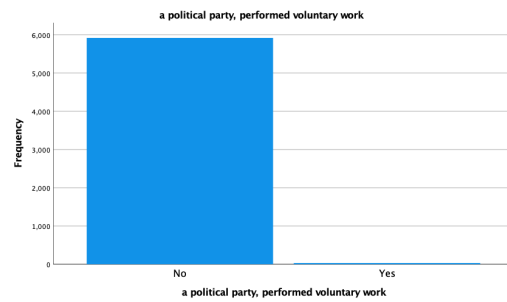
cs20m045 a political party, participated in an activity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 No	5829	85.8	98.0	98.0
	1 Yes	121	1.8	2.0	100.0
	Total	5950	87.6	100.0	
Missing	System	844	12.4		
Total		6794	100.0		



cs20m047 a political party, performed voluntary work

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 No	5919	87.1	99.5	99.5
	1 Yes	31	.5	.5	100.0
	Total	5950	87.6	100.0	
Missing	System	844	12.4		
Total		6794	100.0		



Changes

To check the internal reliability of the scales of these items, The Cronbach's alpha is calculated.

RELIABILITY

```
/VARIABLES=cs20m044 cs20m045 cs20m046 cs20m047 cs20m043
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/SUMMARY=TOTAL.
```

Reliability Statistics		Item-Total Statistics				
Cronbach's Alpha ^a	N of Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	
-8.801	5					
a. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.						
		cs20m044 a political party, donated money	.99	.020	-.509	-7.133 ^a
		cs20m045 a political party, participated in an activity	.99	.026	-.610	-5.118 ^a
		cs20m046 a political party, member	.97	.037	-.761	-2.503 ^a
		cs20m047 a political party, performed voluntary work	1.01	.012	.060	-14.263 ^a
		cs20m043 a political party, no connection	.08	.105	-.917	.315
a. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.						

The Cronbach's alpha gives a value of -8,801, indicating that the items do not fit well together. This is most likely because all items are coded the same way, except for item *cs20m043* 'a political party, no connection'. This item is mirrored, to make it match better with the other variables.

```
RECODE cs20m043 (0=1) (1=0) INTO connection_new.
EXECUTE.
```

After mirroring this item, the Cronbach's alpha is calculated again, to check the internal reliability of the scales.

RELIABILITY

```
/VARIABLES=cs20m044 cs20m045 cs20m046 cs20m047
connection_new
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/SUMMARY=TOTAL.
```

Reliability Statistics		Item-Total Statistics				
Cronbach's Alpha	N of Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	
.686	5					
		cs20m044 a political party, donated money	.1371	.265	.328	.678
		cs20m045 a political party, participated in an activity	.1334	.257	.334	.676
		cs20m046 a political party, member	.1136	.194	.528	.593
		cs20m047 a political party, performed voluntary work	.1486	.299	.258	.703
		connection_new	.0824	.105	.917	.315

This time the Cronbach's alpha has a value of 0,686, indicating a high level of internal consistency. Now, the new variable *PartyParticipation* is made, made up of the five items.

```
COMPUTE PartyParticipation=cs20m044 + cs20m045 + cs20m046 +
cs20m047 + connection_new.
EXECUTE.
```


Final variable

Frequencies and a barchart are made to show what the final variable of *political party participation* looks like.

```
FREQUENCIES VARIABLES=PartyParticipation
  /NTILES=4
  /STATISTICS=STDDEV MINIMUM MAXIMUM MEAN
  /BARCHART FREQ
  /ORDER=ANALYSIS.
```

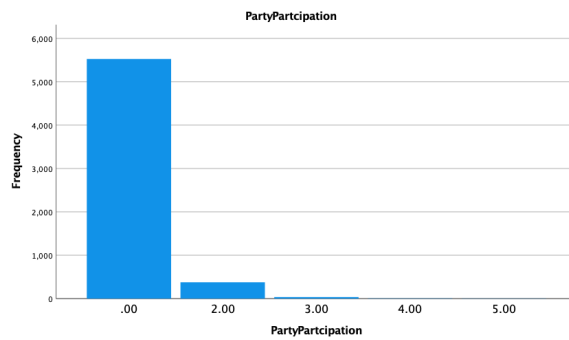
Statistics

PartyParticipation

N	Valid	5950
	Missing	844
Mean		.1538
Std. Deviation		.56933
Minimum		.00
Maximum		5.00
Percentiles	25	.0000
	50	.0000
	75	.0000

PartyParticipation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	5525	81.3	92.9	92.9
	2.00	377	5.5	6.3	99.2
	3.00	36	.5	.6	99.8
	4.00	7	.1	.1	99.9
	5.00	5	.1	.1	100.0
	Total		5950	87.6	100.0
Missing	System	844	12.4		
Total		6794	100.0		



1.3 Voting

Original variable

Frequencies and a barchart are made to show what the original variable of *voting* looks like.

```
FREQUENCIES VARIABLES=cv21m053
  /NTILES=4
  /STATISTICS=STDDEV MINIMUM MAXIMUM MEAN
  /BARChart FREQ
  /ORDER=ANALYSIS.
```

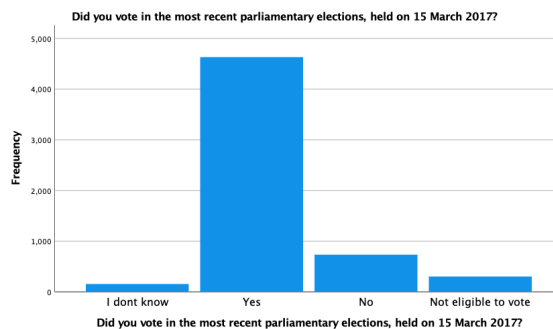
Statistics

cv21m053 Did you vote in the most recent parliamentary elections, held on 15 March 2017?

N	Valid	5823
	Missing	971
Mean		.96
Std. Deviation		1.735
Minimum		-9
Maximum		3
Percentiles	25	1.00
	50	1.00
	75	1.00

cv21m053 Did you vote in the most recent parliamentary elections, held on 15 March 2017?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-9 I dont know	156	2.3	2.7	2.7
	1 Yes	4631	68.2	79.5	82.2
	2 No	734	10.8	12.6	94.8
	3 Not eligible to vote	302	4.4	5.2	100.0
	Total	5823	85.7	100.0	
Missing	System	971	14.3		
	Total	6794	100.0		



Changes

The category for “I don’t know” is filed under missing data, since this category does not provide useful information for this thesis. The category “Not eligible to vote”, indicates that a respondent did not vote. It is not useful for this specific thesis to make a distinction. “Not eligible to vote” and “no” will therefore be combined into one category. This variable will now be a dummy, with the categories “no” (0) and “yes” (1).

```
RECODE cv21m053 (-9=SYSMIS) (1=1) (2 thru 3=0) INTO
VotingNew.
EXECUTE.
```

Final variable

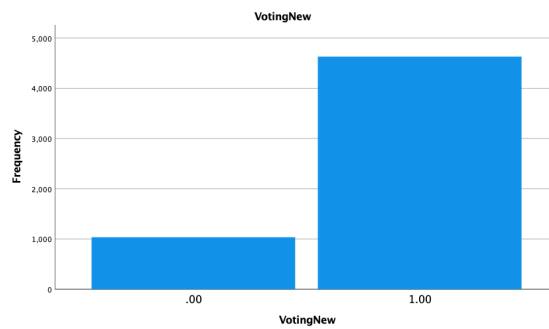
Frequencies and a barchart are made to show what the final variable of voting looks like.

```
FREQUENCIES VARIABLES=VotingNew
  /NTILES=4
  /STATISTICS=STDDEV MINIMUM MAXIMUM MEAN
  /BARCHART FREQ
  /ORDER=ANALYSIS.
```

Statistics

VotingNew		
N	Valid	5667
	Missing	1127
Mean		.8172
Std. Deviation		.38655
Minimum		.00
Maximum		1.00
Percentiles	25	1.0000
	50	1.0000
	75	1.0000

VotingNew					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	1036	15.2	18.3	18.3
	1.00	4631	68.2	81.7	100.0
	Total	5667	83.4	100.0	
Missing	System	1127	16.6		
Total		6794	100.0		



Reliability political engagement

Now that there are two variables which are an indication of *political engagement*, it is examined whether these two variables (political party participation and voting) can be combined into one variable for political engagement. The Cronbach's alpha is calculated; however this has a value of 0,107, indicating a low level of internal consistency. This is why the choice is made to keep the variables separate.

RELIABILITY

```
/VARIABLES=PartyParticipation VotingNew  
/SCALE('ALL VARIABLES') ALL  
/MODEL=ALPHA  
/STATISTICS=SCALE  
/SUMMARY=TOTAL.
```

Reliability Statistics

Cronbach's Alpha	N of Items
.107	2

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
PartyParticipation	.8225	.146	.061	.
VotingNew	.1569	.331	.061	.

1.4 Trust in institutions

Original variable

Frequencies and a histogram are made to show what the original variable *cv21m013* looks like.

```
FREQUENCIES VARIABLES=cv21m013
  /NTILES=4
  /STATISTICS=STDDEV MINIMUM MAXIMUM MEAN MEDIAN
  /HISTOGRAM NORMAL
  /ORDER=ANALYSIS.
```

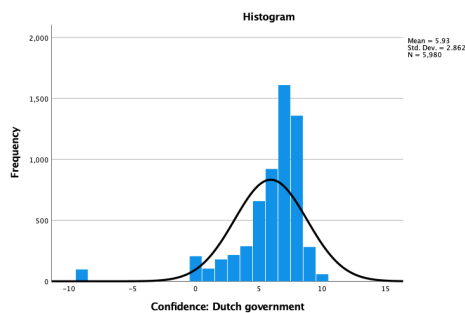
Statistics

cv21m013 Confidence: Dutch government

N	Valid	Missing
	5980	814
Mean	5.93	
Median	7.00	
Std. Deviation	2.862	
Minimum	-9	
Maximum	10	
Percentiles		
25	5.00	
50	7.00	
75	8.00	

cv21m013 Confidence: Dutch government

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid -9 I dont know	97	1.4	1.6	1.6
0 no confidence at all	206	3.0	3.4	5.1
1	104	1.5	1.7	6.8
2	180	2.6	3.0	9.8
3	216	3.2	3.6	13.4
4	288	4.2	4.8	18.2
5	658	9.7	11.0	29.2
6	922	13.6	15.4	44.7
7	1610	23.7	26.9	71.6
8	1359	20.0	22.7	94.3
9	282	4.2	4.7	99.0
10 full confidence	58	.9	1.0	100.0
Total	5980	88.0	100.0	
Missing System	814	12.0		
Total	6794	100.0		



Changes

The category “I don’t know” will be filed under missing data, because it does not provide useful information for this thesis. All other categories of this item are kept the same. The variable is called ‘*TrustDutchGovernment*’.

```
RECODE cv21m013 (-9=SYSMIS)
(0=0) (1=1) (2=2) (3=3) (4=4) (5=5) (6=6) (7=7) (8=8) (9=9) (10=10)
  INTO TrustDutchGovernment.
EXECUTE.
```

Final variable

Frequencies and a histogram are made to show what the final variable of trust in institutions looks like.

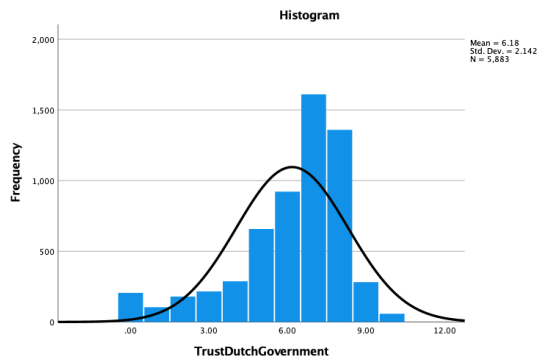
```
FREQUENCIES VARIABLES=TrustDutchGovernment
  /NTILES=4
  /STATISTICS=STDDEV MINIMUM MAXIMUM MEAN
  /HISTOGRAM NORMAL
  /ORDER=ANALYSIS.
```

Statistics

TrustDutchGovernment		
N	Valid	5883
	Missing	911
Mean		6.1781
Std. Deviation		2.14151
Minimum		.00
Maximum		10.00
Percentiles	25	5.0000
	50	7.0000
	75	8.0000

TrustDutchGovernment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	206	3.0	3.5	3.5
	1.00	104	1.5	1.8	5.3
	2.00	180	2.6	3.1	8.3
	3.00	216	3.2	3.7	12.0
	4.00	288	4.2	4.9	16.9
	5.00	658	9.7	11.2	28.1
	6.00	922	13.6	15.7	43.8
	7.00	1610	23.7	27.4	71.1
	8.00	1359	20.0	23.1	94.2
	9.00	282	4.2	4.8	99.0
	10.00	58	.9	1.0	100.0
Total		5883	86.6	100.0	
Missing	System	911	13.4		
Total		6794	100.0		



1.5 Gender

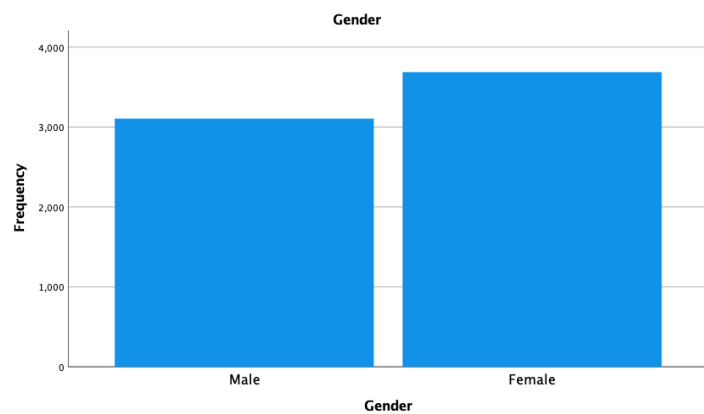
Original variable

Frequencies and a barchart of the original variable *geslacht* are made.

```
FREQUENCIES VARIABLES=geslacht
  /NTILES=4
  /STATISTICS=STDDEV MINIMUM MAXIMUM MEAN
  /BARCHART FREQ
  /ORDER=ANALYSIS.
```

geslacht Gender	
N	Valid 6794
	Missing 0
Mean	1.54
Std. Deviation	.498
Minimum	1
Maximum	2
Percentiles	25 1.00
	50 2.00
	75 2.00

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Male	3106	45.7	45.7	45.7
	2 Female	3688	54.3	54.3	100.0
	Total	6794	100.0	100.0	



Changes

Gender was divided into two categories: man (1) and woman (2). This was recoded into man (= 0) and woman (= 1). This was done because all variables with two categories in this thesis, were divided into 0 and 1. This will make the interpretation for this variable easier. The new variable is called *Gender*.

```
RECODE geslacht (1=0) (2=1) INTO Gender.
EXECUTE.
```

Final variable

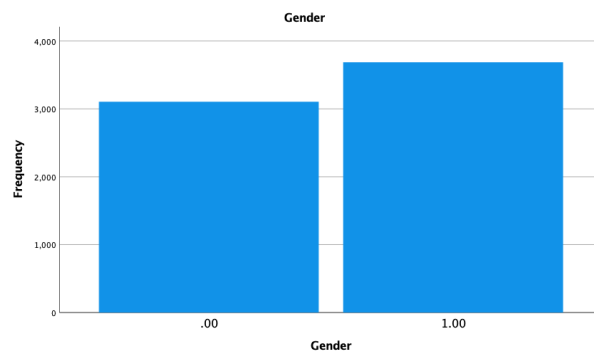
Frequencies and a barchart are made to show the final variable gender.

```
FREQUENCIES VARIABLES=Gender  
  /NTILES=4  
  /STATISTICS=STDDEV MINIMUM MAXIMUM MEAN  
  /BARCHART FREQ  
  /ORDER=ANALYSIS.
```

Statistics

Gender		
N	Valid	6794
	Missing	0
Mean		.5428
Std. Deviation		.49820
Minimum		.00
Maximum		1.00
Percentiles	25	.0000
	50	1.0000
	75	1.0000

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	3106	45.7	45.7	45.7
	1.00	3688	54.3	54.3	100.0
Total		6794	100.0	100.0	



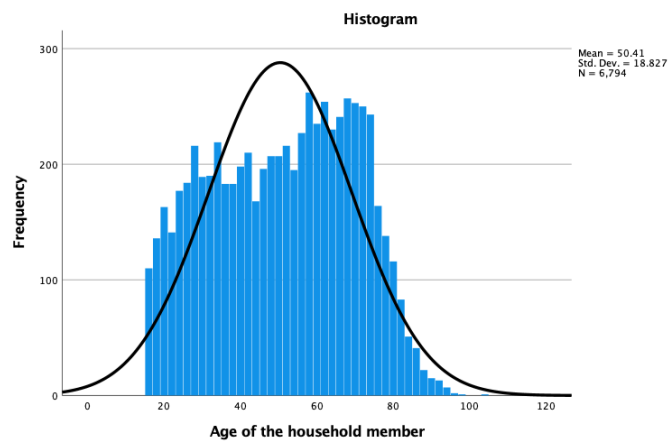
1.6 Age

Original variable

Frequencies and a histogram are made to show the variable for age. No changes are made to this variable.

```
FREQUENCIES VARIABLES=leeftijd
  /NTILES=4
  /STATISTICS=STDDEV MINIMUM MAXIMUM MEAN MEDIAN
  /HISTOGRAM NORMAL
  /ORDER=ANALYSIS.
```

leeftijd Age of the household member		
N	Valid	6794
	Missing	0
Mean		50.41
Median		52.00
Std. Deviation		18.827
Minimum		16
Maximum		103
Percentiles	25	34.00
	50	52.00
	75	66.00



1.7 Education level

Original variable

Frequencies and a barchart are made to show the original variable *oplmet*.

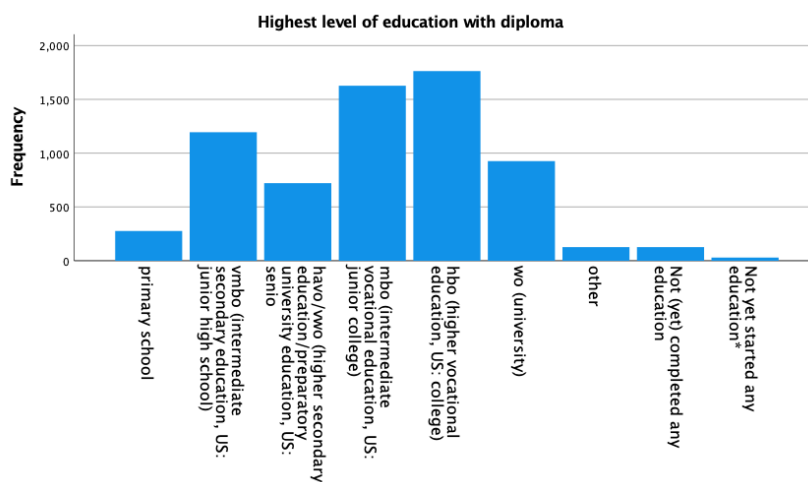
```
FREQUENCIES VARIABLES=oplmet
  /NTILES=4
  /STATISTICS=STDDEV MINIMUM MAXIMUM MEAN
  /BARCHART FREQ
  /ORDER=ANALYSIS.
```

Statistics
oplmet Highest level of education with diploma

N	Valid	6794
	Missing	0
Mean		4.10
Std. Deviation		1.596
Minimum		1
Maximum		9
Percentiles	25	3.00
	50	4.00
	75	5.00

oplmet Highest level of education with diploma

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 primary school	277	4.1	4.1	4.1
	2 vmbo (intermediate secondary education, US: junior high school)	1195	17.6	17.6	21.7
	3 havo/wo (higher secondary education/preparatory university education, US: senio	722	10.6	10.6	32.3
	4 mbo (intermediate vocational education, US: junior college)	1627	23.9	23.9	56.2
	5 hbo (higher vocational education, US: college)	1763	25.9	25.9	82.2
	6 wo (university)	926	13.6	13.6	95.8
	7 other	127	1.9	1.9	97.7
	8 Not (yet) completed any education	127	1.9	1.9	99.6
	9 Not yet started any education*	30	.4	.4	100.0
	Total	6794	100.0	100.0	



Changes

The categories 'Not (yet) completed any education' and 'not yet started any education' are made into the category 0, indicating someone did not complete any education level. Category 7 'other' is filed under missing data, since this category does not provide useful information for this thesis. The variable is called *education*.

```
RECODE oplmet (1=1) (2=2) (3=3) (4=4) (5=5) (6=6) (7=SYSMIS)
(8 thru 9=0) INTO Education.
EXECUTE.
```

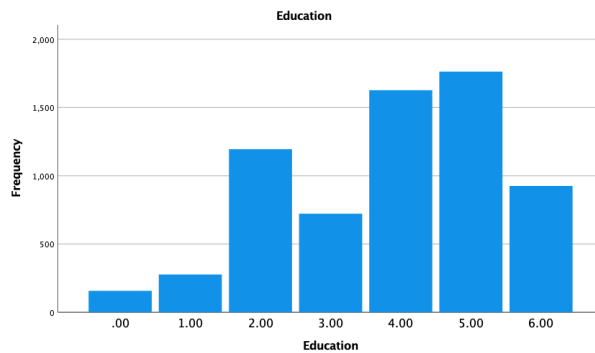
Final variable

Frequencies and a barchart are made for the final variable for education level.

```
FREQUENCIES VARIABLES=Education
  /NTILES=4
  /STATISTICS=STDDEV MINIMUM MAXIMUM MEAN
  /BARCHART FREQ
  /ORDER=ANALYSIS.
```

Statistics		
Education		
N	Valid	6667
	Missing	127
Mean		3.8566
Std. Deviation		1.54135
Minimum		.00
Maximum		6.00
Percentiles	25	3.0000
	50	4.0000
	75	5.0000

Education					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	157	2.3	2.4	2.4
	1.00	277	4.1	4.2	6.5
	2.00	1195	17.6	17.9	24.4
	3.00	722	10.6	10.8	35.3
	4.00	1627	23.9	24.4	59.7
	5.00	1763	25.9	26.4	86.1
	6.00	926	13.6	13.9	100.0
	Total	6667	98.1	100.0	
Missing	System	127	1.9		
	Total	6794	100.0		



1.8 Missing values

A missing values analysis is done to give an indication of all the missing variables of this dataset. After this, the missing values are deleted from the dataset. Frequencies, histograms and bar charts are made again for all variables, after the missing data of the dataset is deleted.

```
MVA VARIABLES=TrustDutchGovernment leeftijd LifeSatisfaction
Gender PartyParticipation Education
VotingNew
/MAXCAT=25
/CATEGORICAL=Gender PartyParticipation Education VotingNew.
```

Univariate Statistics

	N	Mean	Std. Deviation	Missing		No. of Extremes ^a	
				Count	Percent	Low	High
TrustDutchGovernment	5883	6.1781	2.14151	911	13.4	206	0
leeftijd	6794	50.41	18.827	0	.0	0	0
LifeSatisfaction	5278	7.2283	1.54411	1516	22.3	589	207
Gender	6794			0	.0		
PartyParticipation	5950			844	12.4		
Education	6667			127	1.9		
VotingNew	5667			1127	16.6		

a. Number of cases outside the range (Q1 - 1.5*IQR, Q3 + 1.5*IQR).

REGRESSION

```
/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT LifeSatisfaction
/METHOD=ENTER Gender leeftijd Education
/METHOD=ENTER VotingNew PartyParticipation
/METHOD=ENTER TrustDutchGovernment
/SCATTERPLOT=(*ZRESID ,*ZPRED)
/SAVE RESID.
```

```
RECODE RES_1 (SYSMIS=0) (ELSE=1) INTO Missing_Dummy.
VARIABLE LABELS Missing_Dummy 'Missing_Dummy'.
EXECUTE.
```

USE ALL.

```
COMPUTE filter_$=(Missing_Dummy = 1).
VARIABLE LABELS filter_$ 'Missing_Dummy = 1 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMATS filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE.
```

Life satisfaction

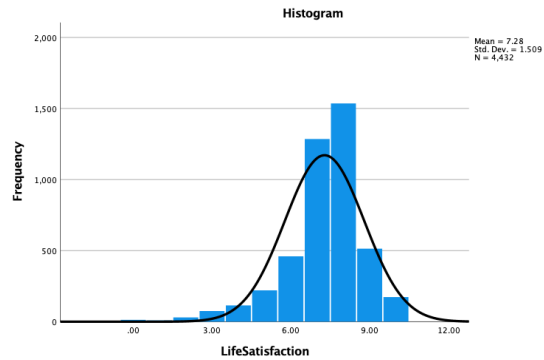
```

FREQUENCIES VARIABLES=LifeSatisfaction
  /NTILES=4
  /STATISTICS=STDDEV MINIMUM MAXIMUM MEAN
  /HISTOGRAM NORMAL
  /ORDER=ANALYSIS.
  
```

Statistics

LifeSatisfaction		
N	Valid	4432
	Missing	0
Mean		7.2800
Std. Deviation		1.50913
Minimum		.00
Maximum		10.00
Percentiles	25	7.0000
	50	8.0000
	75	8.0000

LifeSatisfaction					
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	.00	13	.3	.3	.3
	1.00	9	.2	.2	.5
	2.00	30	.7	.7	1.2
	3.00	75	1.7	1.7	2.9
	4.00	115	2.6	2.6	5.5
	5.00	221	5.0	5.0	10.4
	6.00	460	10.4	10.4	20.8
	7.00	1286	29.0	29.0	49.8
	8.00	1536	34.7	34.7	84.5
	9.00	514	11.6	11.6	96.1
	10.00	173	3.9	3.9	100.0
Total		4432	100.0	100.0	



Participation political parties

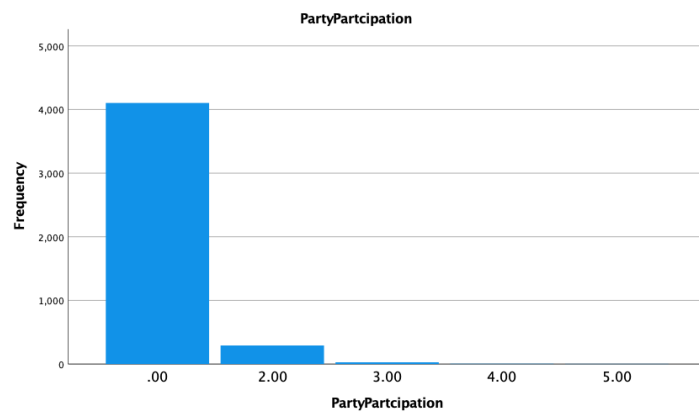
```

FREQUENCIES VARIABLES=PartyParticipation
  /NTILES=4
  /STATISTICS=STDDEV MINIMUM MAXIMUM MEAN
  /BARCHART FREQ
  /ORDER=ANALYSIS.
  
```

Statistics

PartyParticipation		
N	Valid	4432
	Missing	0
Mean		.1597
Std. Deviation		.57928
Minimum		.00
Maximum		5.00
Percentiles	25	.0000
	50	.0000
	75	.0000

PartyParticipation					
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	.00	4103	92.6	92.6	92.6
	2.00	292	6.6	6.6	99.2
	3.00	28	.6	.6	99.8
	4.00	5	.1	.1	99.9
	5.00	4	.1	.1	100.0
Total		4432	100.0	100.0	

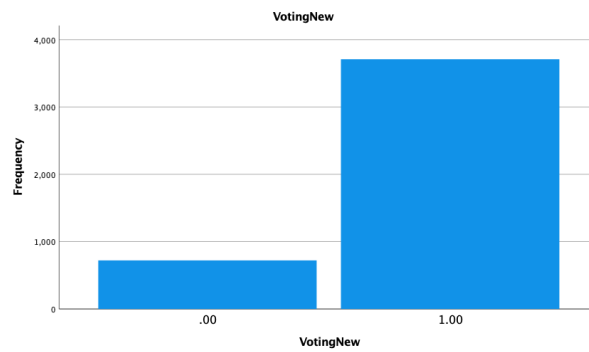


Voting

```
FREQUENCIES VARIABLES=VotingNew
  /NTILES=4
  /STATISTICS=STDDEV MINIMUM MAXIMUM MEAN
  /BARCHART FREQ
  /ORDER=ANALYSIS.
```

Statistics

VotingNew		
N	Valid	4432
	Missing	0
Mean		.8371
Std. Deviation		.36932
Minimum		.00
Maximum		1.00
Percentiles	25	1.0000
	50	1.0000
	75	1.0000



VotingNew				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	722	16.3	16.3
	1.00	3710	83.7	100.0
Total		4432	100.0	100.0

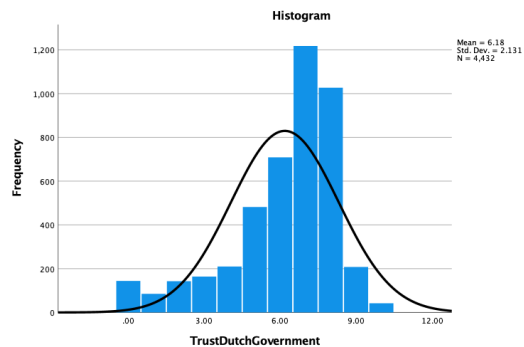
Trust in institutions

```
FREQUENCIES VARIABLES=TrustDutchGovernment
  /NTILES=4
  /STATISTICS=STDDEV MINIMUM MAXIMUM MEAN
  /HISTOGRAM NORMAL
  /ORDER=ANALYSIS.
```

Statistics

TrustDutchGovernment		
N	Valid	4432
	Missing	0
Mean		6.1825
Std. Deviation		2.13076
Minimum		.00
Maximum		10.00
Percentiles	25	5.0000
	50	7.0000
	75	8.0000

TrustDutchGovernment				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	144	3.2	3.2
	1.00	85	1.9	5.2
	2.00	143	3.2	8.4
	3.00	164	3.7	12.1
	4.00	210	4.7	16.8
	5.00	482	10.9	27.7
	6.00	709	16.0	43.7
	7.00	1218	27.5	71.2
	8.00	1027	23.2	94.4
	9.00	208	4.7	99.1
	10.00	42	.9	100.0
Total		4432	100.0	100.0



Gender

FREQUENCIES VARIABLES=Gender

/NTILES=4

/STATISTICS=STDDEV MINIMUM MAXIMUM MEAN

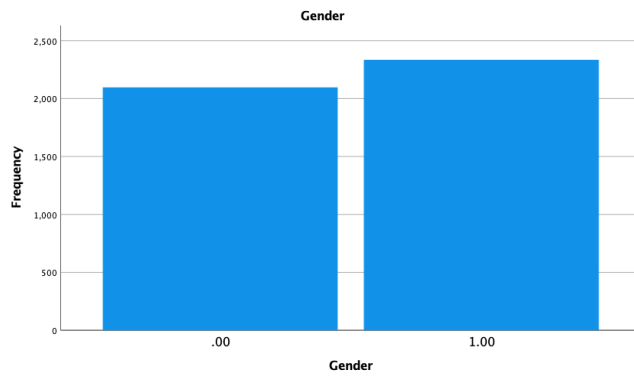
/BARChart FREQ

/ORDER=ANALYSIS.

Statistics

Gender

N	Valid	4432
	Missing	0
Mean		.5269
Std. Deviation		.49933
Minimum		.00
Maximum		1.00
Percentiles	25	.0000
	50	1.0000
	75	1.0000



Gender				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	2097	47.3	47.3
	1.00	2335	52.7	100.0
Total		4432	100.0	100.0

Age

FREQUENCIES VARIABLES=leeftijd

/NTILES=4

/STATISTICS=STDDEV MINIMUM MAXIMUM MEAN MEDIAN

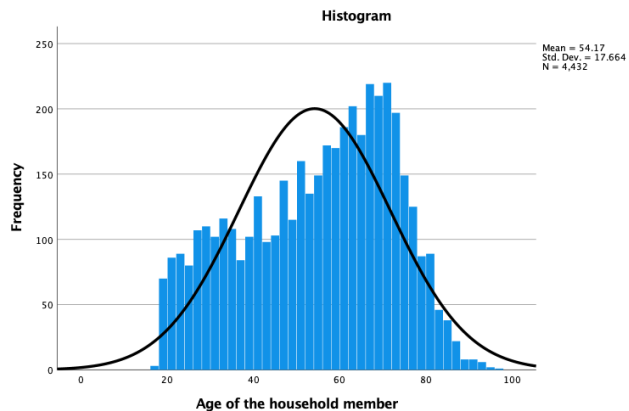
/HISTOGRAM NORMAL

/ORDER=ANALYSIS.

Statistics

leeftijd Age of the household member

N	Valid	4432
	Missing	0
Mean		54.17
Median		57.00
Std. Deviation		17.664
Minimum		17
Maximum		97
Percentiles	25	40.00
	50	57.00
	75	68.00



Education level

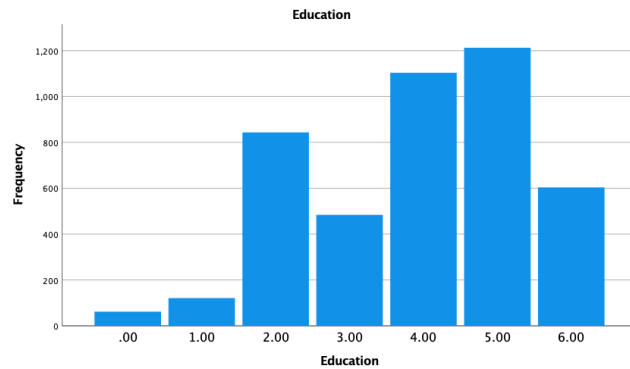
```

FREQUENCIES VARIABLES=Education
  /NTILES=4
  /STATISTICS=STDDEV MINIMUM MAXIMUM MEAN
  /BARCHART FREQ
  /ORDER=ANALYSIS.
  
```

Statistics

Education		
N	Valid	4432
	Missing	0
Mean		3.9183
Std. Deviation		1.46735
Minimum		.00
Maximum		6.00
Percentiles	25	3.0000
	50	4.0000
	75	5.0000

Education				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	62	1.4	1.4
	1.00	121	2.7	4.1
	2.00	844	19.0	23.2
	3.00	484	10.9	34.1
	4.00	1104	24.9	59.0
	5.00	1213	27.4	86.4
	6.00	604	13.6	100.0
Total		4432	100.0	100.0



Appendix 2 bivariate descriptives and linear regression analysis

2.1 Pearson correlation

The Pearson correlation is used to estimate the correlation between the continuous variables. The continuous variables are *life satisfaction*, *trust in institutions* and *age*. Besides the continuous variables, dummies can be used with estimating correlation using Pearson correlation. The dummies are *gender* and *voting*.

CORRELATIONS

```

/VARIABLES=LifeSatisfaction TrustDutchGovernment leeftijd
Gender VotingNew
/PRINT=TWOTAIL NOSIG FULL
/MISSING=PAIRWISE.
    
```

Correlations

		Correlations				
		LifeSatisfaction	TrustDutchGovernment	leeftijd Age of the household member	Gender	VotingNew
LifeSatisfaction	Pearson Correlation	1	.184**	.123**	.008	.091**
	Sig. (2-tailed)		<.001	<.001	.574	<.001
	N	4432	4432	4432	4432	4432
TrustDutchGovernment	Pearson Correlation	.184**	1	.029	.045**	.103**
	Sig. (2-tailed)	<.001		.058	.003	<.001
	N	4432	4432	4432	4432	4432
leeftijd Age of the household member	Pearson Correlation	.123**	.029	1	-.087**	.241**
	Sig. (2-tailed)	<.001	.058		<.001	<.001
	N	4432	4432	4432	4432	4432
Gender	Pearson Correlation	.008	.045**	-.087**	1	-.040**
	Sig. (2-tailed)	.574	.003	<.001		.008
	N	4432	4432	4432	4432	4432
VotingNew	Pearson Correlation	.091**	.103**	.241**	-.040**	1
	Sig. (2-tailed)	<.001	<.001	<.001	.008	
	N	4432	4432	4432	4432	4432

** . Correlation is significant at the 0.01 level (2-tailed).

2.2 Chi square and Cramer's V

To estimate the association between two categorical values, crosstabs with Chi Square and Cramer's V are made. The categorical variables are *political party participation*, *voting*, *gender*, and *education level*.

Political party participation and voting

```
CROSSTABS
  /TABLES=PartyParticipation BY VotingNew
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ PHI
  /CELLS=COUNT
  /COUNT ROUND CELL.
```

PartyParticipation * VotingNew Crosstabulation

Count		VotingNew		Total
		.00	1.00	
PartyParticipation	.00	697	3406	4103
	2.00	25	267	292
	3.00	0	28	28
	4.00	0	5	5
	5.00	0	4	4
Total		722	3710	4432

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	21.453 ^a	4	<.001
Likelihood Ratio	29.598	4	<.001
Linear-by-Linear Association	21.049	1	<.001
N of Valid Cases	4432		

a. 5 cells (50.0%) have expected count less than 5. The minimum expected count is .65.

Symmetric Measures

	Value	Approximate Significance
Nominal by Nominal	Phi	.070
	Cramer's V	.070
N of Valid Cases	4432	

Political party participation and gender

CROSSTABS

/TABLES=PartyParticipation BY Gender

/FORMAT=AVALUE TABLES

/STATISTICS=CHISQ PHI

/CELLS=COUNT

/COUNT ROUND CELL.

PartyParticipation * Gender Crosstabulation

Count

		Gender		Total
		.00	1.00	
PartyParticipation	.00	1913	2190	4103
	2.00	163	129	292
	3.00	17	11	28
	4.00	1	4	5
	5.00	3	1	4
Total		2097	2335	4432

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	14.005 ^a	4	.007
Likelihood Ratio	14.166	4	.007
Linear-by-Linear Association	10.040	1	.002
N of Valid Cases	4432		

a. 4 cells (40.0%) have expected count less than 5. The minimum expected count is 1.89.

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	.056	.007
	Cramer's V	.056	.007
N of Valid Cases		4432	

Political party participation and education

CROSSTABS

/TABLES=PartyParticipation BY Education

/FORMAT=AVALUE TABLES

/STATISTICS=CHISQ PHI

/CELLS=COUNT

/COUNT ROUND CELL.

PartyParticipation * Education Crosstabulation

Count

		Education							Total
		.00	1.00	2.00	3.00	4.00	5.00	6.00	
PartyParticipation	.00	59	116	800	453	1044	1109	522	4103
	2.00	3	4	43	26	57	94	65	292
	3.00	0	1	0	4	2	10	11	28
	4.00	0	0	0	0	0	0	5	5
	5.00	0	0	1	1	1	0	1	4
Total		62	121	844	484	1104	1213	604	4432

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	89.866 ^a	24	<.001
Likelihood Ratio	79.916	24	<.001
Linear-by-Linear Association	36.926	1	<.001
N of Valid Cases	4432		

a. 19 cells (54.3%) have expected count less than 5. The minimum expected count is .06.

Symmetric Measures

	Value	Approximate Significance
Nominal by Nominal		
Phi	.142	<.001
Cramer's V	.071	<.001
N of Valid Cases	4432	

Voting and gender

CROSSTABS

/TABLES=PartyParticipation BY Education

/FORMAT=AVALUE TABLES

/STATISTICS=CHISQ PHI

/CELLS=COUNT

/COUNT ROUND CELL.

VotingNew * Gender Crosstabulation

Count

		Gender		Total
		.00	1.00	
VotingNew	.00	309	413	722
	1.00	1788	1922	3710
Total		2097	2335	4432

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	7.060 ^a	1	.008		
Continuity Correction ^b	6.845	1	.009		
Likelihood Ratio	7.087	1	.008		
Fisher's Exact Test				.008	.004
Linear-by-Linear Association	7.059	1	.008		
N of Valid Cases	4432				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 341.61.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	-.040	.008
	Cramer's V	.040	.008
N of Valid Cases		4432	

Voting and education level

CROSSTABS

/TABLES=VotingNew BY Education

/FORMAT=AVALUE TABLES

/STATISTICS=CHISQ PHI

/CELLS=COUNT

/COUNT ROUND CELL.

VotingNew * Education Crosstabulation

Count		Education							Total
		.00	1.00	2.00	3.00	4.00	5.00	6.00	
VotingNew	.00	31	48	177	125	186	100	55	722
	1.00	31	73	667	359	918	1113	549	3710
Total		62	121	844	484	1104	1213	604	4432

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	226.704 ^a	6	<.001
Likelihood Ratio	210.981	6	<.001
Linear-by-Linear Association	175.602	1	<.001
N of Valid Cases	4432		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 10.10.

Symmetric Measures

	Value	Approximate Significance
Nominal by Nominal	Phi	.226
	Cramer's V	.226
N of Valid Cases	4432	

Gender and education level

CROSSTABS

/TABLES=Gender BY Education

/FORMAT=AVALUE TABLES

/STATISTICS=CHISQ PHI

/CELLS=COUNT

/COUNT ROUND CELL.

Gender * Education Crosstabulation

Count

		Education							Total
		.00	1.00	2.00	3.00	4.00	5.00	6.00	
Gender	.00	37	60	352	203	535	578	332	2097
	1.00	25	61	492	281	569	635	272	2335
Total		62	121	844	484	1104	1213	604	4432

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	35.130 ^a	6	<.001
Likelihood Ratio	35.211	6	<.001
Linear-by-Linear Association	13.361	1	<.001
N of Valid Cases	4432		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 29.34.

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	.089	<.001
	Cramer's V	.089	<.001
N of Valid Cases		4432	

2.3 ANOVA

To estimate the association between categorical and continuous variables, the ANOVA method is used. The R^2 which belongs to each ANOVA procedure, is used to estimate the correlation.

Life satisfaction and political party participation

UNIANOVA LifeSatisfaction BY PartyParticipation

/METHOD=SSTYPE(3)

/INTERCEPT=INCLUDE

/CRITERIA=ALPHA(0.05)

/DESIGN=PartyParticipation.

Univariate Analysis of Variance

Between-Subjects Factors

		N
PartyParticipation	.00	4103
	2.00	292
	3.00	28
	4.00	5
	5.00	4

Tests of Between-Subjects Effects

Dependent Variable: LifeSatisfaction

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	13.252 ^a	4	3.313	1.455	.213
Intercept	2979.938	1	2979.938	1308.975	<.001
PartyParticipation	13.252	4	3.313	1.455	.213
Error	10078.257	4427	2.277		
Total	244981.000	4432			
Corrected Total	10091.509	4431			

a. R Squared = .001 (Adjusted R Squared = .000)

Life satisfaction and education level

UNIANOVA LifeSatisfaction BY Education

/METHOD=SSTYPE(3)

/INTERCEPT=INCLUDE

/CRITERIA=ALPHA(0.05)

/DESIGN=Education.

Between-Subjects Factors

		N
Education	.00	62
	1.00	121
	2.00	844
	3.00	484
	4.00	1104
	5.00	1213
	6.00	604

Tests of Between-Subjects Effects

Dependent Variable: LifeSatisfaction

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	48.095 ^a	6	8.016	3.532	.002
Intercept	81428.358	1	81428.358	35876.297	.000
Education	48.095	6	8.016	3.532	.002
Error	10043.413	4425	2.270		
Total	244981.000	4432			
Corrected Total	10091.509	4431			

a. R Squared = .005 (Adjusted R Squared = .003)

Trust in institutions and political party participation

```
UNIANOVA TrustDutchGovernment BY PartyParticipation  
  /METHOD=SSTYPE(3)  
  /INTERCEPT=INCLUDE  
  /CRITERIA=ALPHA(0.05)  
  /DESIGN=PartyParticipation.
```

Univariate Analysis of Variance

Between-Subjects Factors

		N
PartyParticipation	.00	4103
	2.00	292
	3.00	28
	4.00	5
	5.00	4

Tests of Between-Subjects Effects

Dependent Variable: TrustDutchGovernment

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	10.235 ^a	4	2.559	.563	.689
Intercept	2185.301	1	2185.301	481.140	<.001
PartyParticipation	10.235	4	2.559	.563	.689
Error	20107.093	4427	4.542		
Total	189525.000	4432			
Corrected Total	20117.328	4431			

a. R Squared = .001 (Adjusted R Squared = .000)

Age and political party participation

UNIANOVA leeftijd BY PartyParticipation

/METHOD=SSTYPE(3)

/INTERCEPT=INCLUDE

/CRITERIA=ALPHA(0.05)

/DESIGN=PartyParticipation.

Between-Subjects Factors

		N
PartyParticipation	.00	4103
	2.00	292
	3.00	28
	4.00	5
	5.00	4

Tests of Between-Subjects Effects

Dependent Variable: leeftijd Age of the household member

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	12590.832 ^a	4	3147.708	10.172	<.001
Intercept	147189.980	1	147189.980	475.641	<.001
PartyParticipation	12590.832	4	3147.708	10.172	<.001
Error	1369962.939	4427	309.456		
Total	14385551.0	4432			
Corrected Total	1382553.771	4431			

a. R Squared = .009 (Adjusted R Squared = .008)

Trust in institutions and education level

UNIANOVA TrustDutchGovernment BY Education

/METHOD=SSTYPE(3)

/INTERCEPT=INCLUDE

/CRITERIA=ALPHA(0.05)

/DESIGN=Education.

Univariate Analysis of Variance

Between-Subjects Factors

		N
Education	.00	62
	1.00	121
	2.00	844
	3.00	484
	4.00	1104
	5.00	1213
	6.00	604

Tests of Between-Subjects Effects

Dependent Variable: TrustDutchGovernment

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	615.640 ^a	6	102.607	23.282	<.001
Intercept	56748.223	1	56748.223	12876.366	.000
Education	615.640	6	102.607	23.282	<.001
Error	19501.689	4425	4.407		
Total	189525.000	4432			
Corrected Total	20117.328	4431			

a. R Squared = .031 (Adjusted R Squared = .029)

Age and education level

UNIANOVA leeftijd BY Education

/METHOD=SSTYPE(3)

/INTERCEPT=INCLUDE

/CRITERIA=ALPHA(0.05)

/DESIGN=Education.

Between-Subjects Factors

		N
Education	.00	62
	1.00	121
	2.00	844
	3.00	484
	4.00	1104
	5.00	1213
	6.00	604

Tests of Between-Subjects Effects

Dependent Variable: leeftijd Age of the household member

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	120367.551 ^a	6	20061.258	70.331	<.001
Intercept	4430024.171	1	4430024.171	15530.875	.000
Education	120367.551	6	20061.258	70.331	<.001
Error	1262186.220	4425	285.240		
Total	14385551.0	4432			
Corrected Total	1382553.771	4431			

a. R Squared = .087 (Adjusted R Squared = .086)

2.4 Linear regression analysis

Analysis 1.1

Linear regression analysis with life satisfaction as the dependent variable, political party participation as the independent variable, controlled for gender, age and education level.

REGRESSION

```

/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA CHANGE
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT LifeSatisfaction
/METHOD=ENTER Gender leeftijd Education
/METHOD=ENTER PartyParticipation
/METHOD=ENTER TrustDutchGovernment.
    
```

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.141 ^a	.020	.019	1.49466	.020	29.745	3	4428	<.001
2	.141 ^b	.020	.019	1.49479	.000	.244	1	4427	.621
3	.222 ^c	.049	.048	1.47232	.029	137.156	1	4426	<.001

- a. Predictors: (Constant), Education, Gender, leeftijd Age of the household member
b. Predictors: (Constant), Education, Gender, leeftijd Age of the household member, PartyParticipation
c. Predictors: (Constant), Education, Gender, leeftijd Age of the household member, PartyParticipation, TrustDutchGovernment

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	199.349	3	66.450	29.745	<.001 ^b
	Residual	9892.160	4428	2.234		
	Total	10091.509	4431			
2	Regression	199.894	4	49.973	22.366	<.001 ^c
	Residual	9891.615	4427	2.234		
	Total	10091.509	4431			
3	Regression	497.208	5	99.442	45.874	<.001 ^d
	Residual	9594.300	4426	2.168		
	Total	10091.509	4431			

- a. Dependent Variable: LifeSatisfaction
b. Predictors: (Constant), Education, Gender, leeftijd Age of the household member
c. Predictors: (Constant), Education, Gender, leeftijd Age of the household member, PartyParticipation
d. Predictors: (Constant), Education, Gender, leeftijd Age of the household member, PartyParticipation, TrustDutchGovernment

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error				Lower Bound	Upper Bound
1	(Constant)	6.348	.108		58.876	.000	6.137	6.560
	Gender	.072	.045	.024	1.598	.110	-.016	.161
	leeftijd Age of the household member	.012	.001	.136	8.967	<.001	.009	.014
	Education	.068	.016	.066	4.354	<.001	.037	.098
	PartyParticipation	.019	.039	.007	.494	.621	-.057	.096
2	(Constant)	6.351	.108		58.815	.000	6.140	6.563
	Gender	.073	.045	.024	1.614	.107	-.016	.162
	leeftijd Age of the household member	.012	.001	.135	8.884	<.001	.009	.014
	Education	.067	.016	.065	4.279	<.001	.036	.097
	PartyParticipation	.019	.039	.007	.494	.621	-.057	.096
3	(Constant)	5.776	.117		49.304	.000	5.546	6.006
	Gender	.042	.045	.014	.929	.353	-.046	.129
	leeftijd Age of the household member	.011	.001	.124	8.276	<.001	.008	.013
	Education	.036	.016	.035	2.275	.023	.005	.066
	PartyParticipation	.024	.039	.009	.628	.530	-.051	.100
	TrustDutchGovernment	.124	.011	.174	11.711	<.001	.103	.144

- a. Dependent Variable: LifeSatisfaction

Analysis 1.2

Linear regression for analysis with trust in institutions as the dependent variable, political party participation as the independent variable, controlled for gender, age and education. This model is used to test the effect of political party participation on trust in institutions. This is part of testing the mediating effect of trust in institutions on the effect of political party participation on life satisfaction.

REGRESSION

```

/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA CHANGE
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT TrustDutchGovernment
/METHOD=ENTER Gender leeftijd Education
/METHOD=ENTER PartyParticipation.

```

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.180 ^a	.032	.032	2.09679	.032	49.239	3	4428	<.001
2	.180 ^b	.032	.032	2.09691	.000	.520	1	4427	.471

a. Predictors: (Constant), Education, Gender, leeftijd Age of the household member

b. Predictors: (Constant), Education, Gender, leeftijd Age of the household member, PartyParticipation

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	649.445	3	216.482	49.239	<.001 ^b
	Residual	19467.884	4428	4.397		
	Total	20117.328	4431			
2	Regression	651.730	4	162.932	37.055	<.001 ^c
	Residual	19465.599	4427	4.397		
	Total	20117.328	4431			

a. Dependent Variable: TrustDutchGovernment

b. Predictors: (Constant), Education, Gender, leeftijd Age of the household member

c. Predictors: (Constant), Education, Gender, leeftijd Age of the household member, PartyParticipation

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	95,0% Confidence Interval for B	
		B	Std. Error				Lower Bound	Upper Bound
1	(Constant)	4.659	.151		30.802	<.001	4.363	4.956
	Gender	.257	.063	.060	4.049	<.001	.133	.382
	leeftijd Age of the household member	.007	.002	.061	4.080	<.001	.004	.011
	Education	.252	.022	.173	11.552	<.001	.209	.295
2	(Constant)	4.654	.151		30.719	<.001	4.357	4.951
	Gender	.256	.064	.060	4.022	<.001	.131	.380
	leeftijd Age of the household member	.008	.002	.062	4.129	<.001	.004	.011
	Education	.253	.022	.175	11.564	<.001	.210	.296
	PartyParticipation	-.040	.055	-.011	-.721	.471	-.147	.068

a. Dependent Variable: TrustDutchGovernment

Analysis 2.1

Linear regression analysis with life satisfaction as the dependent variable and voting as the independent variable, controlled for gender, age, and education level.

REGRESSION

```

/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA CHANGE
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT LifeSatisfaction
/METHOD=ENTER Gender leeftijd Education
/METHOD=ENTER VotingNew
/METHOD=ENTER TrustDutchGovernment.
    
```

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.141 ^a	.020	.019	1.49466	.020	29.745	3	4428	<.001
2	.149 ^b	.022	.021	1.49301	.002	10.802	1	4427	.001
3	.225 ^c	.051	.050	1.47123	.029	133.012	1	4426	<.001

a. Predictors: (Constant), Education, Gender, leeftijd Age of the household member

b. Predictors: (Constant), Education, Gender, leeftijd Age of the household member, VotingNew

c. Predictors: (Constant), Education, Gender, leeftijd Age of the household member, VotingNew, TrustDutchGovernment

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	199.349	3	66.450	29.745	<.001 ^b
	Residual	9892.160	4428	2.234		
	Total	10091.509	4431			
2	Regression	223.427	4	55.857	25.058	<.001 ^c
	Residual	9868.082	4427	2.229		
	Total	10091.509	4431			
3	Regression	511.335	5	102.267	47.247	<.001 ^d
	Residual	9580.174	4426	2.165		
	Total	10091.509	4431			

a. Dependent Variable: LifeSatisfaction

b. Predictors: (Constant), Education, Gender, leeftijd Age of the household member

c. Predictors: (Constant), Education, Gender, leeftijd Age of the household member, VotingNew

d. Predictors: (Constant), Education, Gender, leeftijd Age of the household member, VotingNew, TrustDutchGovernment

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	6.348	.108		58.876	.000	6.137	6.560
	Gender	.072	.045	.024	1.598	.110	-.016	.161
	leeftijd Age of the household member	.012	.001	.136	8.967	<.001	.009	.014
	Education	.068	.016	.066	4.354	<.001	.037	.098
	VotingNew	.212	.065	.052	3.287	.001	.086	.339
2	(Constant)	6.289	.109		57.572	.000	6.075	6.503
	Gender	.073	.045	.024	1.607	.108	-.016	.161
	leeftijd Age of the household member	.010	.001	.121	7.697	<.001	.008	.013
	Education	.055	.016	.053	3.411	<.001	.023	.086
	VotingNew	.212	.065	.052	3.287	.001	.086	.339
3	(Constant)	5.734	.118		48.626	.000	5.502	5.965
	Gender	.041	.045	.014	.925	.355	-.046	.129
	leeftijd Age of the household member	.010	.001	.114	7.320	<.001	.007	.012
	Education	.027	.016	.026	1.672	.095	-.005	.058
	VotingNew	.168	.064	.041	2.631	.009	.043	.293
	TrustDutchGovernment	.122	.011	.172	11.533	<.001	.101	.143

a. Dependent Variable: LifeSatisfaction

Analysis 2.2

Linear regression for analysis with trust in institutions as the dependent variable, voting as de independent variable, controlled for gender, age and education. This model is used to test the effect of voting on trust in institutions. This is part of testing the mediating effect of trust in institutions on the effect of voting on life satisfaction.

REGRESSION

```

/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA CHANGE
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT TrustDutchGovernment
/METHOD=ENTER Gender leeftijd Education
/METHOD=ENTER VotingNew.

```

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.180 ^a	.032	.032	2.09679	.032	49.239	3	4428	<.001
2	.189 ^b	.036	.035	2.09318	.004	16.284	1	4427	<.001

a. Predictors: (Constant), Education, Gender, leeftijd Age of the household member

b. Predictors: (Constant), Education, Gender, leeftijd Age of the household member, VotingNew

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	649.445	3	216.482	49.239	<.001 ^b
	Residual	19467.884	4428	4.397		
	Total	20117.328	4431			
2	Regression	720.790	4	180.198	41.128	<.001 ^c
	Residual	19396.538	4427	4.381		
	Total	20117.328	4431			

a. Dependent Variable: TrustDutchGovernment

b. Predictors: (Constant), Education, Gender, leeftijd Age of the household member

c. Predictors: (Constant), Education, Gender, leeftijd Age of the household member, VotingNew

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95,0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	4.659	.151		30.802	<.001	4.363	4.956
	Gender	.257	.063	.060	4.049	<.001	.133	.382
	leeftijd Age of the household member	.007	.002	.061	4.080	<.001	.004	.011
	Education	.252	.022	.173	11.552	<.001	.209	.295
2	(Constant)	4.556	.153		29.754	<.001	4.256	4.857
	Gender	.258	.063	.060	4.065	<.001	.133	.382
	leeftijd Age of the household member	.005	.002	.044	2.793	.005	.002	.009
	Education	.229	.022	.158	10.216	<.001	.185	.273
	VotingNew	.365	.091	.063	4.035	<.001	.188	.543

a. Dependent Variable: TrustDutchGovernment

Analysis 3.1

Linear regression analysis with life satisfaction as the dependent variable, political party participation and voting as the independent variables, controlled for gender, age and education level.

REGRESSION

```

/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA CHANGE
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT LifeSatisfaction
/METHOD=ENTER Gender leeftijd Education
/METHOD=ENTER PartyParticipation VotingNew
/METHOD=ENTER TrustDutchGovernment.
    
```

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.141 ^a	.020	.019	1.49466	.020	29.745	3	4428	<.001
2	.149 ^b	.022	.021	1.49315	.002	5.483	2	4426	.004
3	.225 ^c	.051	.049	1.47135	.029	133.131	1	4425	<.001

- a. Predictors: (Constant), Education, Gender, leeftijd Age of the household member
- b. Predictors: (Constant), Education, Gender, leeftijd Age of the household member, PartyParticipation, VotingNew
- c. Predictors: (Constant), Education, Gender, leeftijd Age of the household member, PartyParticipation, VotingNew, TrustDutchGovernment

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	199.349	3	66.450	29.745	<.001 ^b
	Residual	9892.160	4428	2.234		
	Total	10091.509	4431			
2	Regression	223.799	5	44.760	20.076	<.001 ^c
	Residual	9867.710	4426	2.229		
	Total	10091.509	4431			
3	Regression	512.010	6	85.335	39.418	<.001 ^d
	Residual	9579.499	4425	2.165		
	Total	10091.509	4431			

- a. Dependent Variable: LifeSatisfaction
- b. Predictors: (Constant), Education, Gender, leeftijd Age of the household member
- c. Predictors: (Constant), Education, Gender, leeftijd Age of the household member, PartyParticipation, VotingNew
- d. Predictors: (Constant), Education, Gender, leeftijd Age of the household member, PartyParticipation, VotingNew, TrustDutchGovernment

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error				Lower Bound	Upper Bound
1	(Constant)	6.348	.108		58.876	.000	6.137	6.560
	Gender	.072	.045	.024	1.598	.110	-.016	.161
	leeftijd Age of the household member	.012	.001	.136	8.967	<.001	.009	.014
	Education	.068	.016	.066	4.354	<.001	.037	.098
2	(Constant)	6.291	.109		57.498	.000	6.077	6.506
	Gender	.073	.045	.024	1.620	.105	-.015	.162
	leeftijd Age of the household member	.010	.001	.121	7.638	<.001	.008	.013
	Education	.054	.016	.053	3.358	<.001	.022	.086
	PartyParticipation	.016	.039	.006	.408	.683	-.061	.093
3	(Constant)	5.737	.118		48.596	.000	5.505	5.968
	Gender	.042	.045	.014	.943	.346	-.045	.130
	leeftijd Age of the household member	.010	.001	.113	7.250	<.001	.007	.012
	Education	.026	.016	.025	1.611	.107	-.006	.057
	PartyParticipation	.022	.039	.008	.558	.577	-.054	.097
	VotingNew	.167	.064	.041	2.615	.009	.042	.292
TrustDutchGovernment	.122	.011	.172	11.538	<.001	.101	.143	

- a. Dependent Variable: LifeSatisfaction

Analysis 3.2

Linear regression for analysis with trust in institutions as the dependent variable, political party participation and voting as de independent variable, controlled for gender, age and education. This model is used to test the effect of both political party participation and voting on trust in institutions. This is part of testing the mediating effect of trust in institutions on the effect of both political party participation and voting on life satisfaction.

REGRESSION

```

/MISSING LISTWISE
/STATISTICS COEFF OUTS CI(95) R ANOVA CHANGE
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT TrustDutchGovernment
/METHOD=ENTER Gender leeftijd Education
/METHOD=ENTER PartyParticipation VotingNew.
    
```

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.180 ^a	.032	.032	2.09679	.032	49.239	3	4428	<.001
2	.190 ^b	.036	.035	2.09326	.004	8.484	2	4426	<.001

a. Predictors: (Constant), Education, Gender, leeftijd Age of the household member

b. Predictors: (Constant), Education, Gender, leeftijd Age of the household member, PartyParticipation, VotingNew

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	649.445	3	216.482	49.239	<.001 ^b
	Residual	19467.884	4428	4.397		
	Total	20117.328	4431			
2	Regression	723.797	5	144.759	33.037	<.001 ^c
	Residual	19393.532	4426	4.382		
	Total	20117.328	4431			

a. Dependent Variable: TrustDutchGovernment

b. Predictors: (Constant), Education, Gender, leeftijd Age of the household member

c. Predictors: (Constant), Education, Gender, leeftijd Age of the household member, PartyParticipation, VotingNew

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	4.659	.151		30.802	<.001	4.363	4.956
	Gender	.257	.063	.060	4.049	<.001	.133	.382
	leeftijd Age of the household member	.007	.002	.061	4.080	<.001	.004	.011
	Education	.252	.022	.173	11.552	<.001	.209	.295
2	(Constant)	4.549	.153		29.658	<.001	4.249	4.850
	Gender	.256	.063	.060	4.035	<.001	.132	.380
	leeftijd Age of the household member	.005	.002	.045	2.851	.004	.002	.009
	Education	.231	.023	.159	10.248	<.001	.187	.275
	PartyParticipation	-.045	.055	-.012	-.828	.408	-.153	.062
	VotingNew	.367	.091	.064	4.056	<.001	.190	.545

a. Dependent Variable: TrustDutchGovernment

Appendix 3: assumptions, multicollinearity and outliers

A linear regression is run, to get all the needed output for assumptions and the diagnostics for outliers. These are a residual plot, PP-Plot, histogram, Cook's distance, Leverage, residuals and DFFIT.

```
REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT LifeSatisfaction
  /METHOD=ENTER Gender leeftijd Education
  /METHOD=ENTER PartyParticipation VotingNew
  /METHOD=ENTER TrustDutchGovernment
  /PARTIALPLOT ALL
  /SCATTERPLOT=(*ZRESID ,*ZPRED)
  /RESIDUALS HISTOGRAM(ZRESID) NORMPROB(ZRESID)
  /SAVE COOK LEVER RESID ZRESID SRESID DFFIT.
```

3.1 Assumptions for linear regression

3.1.1 Independent sample

The first assumption is that the data should be an independent sample. The data used for the analysis stems from the LISS Panel, which uses independent sampling to gather data. However, the data is collected at the household level, which means that more than one person from the same household may be a respondent. People from the same household can influence one another, therefore the assumption of independent sampling is violated. Due to the large sample size in this thesis, this is less problematic.

3.1.2 Linearity

To inspect the assumption of linearity, the residual plot in figure 1 can be used. Here, the linear relationship between the dependent variable life satisfaction, and the independent variables is shown. There does not seem to be a systematic deviation of the 0-line. However, the scatterplot is not perfect. The residual plot shows that the dependent variable is not perfectly continuous. The variable is seen as continuous for this analysis, although the scale does exist of 10 points. Because of this, the assumption for linearity is slightly violated, but this is not problematic.

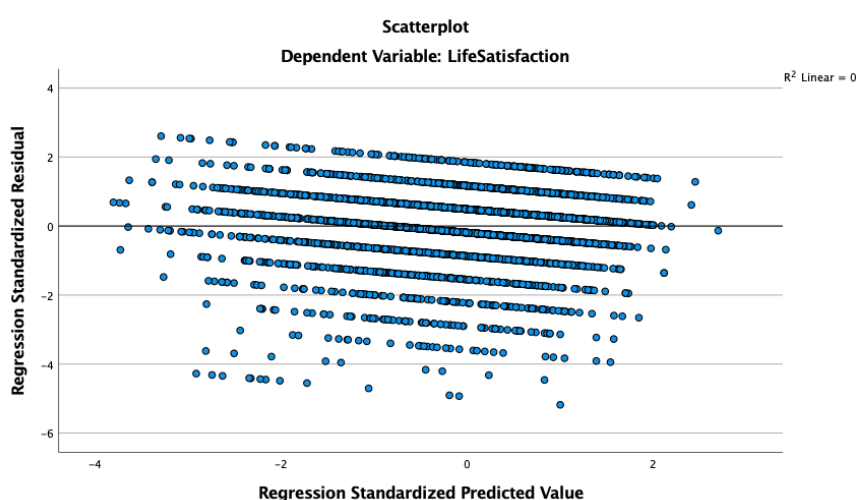


Figure 1: residual plot (n = 4432)

3.1.3 Homoscedasticity

The next assumption, which is checked, is homoscedasticity. When there is homoscedasticity, the standard deviation of the residuals is constant, for all values of the dependent variable. In the residual plot in figure 1, the line drawn in the scatterplot is almost perfectly aligned with the zero line. The spread of the residuals does not greatly change at any point in the scatterplot. This would indicate that there is homoscedasticity. Here, the fact that the dependent variable is not perfectly continuous does result in some violation of the assumption. Once again, this is not extremely problematic.

3.1.4 Normality

To check the assumption for normal distribution of the residuals, a look can be taken at the histogram in figure 2 and the PP-Plot in figure 3. In the histogram below one can see that there is a certain normal distribution. It is not perfect since the center of the distribution is not the peak of the distribution. The assumption for normality is violated slightly, but not in a problematic way. In the PP-Plot below, one can see that the data is centered mostly around the line, but again some violation of the assumption of normality can be spotted here. Once again, this can be due to the fact the dependent variable is not perfectly continuous.

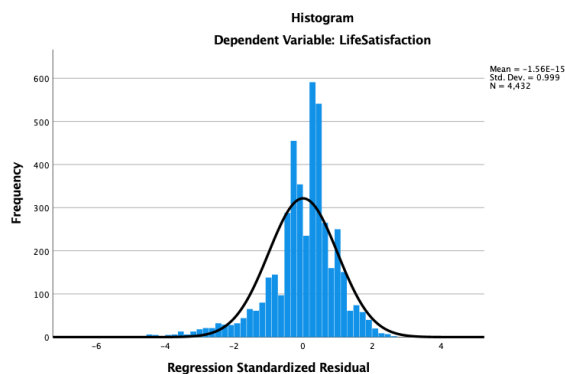


Figure 2: histogram of the residuals

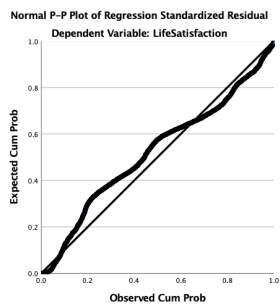


Figure 3: PP-Plot

3.2 Multicollinearity

When checking for multicollinearity, it is assessed whether the independent variables are too highly correlated to predict the dependent variable effectively. To do this, the VIF-score (Variance Inflation Factor) is used. If the VIF-score for the variables exceeds the threshold of 4, there is a high chance of multicollinearity. As shown in the table below, all $VIF < 4$. This indicates that there is no multicollinearity between the independent variables. This is backed by the Tolerance scores, which are all higher than 0,1, indicating again that there is no multicollinearity between the independent variables.

```

REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA COLLIN TOL
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT LifeSatisfaction
  /METHOD=ENTER Gender leeftijd Education PartyParticipation
  VotingNew TrustDutchGovernment
  /SCATTERPLOT=(*ZRESID ,*ZPRED) .

```

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	5.737	.118		48.596	.000		
	Gender	.042	.045	.014	.943	.346	.983	1.018
	leeftijd Age of the household member	.010	.001	.113	7.250	<.001	.882	1.134
	Education	.026	.016	.025	1.611	.107	.882	1.134
	PartyParticipation	.022	.039	.008	.558	.577	.981	1.020
	VotingNew	.167	.064	.041	2.615	.009	.880	1.136
	TrustDutchGovernment	.122	.011	.172	11.538	<.001	.964	1.037

a. Dependent Variable: LifeSatisfaction

3.3 Outliers

To check for outliers in the dataset, a couple of different measures for outliers are used. To start, the *standardized residuals* will be examined. Here, the rule of thumb is that any residual above 3 or below -3, is seen as a ‘large’ residual. As seen in the partial regression plots shown for checking the assumption of linear regression, there do seem to be cases that have residuals of below -3.

Second, the *leverage* is examined. Leverage shows how much a case ‘pulls’ on the data. The higher the value of leverage, the more a case pulls on the data and therefore changes the outcome of the analysis. To interpret the value of Leverage, the following measure is used:

$$3 * p \text{ (number of parameters)} / n = (3 * 7) / 4432 = 0,005$$

Every case with a value higher than 0,005 is potentially problematic.

Third, the measure of *Cook’s Distance* is used to detect outliers in the data. Here, the rule of thumb is that every case with a value higher than $4 / n$ is considered a potential problem. For this data this means $4 / 4432 = 0,001$ and every case that scores higher than 1 is a more definite problem.

The last diagnostic, which is used to spot outliers is *DFFIT*. This reflects the change in the predicted values of the dependent variable. To interpret the DFFIT, the following measure is used:

$$2 * \sqrt{p} / n = 2 * \sqrt{7} / 4465 = 0,079$$

Every case with a value above 0,079 is potentially problematic.

In table 1, the ten most extreme cases for all different diagnostics are shown. For DFFIT, there are no outliers found and for leverage, there are only three cases that are considered extreme. In this table, only 10 extreme cases for Cook’s Distance and Standardized Residuals are shown. Four cases are both the most extreme on Cook’s distance and standardized residuals. These are cases 877090, 802981, 834576, and 837010. There are no extreme cases which are considered extreme for all diagnostics. This is why the compromise was chosen to only delete the four cases which score most extreme on Cook’s distance and standardized residuals.

After the four most extreme cases are deleted, the third linear regression analysis is run again. There seem to be no different results for the hypotheses compared to when the outliers are still in the dataset. The values of the F-tests changed a bit, but everything that was considered significant is still considered significant and no different conclusions regarding the assumptions for linear regression can be made. This is why the choice is made not to remove these outliers. Down below, the syntax and output can be viewed.

Table 1: diagnostics for outliers (Leverage, Cook's distance, DFFIT and Standardized residuals) (n=4432)

Case ID	Leverage	Case ID	Cook's distance	Case ID	DFFIT	Case ID	Stand. residuals
839248	0,006	821959	0,013	-	-	824386	-5,179
879445	0,006	877090	0,009			801657	-4,928
834292	0,006	862871	0,009			839843	-4,904
		857537	0,009			877090	-4,703
		802981	0,008			885885	-4,550
		834576	0,008			802981	-4,483
		864324	0,007			832861	-4,460
		837010	0,007			834576	-4,448
		881253	0,007			805392	-4,434
		814630	0,006			837010	-4,411

To check for outliers, multiple diagnostics are used: residuals, Cook's Distance, Leverage and DFFIT. The variables for these diagnostics are made first.

```
REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA COLLIN TOL
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT LifeSatisfaction
  /METHOD=ENTER Gender leeftijd Education PartyParticipation
  VotingNew TrustDutchGovernment
  /SCATTERPLOT=(*ZRESID ,*ZPRED)
  /SAVE COOK LEVER RESID ZRESID SRESID DFFIT.
```

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.9881	8.1965	7.2800	.33993	4432
Std. Predicted Value	-3.801	2.696	.000	1.000	4432
Standard Error of Predicted Value	.033	.202	.056	.017	4432
Adjusted Predicted Value	5.9838	8.1973	7.2800	.33996	4432
Residual	-7.61988	3.83779	.00000	1.47035	4432
Std. Residual	-5.179	2.608	.000	.999	4432
Stud. Residual	-5.181	2.613	.000	1.000	4432
Deleted Residual	-7.62565	3.85139	.00001	1.47293	4432
Stud. Deleted Residual	-5.196	2.615	.000	1.001	4432
Mahal. Distance	1.233	82.752	5.999	5.059	4432
Cook's Distance	.000	.013	.000	.001	4432
Centered Leverage Value	.000	.019	.001	.001	4432

a. Dependent Variable: LifeSatisfaction

A variable for casenumbers of the respondents is made. This is done to make it easier to spot cases when looking for outliers.

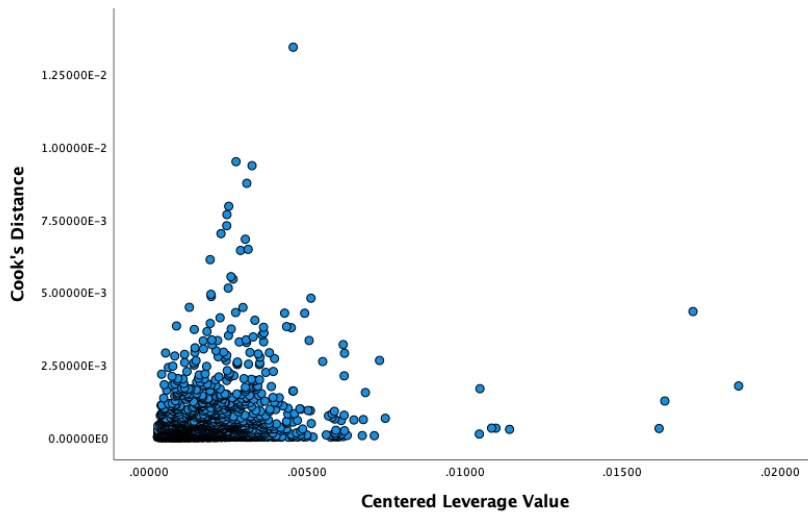
```
COMPUTE Casenumber=nomem_enc.
```

```
EXECUTE.
```

A scatterplot with leverage and Cook's distance is made, to see if there are outliers that score high on both diagnostics.

GRAPH

```
/SCATTERPLOT (BIVAR)=LEV_1 WITH COO_1  
/MISSING=LISTWISE.
```



Four extreme cases were found in the dataset. These cases are deleted, and the regression analysis is run again. The regression analysis does not give very different results.

REGRESSION

```

/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA CHANGE
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT LifeSatisfaction
/METHOD=ENTER Gender leeftijd Education
/METHOD=ENTER PartyParticipation VotingNew
/METHOD=ENTER TrustDutchGovernment
/SCATTERPLOT=(*ZRESID ,*ZPRED)
/RESIDUALS HISTOGRAM(ZRESID) NORMPROB(ZRESID) .

```

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.141 ^a	.020	.019	1.48543	.020	30.246	3	4457	<.001
2	.149 ^b	.022	.021	1.48410	.002	4.985	2	4455	.007
3	.218 ^c	.047	.046	1.46502	.025	117.799	1	4454	<.001

- a. Predictors: (Constant), Education, Gender, leeftijd Age of the household member
- b. Predictors: (Constant), Education, Gender, leeftijd Age of the household member, PartyParticipation, VotingNew
- c. Predictors: (Constant), Education, Gender, leeftijd Age of the household member, PartyParticipation, VotingNew, TrustDutchGovernment

ANOVA^a

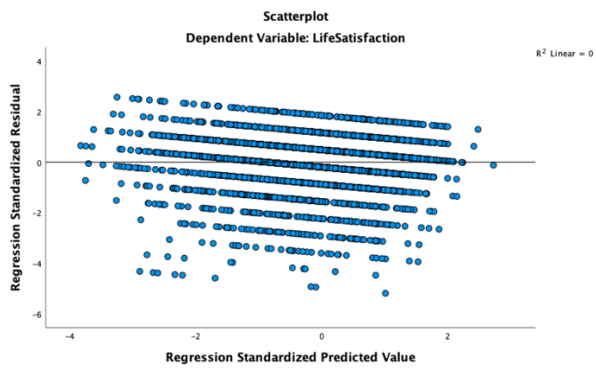
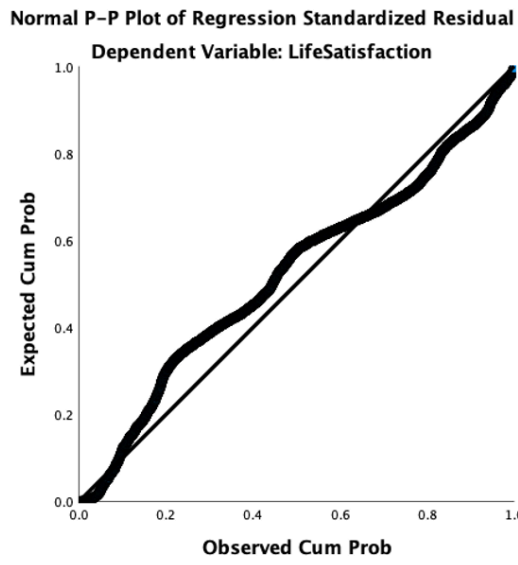
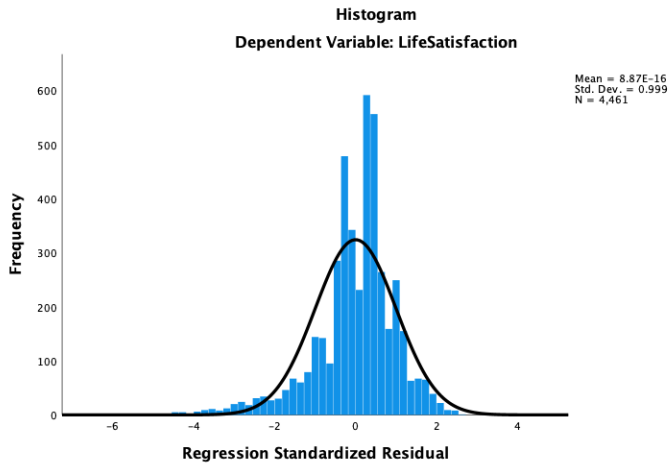
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	200.216	3	66.739	30.246	<.001 ^b
	Residual	9834.376	4457	2.207		
	Total	10034.592	4460			
2	Regression	222.174	5	44.435	20.174	<.001 ^c
	Residual	9812.418	4455	2.203		
	Total	10034.592	4460			
3	Regression	475.005	6	79.168	36.886	<.001 ^d
	Residual	9559.587	4454	2.146		
	Total	10034.592	4460			

- a. Dependent Variable: LifeSatisfaction
- b. Predictors: (Constant), Education, Gender, leeftijd Age of the household member
- c. Predictors: (Constant), Education, Gender, leeftijd Age of the household member, PartyParticipation, VotingNew
- d. Predictors: (Constant), Education, Gender, leeftijd Age of the household member, PartyParticipation, VotingNew, TrustDutchGovernment

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
		B	Std. Error			
1	(Constant)	6.362	.107		59.605	.000
	Gender	.065	.045	.022	1.449	.147
	leeftijd Age of the household member	.012	.001	.138	9.083	<.001
	Education	.066	.015	.065	4.311	<.001
2	(Constant)	6.306	.108		58.223	.000
	Gender	.066	.045	.022	1.469	.142
	leeftijd Age of the household member	.010	.001	.123	7.762	<.001
	Education	.053	.016	.052	3.327	<.001
	VotingNew	.207	.064	.051	3.241	.001
PartyParticipation	.013	.039	.005	.331	.741	
3	(Constant)	5.781	.117		49.359	.000
	Gender	.037	.044	.012	.833	.405
	leeftijd Age of the household member	.010	.001	.115	7.389	<.001
	Education	.027	.016	.026	1.676	.094
	VotingNew	.165	.063	.041	2.605	.009
	PartyParticipation	.018	.038	.007	.478	.633
TrustDutchGovernment	.115	.011	.164	10.956	<.001	

- a. Dependent Variable: LifeSatisfaction



Appendix 4: AI-Software

ChatGPT

In this thesis, Chat GPT was used to check the APA references of the literature list. Citations that were provided with the articles were put in Chat GPT to check if they were cited according to APA standards. This was done to check if I overlooked certain mistakes with referencing. For some articles I could not find a DOI, so I used the link to the website instead. For these articles I asked Chat GPT to put the link to the website correctly into the APA Reference.

Additionally, I used Chat GPT to give me inspiration on why it is interesting for me to research my research question. After working on the thesis for so long, I had trouble looking at the bigger picture. I asked the following question: *Why is it interesting for me to research this question: What is the effect of political engagement on life satisfaction of Dutch people and is this mediated by trust in institutions?*

I got the following response:

1. Understanding Civic Participation and Well-being

Investigating this question can shed light on how civic activities influence personal well-being. Life satisfaction is a crucial aspect of overall quality of life, and understanding its determinants can help in formulating policies that promote happier and more content populations.

2. Insight into Democratic Health

Political engagement is a fundamental component of a healthy democracy. By studying its effects on life satisfaction, we can gain insights into how active participation in democratic processes might contribute to or detract from individual and collective well-being.

3. Role of Trust in Institutions

Trust in institutions is a key factor in the functioning of a stable society. Exploring whether trust mediates the relationship between political engagement and life satisfaction can help in understanding the underlying mechanisms. This knowledge is crucial for fostering trust and enhancing civic engagement.

4. Policy Implications

Findings from this research could inform policymakers about the importance of fostering political engagement and trust in institutions. If a positive link is established, strategies to enhance civic participation and institutional trust could be developed, ultimately aiming to improve life satisfaction among citizens.

5. Cultural and Contextual Relevance

The Netherlands has a unique political culture and high levels of institutional trust compared to many other countries. Studying these dynamics in the Dutch context can provide insights that are culturally specific and may also offer comparative perspectives for other nations.

6. Contribution to Academic Literature

This research can contribute to the broader academic discourse on political science, sociology, and psychology. It can provide empirical evidence to support or challenge existing theories about the interplay between political engagement, institutional trust, and life satisfaction.

7. Encouraging Informed Citizenship

Understanding how political engagement affects life satisfaction can encourage more informed and active citizenship. If people realize that engaging politically could enhance their life satisfaction, they might be more inclined to participate in civic activities.

8. Identifying Social Trends

This research can help identify social trends and shifts in public sentiment. Changes in political engagement and trust in institutions often reflect broader social and political dynamics, which are important to monitor and understand.

By exploring these aspects, your research can contribute to a deeper understanding of the social fabric and the ways in which political engagement and trust in institutions shape the life satisfaction of individuals in the Netherlands.

Here, I pondered which reasons I thought aligned with what I had already thought of myself as well as which reasons aligned with sociology in my opinion. To me, it made sense to talk about democratic health and policy implications. I had also gotten feedback in my thesis presentation that those were some things I could talk about in my introduction and discussion. The other reasons, to me, did not have much substance to them and did not really relate to my thesis.

Grammarly¹

After receiving the feedback that I do make a lot of writing mistakes, I used Grammarly to check the spelling of the thesis. This was a very helpful tool for me to use, since it turned out to be more difficult for me to write my thesis in English than I expected. Since I struggled to find people in my direct surroundings to help proofread my thesis, Grammarly was a great tool to help me. It helped me to spell words correctly, to place comma's where was needed and to notify me when I forgot a word in a sentence.

¹ <https://www.grammarly.com/grammar-check>