COVID-19 and political trust: A longitudinal analysis of the effect of social media consumption on political trust and on the relationship between level of education and political trust during the COVID-19 crisis.

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Abstract

Employing multiple mixed multilevel model analyses using survey data from the LISS Panel, direct effects and interaction effects of social media use on 'political trust' were tested at various stages before and during the COVID-19 period. Building on the argument by Ceron (2015) of social media generally being negatively associated with political trust, due to its bottom-up nature favouring circulation of 'alternative information' compared to news from traditional media (p.488), the expectation was that due to factors like lower political sophistication, frequent social media use leads to even lower political trust for the low-educated, compared to the high educated spending the same amount of time on social media during the pandemic. The mixed model analysis indicated that a significant 'pandemic effect' on political trust existed, as well as a positive relationship between level of education and political trust. A significant direct effect of social media use was not found. Finally, an interaction effect of social media use on the relationship between education and political trust was only found within the context of the pandemic period. The absence of a direct social media effect indicates that Ceron's (2015) argument might not be totally valid. However, future research using a more sophisticated 'social media' measure might uncover different results.

Keywords: COVID-19; Level of Education; Pandemic Effects; Political Trust; Social Media

1. Introduction

Globally, many contemporary democracies have faced decreasing levels of political trust ever since the 2008 financial crisis (Torcal & Christmann, 2021, p.2). Curiously, when the pandemic started, many countries - including France, the Netherlands, the UK and India - actually saw an increase in political trust, particularly an increase in trust in the heads of government (van der Meer et al., 2020, p. 2). This phenomenon, known as a 'rally around the flag' effect, means that a sudden 'outside' threat to the nation leads to a subsequent sudden increase in trust in institutions and trust in heads of government (van der Meer et al., 2020, p.2). Unfortunately, this effect doesn't seem to have lasted for a long time, as the OECD found that in 18 of their 22 surveyed countries, trust levels were falling again as early as April and May of 2020 (OECD, 2021).

As the pandemic went on, many people actually seem to have become more distrustful of political institutions than ever. A small part of electorates of many democracies have even adopted conspiracy beliefs not only about the COVID-19 virus itself, but also about the legitimacy of the political system as a whole (Klerks, 2021, pp.77-78). Much has been written about the polarising role social media might have played during the pandemic. As the pandemic went on, the chance to encounter misinformation online when searching for information on

COVID-19 grew (Klerks, 2021, p.77). The easy circulation of misinformation about the pandemic, but increasingly about the political system as a whole, might partially explain declining levels of political trust.

For this thesis, factors that influenced political trust during the COVID-19 crisis were examined within the Dutch context. This thesis analysed whether a 'pandemic effect' on political trust existed, whether the relationship between level of education and political trust existed in the Netherlands throughout the pandemic. Following this, the general impact of social media use on levels of political trust was assessed, followed by an assessment of the moderating effect of social media consumption on the relationship between level of education and political trust during the pandemic. This leads to the following research question:

RQ: What is the effect of social media use on people's level of political trust, and how does social media use shape the relationship between level of education and political trust before and during the COVID-19 pandemic?

The research question was answered within the context of the Netherlands, where levels of political trust have been relatively low in COVID-19 times, compared to the period before the crisis. The period between 2018 and 2022 was studied, in order to establish differences before and during the pandemic in the Netherlands.

On a societal level, it is crucial to understand as much as possible about what factors can influence levels of political trust, as it could be argued that political trust is needed for the legitimacy of the political system. Trust can increase ties between citizens and democratic institutions, allowing the institutions to better represent their citizens and to increase government effectiveness (Mishler & Rose, 2001, p.30). On top of that, seeing their own government as untrustworthy can cause a general political disillusionment in citizens (Belanger, 2017, p.242).

As levels of political trust in the Netherlands are particularly low at the moment, the Netherlands, as of 2021, even shows characteristics of a 'low-confidence-society', a society which is characterised by low levels of trust in political institutions and low trust in each other (Engbersen et al., 2021, p.2.). This is remarkable as historically, the Netherlands has been associated with relatively high levels of political trust compared to other countries (van der Meer, 2010, p.518). This makes the Netherlands an interesting case to study, as it is unclear what factors contributed to this sudden drop. In order to address the problems resulting from

these low levels of political trust, it's important to understand as much as possible about the reasons for this decline. Insight into the exact role that social media use plays in shaping political trust might even point to the need to improve (social) media literacy in order to prevent a further decline of political trust.

On a scientific level, studying the effect of social media on political trust during the COVID-19 crisis is a relatively new subject, as the pandemic only started in 2019. Klein & Robison (2019) point out that, in general, previous research into effects of social media usage on political attitudes have mainly focused on the effects of social media use on so-called 'extreme issue attitudes', while the effects on political trust have been less extensively studied (Klein & Robison, 2019, p.47). Ceron (2015), who did study the effects of social media usage on political trust, points out that her cross-sectional research design makes it impossible to provide evidence on the causal direction of the mechanism that links social media usage and political trust and emphasises the need for further research that is able to assess causal mechanisms more effectively (p.495). As this thesis employs a longitudinal panel study design, it will be better able to deliver a contribution to the existing literature by not only exploring causal mechanisms between social media usage and levels of political trust, but also by analysing the moderating role of social media usage on the relationship between level of education and political trust over the course of the pandemic.

2. Theoretical framework

2.1 What is political trust?

As the aim of this study is to examine different factors that may impact levels of political trust, the nature of political trust needs to be established. Scholars have differing opinions on what political trust encompasses. The 'rational', or institutional approach to defining political trust is to interpret political trust as a rational and discernable, knowledge-based evaluation of the functioning of political institutions. The social-cultural perspective sees trust as confidence in the benevolence of others, and stems from people's more general outlook on life (van Elsas, 2015, p. 1160). Hooghe et al. (2015) define political trust as ''a summary judgement that the system is responsive and will do what is right even in the absence of constant scrutiny'' (p.124). Within this broad definition of political trust, further distinctions need to be made. Trust in public institutions forms the basis of political trust as a whole, but research shows that trust in 'impartial' institutions like law enforcement, the judiciary and the civil service tend to be associated with each other and to be stronger than trust in institutions like parliament and political parties (Newton et al., 2018, pp. 40-41).

A general distinction can be made between institutional and cultural theories aiming to explain what determines political trust levels. Generally, institutional theories emphasise that trust is formed within the context of political institutions, as political trust is determined by people's evaluation of the performance of political institutions (Mishler & Rose, 2001, p.36). Cultural theories argue that political trust originates outside the realm of politics, through socialisation. Through social interaction, individuals learn to either trust or distrust each other and how to relate to the society they live in, influencing their levels of political trust (p.34). Previous research found empirical support for both theories, suggesting that political trust might be caused by a combination of a (rational) evaluation of government and socialisation (van der Meer, 2010; Mishler & Rose, 2001). For this study, political trust will be conceptualised as the expression of a mostly 'rational' evaluation of government, but which can be influenced by personal characteristics like level of education and social media use.

2.3 Political trust and the pandemic period

Studying levels of political trust during a global pandemic with major societal and political implications for most of the world, begs the question whether a 'pandemic effect' on levels of political trust can clearly be identified during this period. As van der Meer et al. (2020) pointed out, in many countries a 'pandemic effect' in the form of a temporary 'rally around the flag effect' was observed in the first few months after the pandemic started of a sudden increase in political trust, specifically trust in politicians and institutions, caused by a sudden, 'outside' threat to the nation (p.2).

As this rally around the flag effect is temporary, the expectation would be that trust levels globally start falling again further into the pandemic. Research by the OECD shows that, indeed, in most of the countries studied that saw an initial spike in political trust levels, these trust levels were falling again as early as april 2020 (OECD, 2021). Van der Meer et al. (2020) found in their study that fear of contamination was an important factor that drove initial rising levels of political trust in his survey (p.2). This finding can help explain why political trust declined again relatively quickly, as people might have started to get used to the new reality of the pandemic and therefore became less fearful over time. After the initial shock, people's doubts about whether strict measures were necessary might have started to grow, leading to them becoming more cynical and distrustful of the political power imposing the 'lockdown measures', which might then lead to even lower levels of political trust compared to before the COVID-19 crisis.

Taking this into consideration, the theoretical expectation for this research is that fluctuation in political trust levels will be meaningfully associated with the COVID-19 pandemic, leading to a 'pandemic effect' being visible in the studied data. If fluctuation in political trust follows the expected pattern of relative stability before the COVID-19 crisis, followed by a sharp increase in the first months of the pandemic period, followed by a sharp decline in trust during the rest of the pandemic period, this will indicate the existence of a pandemic effect.

H1: the average level of political trust will be stable in period 1 and period 2, it will increase in year 3 and decline in year 4.

2.3 Level of education and Political Trust

The relationship between level of education and political trust has already been demonstrated in several studies (Hooghe et al., 2015; van Elsas, 2014). This relationship seems to be both strong and positive: a high level of education is generally associated with higher levels of political trust (Hooghe et al., 2015, p.124). A common explanation for this relationship is that, compared to the lower educated, the higher educated generally have a more secure socio-economic position leading to a higher sense of external political efficacy, the feeling that politics are responsive to their needs, which in turn leads to higher levels of political trust (van Elsas, 2014, p.1158). This 'sorting function of education' assumes that people generally obtain a more privileged societal position through their high level of education. They are less likely to have to deal with financial and societal hardships compared to lower educated, which makes it more likely for them to express trust in their government, as they are likely to feel politics is working for them (Hooghe et al., 2015, p.124).

Another explanation for the relationship is the 'political sophistication' approach: a higher level of education leading to acquiring more knowledge about the political system and more cognitive skills to interpret and evaluate political issues rationally. This in turn leads to a higher chance of higher educated people actively taking part in political life and the understanding of how politics work leads to higher levels of trust in democratic societies (Hooghe et al, 2015, p.124). Hakhverdian et al. (2012) show that the relationship between level of education and political trust depends on a country's political and institutional context. (p.739). They also find that citizens determine whether to grant or withhold political trust by evaluating the performance of the political institutions and that higher educated citizens are better able to assess this, compared to low educated citizens (p.747).

As previous research indicates that political trust is most likely based on an evaluation of government performance rather than a 'general feeling' towards government & society as a whole, it might be assumed that the relationship between level of education and political trust exists because people with a low education evaluate the performance of government more negatively than highly educated people. One explanation for this may be, as mentioned, that high educated citizens see that politics is working 'for them', while low educated citizens do not share this experience. The second explanation may be that a more limited understanding of politics leads to a lower evaluation and therefore lower trust. As the pandemic, even though it came with unprecedented policy measures from the government like mask mandates and stay-

at-home-orders (RIVM, n.d.), can be seen as 'just another' political issue that is evaluated with more knowledge of the political system (what is necessary for government to do) by higher educated citizens compared to lower educated citizens, it seems reasonable to assume that the positive relationship between level of education and confidence in government looks similar both before and after the pandemic. Therefore, I expect that:

H2: citizens with a high level of education are more likely to display higher levels of political trust than low educated citizens, and this relationship is expected to remain stable throughout the course of the pandemic.

2.4 (Social) media consumption and Political Trust

Several studies have already examined the role the media can play in influencing political trust (Ceron, 2015; Forgette; 2019). A theory that predicts a negative effect of media exposure on political trust is the 'Video Malaise theory'. This theory posits that the negative reporting of the media causes general cynicism which leads to less trust in political institutions (Ceron, 2015, p.488). In contrast, the 'Virtuous Circle theory' holds that exposure to the media leads to a sense of community and a sense of civic duty which increases trust in government (Ceron, 2015, p.488).

As these theories do not really distinguish different forms of media from one another, and the aim of this thesis is to examine the effects of social media usage on political trust specifically, it is necessary to theoretically distinguish between 'traditional' media and 'online' media as well as between web 1.0 and web 2.0. Ceron argues that 'Web 1.0 websites' like online versions of traditional media outlets and websites from institutions follow a 'top-down' approach, similar to traditional media. News from these outlets are driven by 'political elites' and promote political trust and support for democratic institutions. Web 2.0, social media, is unmediated and has a bottom-up structure which favours circulation of alternative information. This information is often challenging traditional media stances and has a negative effect on political trust (Ceron, 2015, p.488).

Based on Ceron's (2015) classification, the expectation is that social media specifically has the highest potential to negatively influence political trust, as it often goes against the 'government-friendly' traditional media. Klerks (2021) pointed out that in the Netherlands, as

the pandemic went on, the chance to encounter misinformation online when searching for information on COVID-19 grew (p.77). This leads to the following hypothesis:

H3: people that spent a large amount of time on social media during the COVID-19 crisis will be associated with lower levels of political trust throughout the pandemic.

2.5 Moderating role of social media consumption

Not much has been written about how social media consumption can moderate the relationship between education and political trust. Dominant theories generally fail to take into account the role of media consumption in the relationship between level of education and political trust. A previous study into determinants of political trust has shown that levels of political trust are influenced by levels of media literacy, specifically the ability to critically analyse and evaluate media content and messages (Asadpoor, 2020). Therefore, if lower educated citizens generally have more difficulty doing this, it can be assumed that their political trust will be more affected by consuming content, including political news, on social media, compared to higher educated consuming the same information on social media.

Research by Engbersen et al. (2021) has found that, in the Netherlands, lower educated respondents and respondents in a low-income group are generally more likely to use social media as their primary information source (p.34). Moreover, those respondents that used social media as their primary or secondary source of information about COVID-19, were more likely to display low levels of political and institutional trust (p.35).

Building on the mentioned mechanisms that explain the relationship between level of education and political trust, I propose that media consumption has a moderating effect on the relationship between level of education and political trust. When low educated citizens consume a large amount of content on online media, including political news and information about COVID-19, their lower political sophistication will lead to them not evaluating the online information about politics critically, and make them more likely to accept the negative reporting on government performance, leading to even lower levels of political trust than if they had a different primary news source. As lower educated citizens also generally display lower levels of external political efficacy, the sense that politics is responsive to their needs, this will also make them more inclined to accept the negative information they read on social

media. Higher educated citizens, encountering the same information online, will, because of higher political sophistication and external efficacy, be less affected by this type of news consumption. Besides this political sophistication explanation, another reason to expect the same result is that lower and higher educated citizens have different political trust levels and different opinions on COVID-19 measures *generally*, which leads to different information being pushed towards these two groups, widening the educational divide on political trust further. Both explanations lead to the following hypothesis:

H4: the decrease in political trust associated with social media usage will be greater amongst low educated citizens than high educated citizens. This interaction effect will be stronger during the pandemic compared to before the pandemic.

3. Methods and Data

3.1 Research Design

In order to test the hypotheses, a longitudinal research design, specifically a panel study, was employed, using secondary data. A longitudinal panel study is characterised by the collection of data from a sample from at least two different points in time (Bryman, 2016, p.57). This means that the fluctuation of political trust levels can be compared before and during the pandemic, as well as within the pandemic period. The relationship between level of education and political trust can be assessed throughout the studied period, as well as the strength of the effects of social media usage on political trust during this period. Finally, the longitudinal panel study can be employed to assess how social media usage influenced the relationship between level of education and political trust and whether this influence changes depending on the context of 'pre-pandemic' versus during the pandemic. Employing a longitudinal research design can give insight into the time order of the chosen variables, making it easier for causal inferences to be made (Bryman, 2016. P. 56).

To employ a longitudinal research design, four waves of longitudinal panel data had to be obtained for the period starting at the end of 2018 until the start of 2022. This means that variables could be studied both before (time period 1 and 2) and during the pandemic period (time period 3 and 4), using SPSS. In order to run a longitudinal analysis, which includes 'time' as a variable, the dataset has been converted to a 'long format'. The hypotheses have been

tested by using a mixed / multilevel model approach. A multilevel model analysis is well-suited for a repeated-measure research design as it can take into account the hierarchical nature of data with different observations being nested within participants, as is the case for this repeated-measures data (Field, 2018, p.1431).

A linear mixed model analysis was performed using longitudinal panel data from the LISS panel in the Netherlands. A linear mixed model analysis is an extension of the 'standard' linear model that can be used to test the relationship between a dependent variable and multiple independent variables, while taking into account the hierarchical nature of the data (UCLA, n.d.). This means it is well suited to test the hypotheses aiming to analyse the effect of various 'repeated measure' independent variables on the 'repeated measure' dependent variable 'political trust'.

3.2 Data

Online questionnaires were used to constitute the analysis, specifically secondary longitudinal data from the LISS Panel (Longitudinal Internet Studies for the Social Sciences). This large-scale panel consists of 5000 households and participating households were drawn from a true probability sample from the population register by Statistics Netherlands. Initial recruitment of the sampled households was done by field work institute TNS NIPO (LISSdata, n.d.). The LISS panel data have received both the 'Data Seal of Approval' and the 'CoreTrust Seal' (LISSdata, n.d.), ensuring that the data are not only safely stored but have also exhaustively been reviewed for accuracy by experienced researchers, increasing the validity and reliability of the research (Bryman, 2016). In order to test the hypotheses, several datasets belonging to the same longitudinal 'Core Study' were used. Specifically the datasets 'Politics and Values', which contains data on political trust, 'Social Integration and Leisure', which contains data on media usage and finally the 'background variables dataset' which contains data on the level of education and age of the respondents.

As the focus of this thesis is on the pandemic period itself and on comparing the pandemic period to the pre-pandemic period, those waves of the survey were selected that cover the two years prior to the pandemic, followed by two waves that cover the first and second year of the pandemic. The pandemic period is conceptualised as the period starting at the month of the first confirmed COVID-19 case in the Netherlands, February 2020, to the present (Rijksoverheid, n.d.). The total studied dataset consists of four waves from the politics and

values surveys and four corresponding waves from the 'Social Integration and Leisure' dataset, together covering the period between 1 October 2018 and 29 March 2022. Added on to this dataset is the corresponding information from the 'Background Variables' dataset. This means that wave 11 (ID datafile: cv19k) wave 12 (ID datafile:c v20I), wave 13 (ID datafile: cv21m) and wave 14 (ID datafile: cv22n) for the Politics and Values dataset will be used (Elshout, 2018-2022). From the 'Social integration and Leisure' dataset, this means that wave 11 (ID datafile: cs18k), wave 12 (ID datafile: cs19i), wave 13 (ID datafile: cs20m) and wave 14 (ID datafile: cs21n) from the 'Social Integration and Leisure' dataset will be used (Mulder, 2020; Verheijen, 2021; Verheijen, 2022).

3.3 Operationalization

The analysis was conducted with dependent variable 'trust in politics', and independent variables 'time', 'level of education' and 'social media usage'. 'Age' was a control variable. The trust in politics variable was obtained from the 'Politics and values' datasets, 'social media usage' from the Social Integration and leisure datasets and the 'level of education' and 'age' variables were obtained from the LISS panel's 'background variables' data sets. The variable 'time' was created manually in SPSS.

The dependent variable 'trust in politics' was operationalized as 'trust in government' for this analysis, because of existing theoretical conceptions of political trust as an expression of a rational evaluation of government performance (van der Meer, 2010; Mishler & Rose, 2001). Variable cv21m013 from the Politics and Values dataset is a survey question asking respondents to indicate on a scale from zero to ten, how much confidence they have in the institution of the Dutch government. This Likert-scale 11-point scale variable is well suited for the mixed-model analysis. However, using only 'confidence in government' to measure political trust is a limited conceptualisation of political trust as political trust also encompasses trust in institutions and in politicians for example. For the interpretation of the results, the consequences of this narrow conceptualization of 'political trust' were taken into account.

The independent variable 'time' was used to assess the effect of the period before the pandemic and the various stages of the pandemic itself on both dependent and independent variables. The 'time' variable will therefore be able to measure the 'pandemic effect'. The variable was created by changing the dataset to a 'long format' in SPSS and consists of the four time points, one for all waves of the surveys studied.

The independent variable 'level of education' was operationalized as the highest level of formal schooling someone has completed. The variable 'oplcat' in the 'background variables' dataset measures this as it consists of a survey question asking the respondent to state their highest level of completed education in (Dutch) categories, with: 1 is primary, 2 is 'vmbo', 3 is 'havo', 4 is 'mbo', 5 is 'hbo' and 6 is 'wo'. These different levels also correspond with the 'International Standard Classification of Education (ISCED)', which makes it possible to compare the Dutch data on level of education to other countries (Eurostat, n.d.), increasing the generalizability of this study beyond the Dutch context.

The independent variable social media usage is operationalized as the amount of time someone spends using social media. Ceron (2015) characterised social media as 'unmediated' and having a bottom-up structure which favours circulation of alternative information, which challenges traditional media stances and has a negative effect on political trust (Ceron, 2015, p.488). Therefore people spending a large amount of their time on social media might be impacted by this alternative information, causing them to have less trust in government. Therefore variable cs21n436 was chosen. It is a survey question asking respondents to state how often they made use of social media in the past two months, with: 1. never, 2. Less than once a month, 3. 1-3 times per month, 4. once a week, 5. several times a week, 6. every day, 7. Several times a day. Using a 'simple' survey question to measure social media use has limitations as it is self-reported data by respondents, and might therefore not always be accurate. Moreover, this measure doesn't contain information about the type of social media use, and therefore there is no way to distinguish between social media users who just consume entertainment content for example, and those who heavily rely on it for their news-gathering. As this survey-question was the closest measure available in the dataset that at least reported 'general' social media consumption, the measure was still chosen, but it needs to be interpreted with caution.

4. Ethics and Privacy Implications and Safeguards

In order to answer the research question of this thesis, secondary LISS Panel data will be used from the Centerdata Research Institute. Before respondents can become a LISS Panel member, they are asked to read and agree to the LISS Informed Consent form. Participants always have the option to revoke their consent. Contact details from the respondents are kept completely

separate from the survey answers and it is therefore impossible for third party researchers to trace data back to the individual respondents (Declaration of Consent, LISS Panel Participation, n.d.). Centerdata states on their website that they comply with the General Data Protection Regulation (LISSdata, n.d.). Even though the data that will be used for this thesis project is anonymous for the researcher, the data will still only be used by the researcher for the specified purpose of answering the research question as set out in this proposal. The data will also not be stored any longer than is necessary for the thesis project.

5. Results

5.1 Descriptives

Descriptives of all predictor variables plus control variables age and gender shown in Table 1:

Table 1.
Descriptive Statistics of all relevant variables

Variable	*N*	*M*	*SD*	*SE*	*Min/Max*
Confidence in Dutch Government	22023	5.51	2.25	0.015	0/10
Time	44728	2.50	1.12	0.005	1/4
Level of Education	37832	3.48	1.66	0.005	1/6
Frequency of Social Media Use	19321	5.06	1.98	0.014	1/7
Age	39836	44.19	22.63	0.113	1/106
Valid N	16649				

Source: LISS data Core Studies. Own Calculations

Table 1 lists the means of the variables for all 4 time periods, with the average for the dependent variable, confidence in Dutch government, being at 5.51. For this thesis, the question is how the dependent variable has 'moved' throughout the four time periods analysed (2018-2022) and whether this movement can be linked to the COVID-19 pandemic, social media use, level of education and interactions between those variables. Therefore the means for confidence in government per time period are shown in table 2.

Table 2.
Means of confidence in government for each time period

Confidence in Dutch Government	*Mean*	*N*	*SD*	*95% CI*
Time period 1	5.48	5504	2.15	[5.42, 5.54]
Time period 2	5.39	5360	2.18	[5.33, 5.44]
Time period 3	6.18	5889	2.14	[6.12, 6.23]
Time period 4	4.94	5270	2.34	[4.87, 5.00]
Total	5.51	22023	2.45	

Note: CI = Confidence Interval for mean
Source: LISS data Core Studies. Own calculations

For the first hypothesis, the expectation was that the average level of political trust will be influenced by the pandemic, indicating that it will be stable in period 1 and period 2, it will go up in year 3 and decline in year 4.

Just visually observing the means of the variable trust in government, it is already possible to see a stable, quite low mean confidence in government in the first two years (Time period 1 (2018) M=5.48 and time period 2 (2019) M=5.39). Then, once the pandemic starts, a large increase in the mean trust in government can be observed (time period 3 (2020) M=6.18). Finally, another year into the pandemic, mean confidence in government seems to have plummeted, reaching lower levels than the years before the pandemic hit (Time period 4 (2022) M=4.94). This trend in the data resembles a rally-around-the-flag effect as described by van der Meer et al. (2020, p. 2). These trends are only observed by looking at shifts in means of trust in government over the years. In order to observe time-trends surrounding the dependent variable confidence in government in more detail, and to test all four hypotheses in a more precise manner, a multilevel model has been set up.

5.2 Multilevel linear (mixed) model

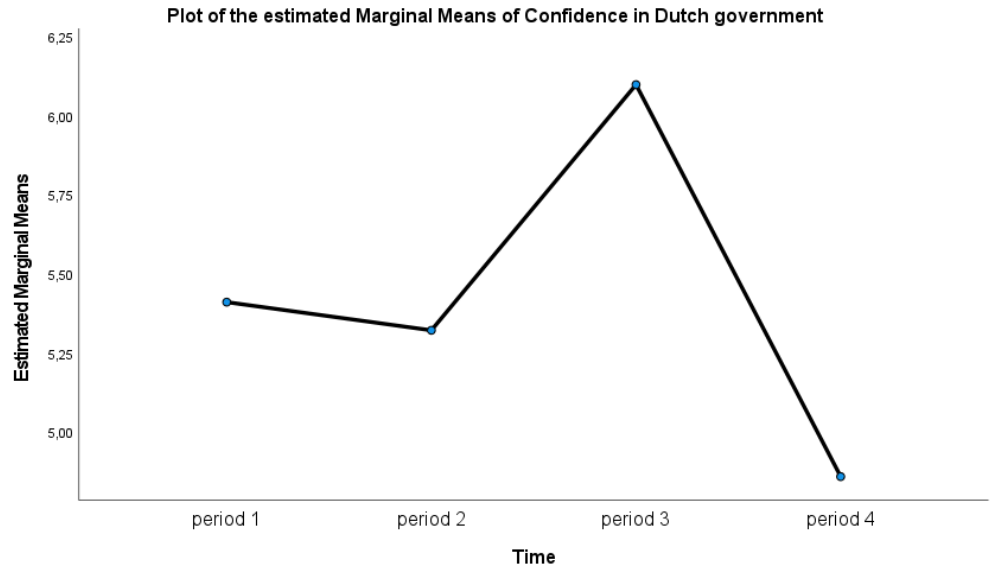
The multilevel hierarchical model takes into account the time-sensitive nature of the data by specifying how the different observations are nested within participants (Field, 2018, p.1431). The variable ‘Time’ is treated as a categorical variable to interpret the specific effects of the different time periods. The first multilevel mixed model, model 1, with ‘time’ as predictor variable and confidence in government as the dependent variable was used to answer the first hypothesis. In order to test the second hypothesis of a positive education effect on political

trust, level of education was added as an independent variable for model 2. Model 3 includes the 'frequency of social media use' in order to answer the third hypothesis of an effect of social media use on political trust. Finally, model 4 and 5 include the interaction effect of time*social media use and of time*social media use*level of education in order to test hypothesis 4 on the existence of interaction effects between these variables. Additionally, the control variable age was included in all the final models.

Model 1.

The model with time as independent dummy variables was significant with time period 2: F (1,14746.07) = 20.01, p <.001. Time period 3: F (1,14855.15) = 649.95, p <.001. Time period 4: (1,14918.92) = 508.16, p <.001. The direct effect of Time period 2 (pre-pandemic) on confidence in government is negative and significant with, b = -0.112, 95% CI [-0.161,-0.063], t = -4.473, p <.001. The direct effect of time period 3 (first year of pandemic) is positive and significant with, b = 0.649, 95% CI [0.599, 0.699], t = 25.495, p <.001. Finally, the direct effect of time period 4 (second year of pandemic, 2022) is negative and significant with b = -0.592, 95% CI [-0.643,-0.540], t = -22.542, p <.001. The direction of the b-values corresponds with the expectation for hypothesis 1. The pre-pandemic period (time period 2) is negatively associated with confidence in government. Then, the start of the pandemic (time period 3) is positively associated with confidence in government. Finally, during the fourth time period (2022), there is a large negative effect of the time period on confidence in government. As time was found to have a significant effect, and this effect was in the expected direction, *H1: The average level of political trust will be stable in period 1 and period 2, it will increase in year 3 and decline in year 4*, can be accepted. Graph 1, which plots the estimated marginal means of confidence in Dutch government against the time periods, illustrates this:

Graph 1.



Model 2.

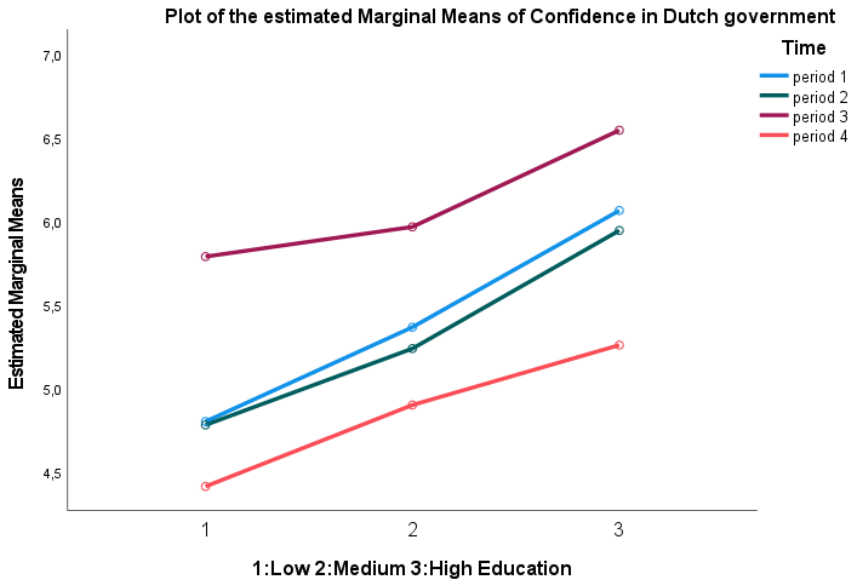
The independent variable 'level of education' was added to the model in the form of dummy variables (low, medium and highly educated). Comparing the -2 log likelihood of the second model with the first model reveals that the model fit of model 2 improved significantly compared to model 1, as X^2 (2, 500.68), p <.01. As 500.68 is higher than the critical value of 9.21 with p<0.01 (Field, 2018, p.1523). This means that adding the level of education as predictor improves the fit of the model significantly. Being low educated significantly predicts level of confidence in government with F (1,6332.78) = 31.56, p<.001. Being highly educated also significantly predicts level of confidence in government with F (1,6245.64) = 121.48 p <.001.

Being low educated has a significant, negative effect on confidence in government with, b = -0.346, 95% CI [-0.467, -0.225], t = -5.618, p <.001. Being highly educated has a significant, positive effect on confidence in government with b = 0.621, 95% CI [0.511, 0.732], t = 11.022, p <.001.

The first part of hypothesis two stated that respondents with a high level of education were more likely to display higher levels of political trust. Based on the significance of the model and the slope of the b-values, there indeed seems to be a significant positive effect of being higher educated on the level of political trust. The answer to the second part of the hypothesis, whether this relationship was stable throughout the course of the pandemic, is illustrated in figure 2:

Figure 2.

Estimated marginal means of confidence in Dutch government plotted against level of education, per time period



The figure shows that even though the baseline levels of confidence in government differed between the time period, the nature of the effect of being highly educated on levels of confidence in government did not differ too much between the time periods. In all four periods (so before and during the pandemic), being highly educated had a positive effect on confidence in government. In conclusion, *H2: Citizens with a high level of education are more likely to display higher levels of political trust than low educated citizens, and this relationship is expected to remain stable throughout the course of the pandemic,* can be accepted.

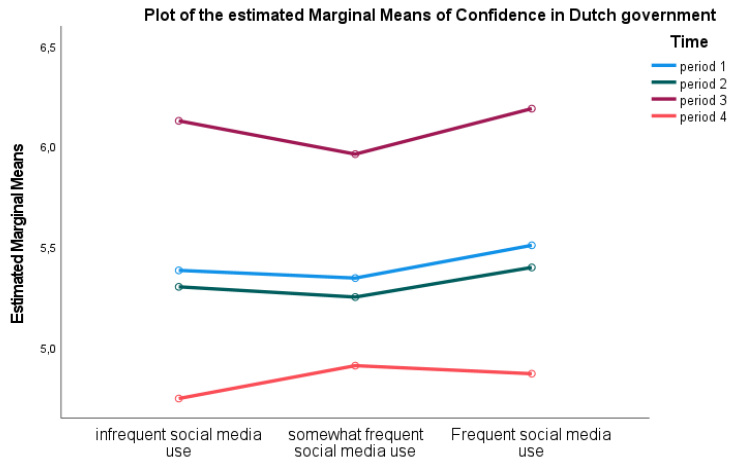
Model 3

In order to assess the effect of social media use on confidence in government, dummy variables of social media use were added to the model (infrequent, somewhat frequent and frequent social media use). Adding these variables led to a better model fit, (comparing -2 log likelihood for chi-square statistic) with X2 (2,14772.15), p = 0.280. However, as the model is not significant, the model fit also has not improved significantly.

Both 'infrequent social media use', F(1, 14692.67) = 2.19, p = 0.14, and 'frequent social media use', F(1, 14493.39) = 1.17, p = 0.280, did not significantly predict confidence in the Dutch government. Infrequent social media use has a positive, but non-significant effect on level of confidence in government, b = 0.058, 95% CI [-0.019, 0.136], t = 1.483, p = 0.138. Frequent social media use has a negative, but also non-significant effect on level of confidence in government, b = -0.036, 95% CI [-0.102,0.029], t = -1.08, p = 0.280.

As the effects of social media use on confidence in government turned out not to be significant, *H3: people that spent a large amount of time on social media during the COVID-19 crisis will be associated with lower levels of political trust throughout the pandemic*, can not be accepted. However, the direction of the b-coefficients suggests that the non-significant effect does follow the expected direction, with infrequent social media use being associated with higher levels of political trust and frequent social media use with low levels of political trust. Figure 3 illustrates this movement for each time period:

Figure 3.



The plot of the marginal means of confidence in Dutch government against frequency of social media use does show the expected direction, but as the effect is not significant, hypothesis 3 is rejected.

Model 4

In order to test the moderating effect of social media use on the relationship between level of education and confidence in government before and during the pandemic, another hierarchical mixed model was created. In Model 4, the interaction between time and social media use (time*social media use) was added, as well as a three-way interaction of time, social media use and level of education (time*social media use*level of education). In order to add these interactions, dummy variables of time, level of education and social media use were made. Table 3 shows the F statistics of all variables. Table 4 shows the b-values for each variable.

Table 3.

F statistics of model 4. Three-way interaction model.

Variable	F	df	p
Time (0 pre, 1 during pandemic)	16.04	(1,13190.99)	0.001***
Social media use (0 infrequent, 1 frequent)	0.01	(1,14255.43)	0.917
Level of education (0 low, 1 high)	93.91	(1,7349.81)	0.001***
Time*social media use	1.54	(1,13099.64)	0.216
Time*social media use*level of education	4.56	(1,12527.98)	0.033**
Age (control variable)	20.65	(1,6435.69)	0.001***

*Note: *p<0.1, ** p<0.05, ***p<0.01. Source: LISS Data Core Studies. Own calculations.*

The total model turned out to result in a significantly better fit compared to the earlier model that did not include the interaction effects with X^2 (df 2) = 42.19 (higher than critical value of chi-square distribution, 5.99 with p<.05, Field, 2018, p.1522).

With the two-way interaction effect of time*social media use and the three-way interaction effect of education*social media use*time (pre vs during pandemic) added to the model, the direct predictor variable level of education still significantly predicted confidence in Dutch government with, F(1,7349.81) = 93.91, p <0.001. Predictor variable social media use could not significantly predict level of confidence in government with, F(1,14255.43) = 0.01,

p = 0.917. The two-way interaction of time*social media use could not significantly predict confidence in government with, F(1,16435.69) = 1.54, p = 0.216. The three-way interaction effect of level of education*social media use*time does significantly predict level of confidence in government with, F(1,12527.98) = 4.56, p = 0.033. Lastly, the control variable 'age' significantly predicted level of confidence in government with, F(1,6435.69) = 20.65, p < .001.

Table 4.

b-values for each variable

Variable	b-value	SE	t	Sig.	95% CI
Time	0.22	0.054	4.01	0.001***	[0.110,0.322]
Social media use	0.01	0.051	0.11	0.917	[-0.095,0.105]
Level of education	0.55	0.057	9.69	0.001***	[0.437,0.659]
Time*social media use	-0.09	0.069	-1.24	0.216	[-0.219,0.050]
Time*social media use* Level of education	-0.107	0.050	-2.13	0.033**	[-0.206,-0.009]
Age (control variable)	-0.006	0.001	-4.54	0.001***	[-0.206,-0.009]

*Source: LISS Data Core Studies. Own calculations. Note: Time = dummy with value 1: during pandemic, Social media use = dummy with value 1: frequent social media use, level of education = dummy with value 1: highly educated. Note: * p<0.1, ** p<0.05, *** p<0.01.*

Table 4 shows a significant, positive b-value for the context being the pandemic period (2020-2022), which means that the context of the pandemic period had a positive effect on level of confidence in government. Secondly, there is a highly insignificant, slight positive effect of frequent social media use on confidence in government. Being highly educated, however, is positively and significantly related to confidence in government. The interaction effect of time and social media use turned out to have a non-significant, negative effect on trust in government. Unlike the two-way interaction, the three-way interaction of time*social media use*level of education turned out to have a significant, negative effect on confidence in government. Finally, the control variable age again turned out to have a significant, negative effect, which indicates that every yearly increase in age slightly decreases the chance of having high confidence in government.

With regards to the interaction effects, even with this interpretation of the b-values, it's unclear whether the effect of the interaction between time (pre and during pandemic) and social media use varies across levels of education when it comes to predicting the confidence in the Dutch government, as the statistically significant interaction effect between the three variables only shows that these combined variables significantly affect the dependent variable confidence in government (Field, 2018, p.776). To understand more about the exact three-way interaction, the moderation effects were plotted in figure 4 and 5:

Figure 4.

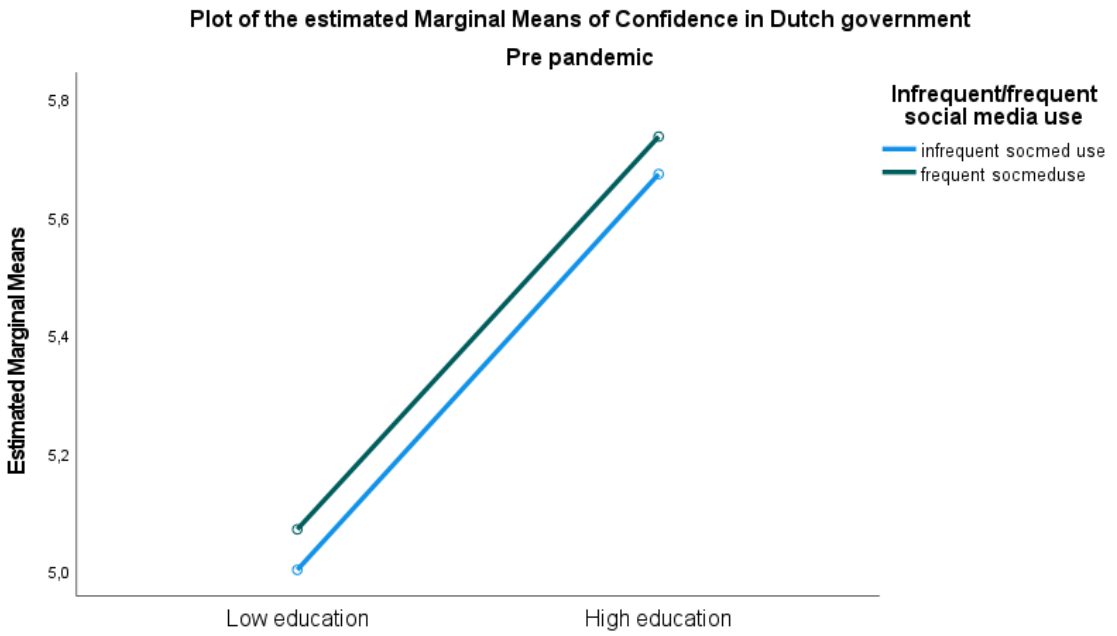
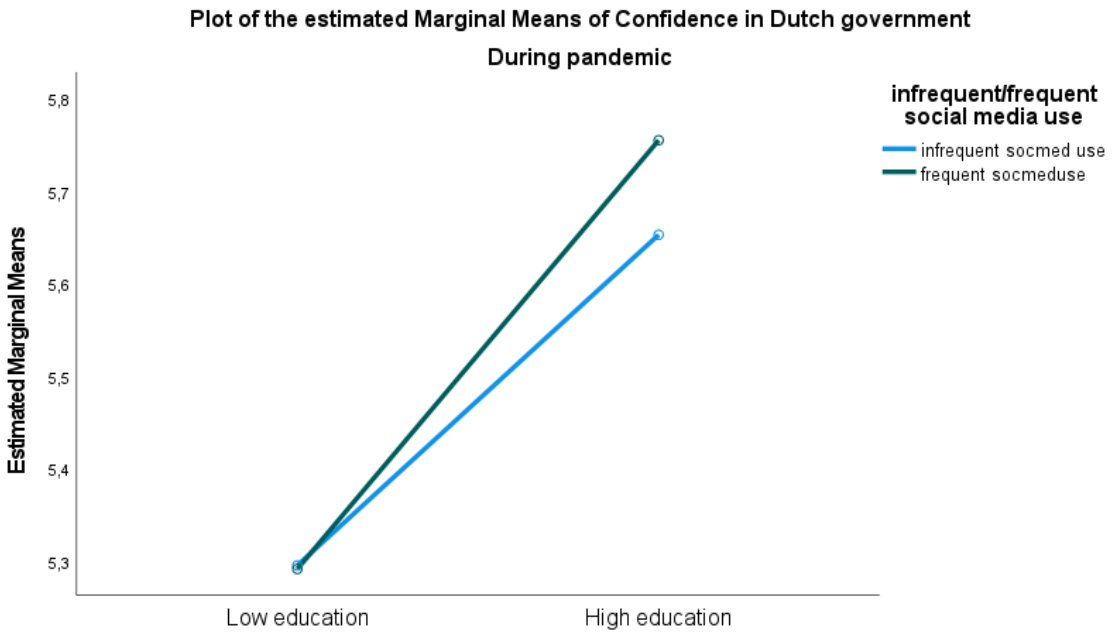


Figure 5.



The first plot of the estimated marginal means of the three-way moderation show that in the two years before the pandemic, the effect of being highly educated (x) on confidence in government (y) did not largely differ for respondents that frequently used social media compared to those that didn't. With both infrequent and frequent social media users the positive effect of level of education on confidence in government looked more or less the same. In figure 5, which shows the context of the pandemic period, the effect of education (x) on confidence in government (y) looked different for respondents that frequently used social media compared to those who did not. 'Frequent social media use' shows a steeper line compared to infrequent social media use, which indicates that frequent social media use has a more positive effect on the relationship between level of education and confidence compared to infrequent social media use, during the pandemic period. So using social media often does indeed change the relationship between level of education and confidence in government, but this moderation effect only exists during the pandemic. Before the pandemic, the slope of both infrequent and frequent social media use is similarly steep.

This means that a moderating effect between time and social media use on the relationship between level of education and confidence in government was found, confirming the theoretical expectation of this effect existing. However, the expectation was to find a stronger, negative effect of social media use on low educated citizens compared to high educated, who were assumed to be less affected by consuming large amounts of social media

within the context of the pandemic. The moderating effect that was found actually suggests a *positive* effect of frequent social media use on the relationship between being highly educated and confidence in government, while infrequent social media use weakens the relationship between being highly educated and high confidence in government. Frequent social media use widens the divide between lowly and highly educated citizens when it comes to confidence in government, while infrequent social media use narrows it, but only in the context of the pandemic. *H4: The decrease in political trust associated with social media usage will be greater amongst low educated citizens than high educated citizens and this interaction effect will be stronger during the pandemic compared to before the pandemic,* can not be confirmed as this hypothesis assumed a *decrease* in trust because of social media use, while social media use actually led to a positive effect on trust in the pandemic period, but only for the highly educated .

6. Discussion and conclusion

To answer the research question, 'What is the effect of social media use on people's level of political trust, and how does social media use shape the relationship between level of education and political trust before and during the COVID-19 pandemic?' four hypotheses were tested.

H1: The average level of political trust will be stable in period 1 and period 2, it will increase in year 3 and decline in year 4.

Based on the first mixed model analysis and the corresponding plot, hypothesis 1 is accepted. There was a significant effect of the studied time periods on confidence in government found and this effect turned out to be in the expected direction for all time periods. Of course, these observations alone cannot confirm that the pandemic was the factor that influenced this, as the 'pandemic effect' could only be interpreted based on the movement of the dependent variable that measured political trust over time as variable 'Time' was used as an indication of the pandemic effect. As only one country, the Netherlands, was researched, it is difficult to tell, based on this study alone, whether this time effect includes a 'pandemic effect', or whether domestic factors that could not be controlled for, like the historically long formation period of the newly elected cabinet (March 2021 until January 2022) might have caused the decline in trust in period 4 (2021-2022) for example (Bureau woordvoering kabinetsformatie, 2022). Furthermore, only 'confidence in government' was used to measure

political trust, which does not fully take into account a rally around political leaders which the 'rally-around-the-flag' theory also predicts However, the fact that even with these limitations, the movement of confidence in government corresponded in such detail with the rally around the flag phenomenon described by van der Meer (2020) does seem to suggest that the pandemic played a role (p.2). As van der Meer (2020) pointed out, many other countries saw this effect of a sudden increase in political trust for a few months, including the United Kingdom, Germany and Canada for example (p.2). The sharp decline in trust that was observed in period 4 (2022) that came after this 'rally around the flag period', also seems similar to trends observed in many other OECD countries after the first few months of the pandemic had passed (OECD, 2021). These similarities increase the likelihood that the pandemic itself caused a large part of the specific effects of the different time periods studied. The implication of this is that large events like the global pandemic seem to affect the 'rational' evaluation of government functioning, suggesting that this evaluation is in fact not entirely rational.

The results of the multilevel model analysis also indicate the existence of the expected positive effect of level of education on political trust during the studied period (2018-2022), therefore *H2: Citizens with a high level of education are more likely to display higher levels of political trust than low educated citizens, and this relationship is expected to remain stable throughout the course of the pandemic,* is accepted.

These findings correspond with the theoretical expectations and might be caused by the 'political sophistication' effect mentioned by Hooghe et al. (2015) of a higher level of education leading to more knowledge of the political system and to developing cognitive skills to interpret and evaluate political issues, leading to higher average levels of trust (in democratic societies) for higher educated citizens (pp.124-125). This effect being stable both before and during the pandemic, corresponds with the theoretical expectation of the pandemic as 'just' a political issue, being evaluated differently by these groups, and therefore the existence of the pandemic not changing the relationship. This being the case, the findings offer theoretical implications on the nature of this well-documented relationship, as it doesn't seem to change, even under unprecedented circumstances like a global pandemic.

H3: People that spent a large amount of time on social media during the COVID-19 crisis will be associated with lower levels of political trust throughout the pandemic.

Based on the analysis, the existence of a significant independent effect of social media use on confidence in government cannot be confirmed. Therefore, the first part of the research question, 'what is the effect of social media use on people's level of political trust' can be answered as a significant effect of social media use was not found for the period studied (2018-2022). The finding of an insignificant social media use effect could indicate that the theoretical assumption of social media generally being negatively associated with political trust, due to its bottom-up nature favouring circulation of 'alternative information' compared to news from traditional media is not true (Ceron, 2015, p.488).

The problem could also be that the measure 'frequency of social media use' was not sophisticated enough to adequately measure the effect described by Ceron (2015). The LISS panel Survey did not include more detailed questions about the exact nature of social media use of respondents. If a measure could have been created that specified whether respondents' news consumption was through social media or through another medium, or even directly measured the (exact) social media use of LISS respondents, the results may have indicated an effect of 'social media as news consumption' during the pandemic. As this research could not analyse this, this can not be confirmed.

Finally, Klerks (2021) pointed out that the chance to encounter digital misinformation on COVID-19 grew as the pandemic progressed (p.77), which might lead to growing scepticism about the severity of the virus and in turn growing dissatisfaction with the government's efforts to curb the growth of the virus over time. Keeping this in mind, it is unfortunate that the studied period for this analysis ended in March 2020. It is possible that the influence of social media use on political trust does become significant in the next few years, either because of an 'after pandemic' effect or an 'ongoing pandemic' effect. Taking into account all these limitations, there is reason to believe that while the findings turned out to be insignificant, more in-depth future research conducted in the coming years either including a more sophisticated 'social media' measure or being of a more qualitative nature and asking in-depth questions about the consumption of social media during the pandemic, will uncover an effect of social media messaging on people's levels of political trust, connected to the pandemic.

The second part of the research question, 'how does social media use shape the relationship between level of education and political trust before and during the COVID-19 pandemic?' was explored by testing H4: *the decrease in political trust associated with social media usage*

will be greater amongst low educated citizens than high educated citizens and this interaction effect will be stronger during the pandemic compared to before the pandemic.

The existence of a 'simple' significant interaction effect between 'time' and 'social media use' on political trust cannot be confirmed based on the mixed model analysis. However, a significant three-way interaction between time (pre and during pandemic), social media use and level of education was found. The plot of estimated marginal means showed an effect of social media use on the relationship between level of education and confidence in government, but only in the pandemic period. Specifically, the highly educated that frequently used social media seemed to be more positively associated with confidence in government compared to the period before the pandemic, while the level of confidence in government for low educated citizens that frequently used social media stayed at the same level as before the pandemic.

Based on these findings, the fourth hypothesis cannot be accepted as it expected a negative moderating effect of social media use on the relationship between education and political trust during the pandemic, with low educated citizens being more affected compared to the highly educated. It is interesting that there does seem to be a significant effect, but that this social media effect leads to higher average trust levels for the high educated, while the low educated appear to be unaffected during the pandemic period. Even though the exact formulated hypothesis could not be accepted, the findings still help answering the second part of the research question, 'how does social media-use shape the relationship between level of education and political trust before and during the pandemic?'

The theoretical assumption of the moderating relationship built on the political sophistication theory by Hooghe et al. (2014) and posited that during the pandemic, low educated citizens consuming a large amount of content on online media, including political news and information about COVID-19, would lead to them not evaluating the online information about politics critically, and make them more likely to accept the negative reporting on government performance, because of the lower political sophistication, leading to even lower levels of political trust than if they did not encounter this information. As lower educated citizens were also presumed to generally display lower levels of external political efficacy, this would also make them more inclined to accept the government-critical information they read on social media. Higher educated citizens, encountering the same information online, would, because of higher political sophistication and external efficacy, be less affected by this type of news consumption. As the results showed that, during the

pandemic, higher educated respondents were actually more affected by social media use compared to lower educated respondents, and this effect turns out to be positive, the theoretical assumption does not seem to be very convincing anymore. Especially taking into account that a direct negative effect of social media use was also not found, raising the question whether frequent social media users actually encounter a lot of government-critical messaging on these platforms. However, the same limitations as for hypothesis 3 regarding the validity of the measure social media use and the lack of data 'further into' the pandemic apply to this found effect as well.

As specifically the highly educated that frequently used social media seemed to be positively associated with confidence in government, this raises the question *why*. A reason for this could be that the higher educated actually encountered or sought out *positive* messaging on social media related to the experts (virologists, (political) analysts, etc.) and government handling of the COVID-19 pandemic, which led to the higher average confidence in government, while lower educated did not interact with the same social media content, perhaps due to different algorithms, leading to them not being positively affected by it. A related explanation may be that for the higher educated, a rally-around-the-scientists effect occurred where government and COVID-19 sceptic messaging actually inspired a counter-reaction in the higher educated, with them wanting to show support to both the scientists and the government enacting policies to slow down the spread of the virus.

All in all, the analysis showed that while a direct effect of social media use on confidence in government was not found, social media use did interact in complicated and significant ways with the relationship between level of education and trust in government during the pandemic period.

These findings shed more light on a not yet extensively studied time period wherein big, societal changes occurred due to the COVID-19 pandemic. Furthermore, this research was undertaken at a time (2022) wherein political trust was historically low in the Netherlands (Engbersen et al.) As mentioned in the introduction, many researchers, like Mishler and Rose (2001) and Belanger (2017) emphasise the importance of political trust when it comes to the legitimacy of the political system as a whole, as high levels of trust allows institutions to represent their citizens better and leads to increased government effectiveness, while low levels of political trust can cause a general political disillusionment in citizens. In order to avoid negative consequences of low political trust, understanding why trust falls is important.

Because of its current low levels of political trust, it is useful that the study was conducted with a dataset of Dutch respondents, as policy makers in the Netherlands could take into account what factors contribute to political trust. The significant findings of the pandemic and the education effect as well as the interaction effect, but also social media use not turning out to be significant, all contribute to the understanding of what influences political trust. The research only being conducted within the context of the Netherlands is also a limitation as this makes it difficult to generalise the findings beyond the Dutch context. Similar research conducted in the future, could compare the effect of social media use on trust between different countries in order to draw more general conclusions about this effect.

In the choice of research design, this study does offer a valuable insight, as Ceron (2015), who studied effects of social media usage on political trust and employed a cross-sectional research design, emphasised the need for more longitudinal research into the topic, which was provided with this study (p.495). In order to learn even more about possible effects on social media use, future research, using research designs on a larger scale and comparing more than four time points (years), with more sophisticated measures for exact social media use, could bring even more valuable insights into this underexplored topic. Later research that can include an 'after pandemic period' to compare to the pandemic period itself, could also bring valuable insights into effects of social media use (and other factors) on political trust during this period.

All in all, taking all mentioned limitations into consideration, this thesis offers a small contribution to the larger understanding of effects influencing political trust, specifically social media use.

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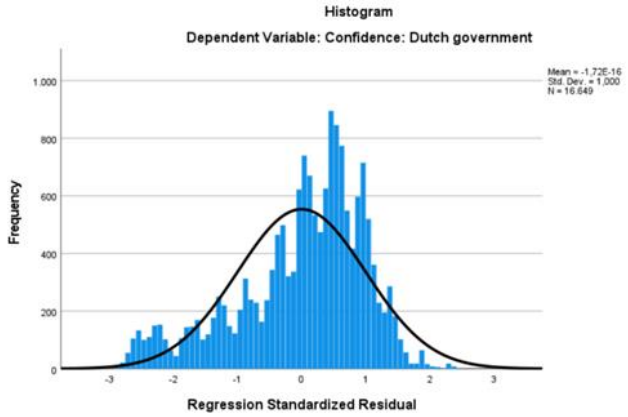
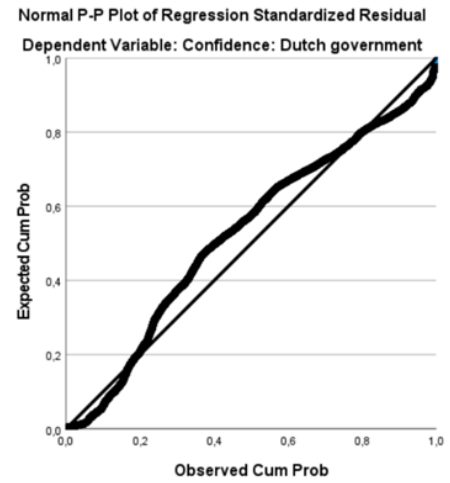
Appendix A:

Histogram and p-p plot of linear regression:





Appendix B:

Robustness test

As the dependent variable 'trust in government' is an 11-point likert scale variable, (0 = no trust in government, 10 = full trust), it was important to test whether the found results are meaningfully different when the dependent variable is treated as logistic instead of linear. An ordinal logistic regression with the dependent specified as 'ordinal' but independent variables included as the same dummy versions used for final multilevel model 4, plus the same two-way and three-way interaction effect was analysed.

Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	15214,569			
Final	14909,086	305,483	6	<,001

Link function: Logit.

The difference between 'intercept only' (baseline-model) and 'final' -2 Log Likelihood X2 = 305.48, p<.001. Which means that this model is significantly better at predicting the outcome of the dependent variable (trust in government) compared to the baseline-model. This resembles the outcomes of the final multilevel linear model, which also showed a significant improvement in model fit compared to the baseline model.

Pseudo R-square of the ordinal logistic regression:

Pseudo R-Square

Cox and Snell	,018
Nagelkerke	,018
McFadden	,004

Link function: Logit.

Pseudo R-square of the linear mixed (multilevel) model:

Coefficients of Determination

Pseudo-R Square Measures	Marginal	,015
	Conditional	,635

The linear mixed model analysis produced a pseudo R square of 0.015 which closely resembles the 0.018 statistic for Cox and Snell & Nagelkerke Pseudo R-square measures.

Finally, the b-coefficients:

Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Threshold	[TrustGov = 0]	-3,026	,079	1471,230	1	,000	-3,180	-2,871
	[TrustGov = 1]	-2,542	,076	1123,863	1	<,001	-2,691	-2,394
	[TrustGov = 2]	-1,977	,074	719,820	1	<,001	-2,121	-1,832
	[TrustGov = 3]	-1,488	,073	420,331	1	<,001	-1,630	-1,346
	[TrustGov = 4]	-1,049	,072	212,547	1	<,001	-1,190	-,908
	[TrustGov = 5]	-,384	,072	28,738	1	<,001	-,524	-,243
	[TrustGov = 6]	,399	,072	31,117	1	<,001	,259	,539
	[TrustGov = 7]	1,637	,073	505,901	1	<,001	1,495	1,780
	[TrustGov = 8]	3,667	,085	1861,521	1	,000	3,500	3,833
	[TrustGov = 9]	5,627	,144	1521,946	1	,000	5,344	5,910
Location	TimeDummyPreDuringPan	,212	,060	12,545	1	<,001	,094	,329
	edulhdum	,445	,037	147,421	1	<,001	,373	,517
	dumlhsoc	-,012	,052	,056	1	,813	-,114	,090
	leeftijd	-,006	,001	59,978	1	<,001	-,008	-,005
	TimeDummyPreDuringPan * dumlhsoc	-,036	,076	,229	1	,633	-,186	,113
	TimeDummyPreDuringPan * edulhdum * dumlhsoc	-,070	,058	1,477	1	,224	-,184	,043

Link function: Logit.

The ordered logistic model shows mostly similar p-values compared to the linear mixed model (see table 4). Time, education and age are still highly significant, while 'social media use' and the interaction of time with social media use were still insignificant. The three-way interaction time*education*social media use has become less significant in this logistic model.

Appendix C:

Test of between-subjects-effects to create the plots of marginal means

Tests of Between-Subjects Effects

Dependent Variable: Confidence: Dutch government

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1231,646[a]	7	175,949	36,050	<,001
Intercept	308591,630	1	308591,630	63226,226	,000
TimeDummyPreDuringPan	43,179	1	43,179	8,847	,003
edulhdum	758,853	1	758,853	155,479	<,001
dumlhsoc	8,663	1	8,663	1,775	,183
TimeDummyPreDuringPan * dumlhsoc	,186	1	,186	,038	,845
TimeDummyPreDuringPan * dumlhsoc * edulhdum	55,388	3	18,463	3,783	,010
Error	81220,621	16641	4,881		
Total	591406,000	16649			
Corrected Total	82452,267	16648			

a. R Squared = ,015 (Adjusted R Squared = ,015)

The test of between-subjects-effects produced running the univariate general linear model that was created to plot the estimated marginal means for hypothesis 4 showed mostly similar results to the final mixed model, with the same variables turning out to be significant.

Appendix D:

Ethics and privacy checklist

ERASMUS UNIVERSITEIT ROTTERDAM

CHECKLIST ETHICAL AND PRIVACY ASPECTS OF RESEARCH

INSTRUCTION

This checklist should be completed for every research study that is conducted at the Department of Public Administration and Sociology (DPAS). This checklist should be completed *before* commencing with data collection or approaching participants. Students can complete this checklist with help of their supervisor.

This checklist is a mandatory part of the empirical master's thesis and has to be uploaded along with the research proposal.

The guideline for ethical aspects of research of the Dutch Sociological Association (NSV) can be found on their website (http://www.nsv-sociologie.nl/?page_id=17). If you have doubts about ethical or privacy aspects of your research study, discuss and resolve the matter with your EUR supervisor. If needed and if advised to do so by your supervisor, you can also consult Dr. Jennifer A. Holland, coordinator of the Sociology Master's Thesis program.

PART I: GENERAL INFORMATION

Project title: Provisory title: COVID-19 and political trust: A longitudinal analysis of effect of social media consumption on political trust and on the relationship between level of education and political trust during the COVID-19 crisis.

Name, email of student: Eva Faessen, 435706ef@eur.nl

Name, email of supervisor: Tom Emery, tom@odissei-data.nl

Start date and duration: 21-01-2022 – 19-06-2022

Is the research study conducted within DPAS YES

If 'NO': at or for what institute or organization will the study be conducted?
(e.g. internship organization)

PART II: HUMAN SUBJECTS

1. Does your research involve human participants. YES

   If 'NO': skip to part V.

   If 'YES': does the study involve medical or physical research? NO

   Research that falls under the Medical Research Involving Human Subjects Act (WMO) must first be submitted to an accredited medical research ethics committee or the Central Committee on Research Involving Human Subjects (CCMO).

2. Does your research involve field observations without manipulations that will not involve identification of participants. NO

   If 'YES': skip to part IV.

3. Research involving completely anonymous data files (secondary data that has been anonymized by someone else). YES

   If 'YES': skip to part IV.

PART III: PARTICIPANTS

1. Will information about the nature of the study and about what participants can expect during the study be withheld from them? YES - NO

2. Will any of the participants not be asked for verbal or written 'informed consent,' whereby they agree to participate in the study? YES - NO

3. Will information about the possibility to discontinue the participation at any time be withheld from participants? YES - NO

4. Will the study involve actively deceiving the participants? YES - NO
   Note: almost all research studies involve some kind of deception of participants. Try to think about what types of deception are ethical or non-ethical (e.g. purpose of the study is not told, coercion is exerted on participants, giving participants the feeling that they harm other people by making certain decisions, etc.).

5. Does the study involve the risk of causing psychological stress or negative emotions beyond those normally encountered by participants? YES - NO

6. Will information be collected about special categories of data, as defined by the GDPR (e.g. racial or ethnic origin, political opinions, religious or philosophical beliefs, trade union membership, genetic data, biometric data for the purpose of uniquely identifying a person, data concerning mental or physical health, data concerning a person's sex life or sexual orientation)? YES - NO

7. Will the study involve the participation of minors (<18 years old) or other groups that cannot give consent? YES - NO

8. Is the health and/or safety of participants at risk during the study? YES - NO

9. Can participants be identified by the study results or can the confidentiality of the participants' identity not be ensured? YES - NO

10. Are there any other possible ethical issues with regard to this study? YES - NO

If you have answered 'YES' to any of the previous questions, please indicate below why this issue is unavoidable in this study.

_____

_____

_____

_____

What safeguards are taken to relieve possible adverse consequences of these issues (e.g., informing participants about the study afterwards, extra safety regulations, etc.).

Are there any unintended circumstances in the study that can cause harm or have negative (emotional) consequences to the participants? Indicate what possible circumstances this could be.

Please attach your informed consent form in Appendix I, if applicable.

Continue to part IV.

PART IV: SAMPLE

Where will you collect or obtain your data?

Secondary longitudinal panel data were obtained from the LISS (Longitudinal Internet Studies for the Social Sciences) Panel. Several datasets belonging to the same ´Core Study' were used: Wave 11, 12, 13 and 14 of the 'Politics and Values' dataset, wave 11, 12, 13 and 14 of the 'Social Integration and Leisure' dataset and finally the single-wave 'Background variables' dataset.
Note: indicate for separate data sources.

What is the (anticipated) size of your sample?

The general sample size of the LISS panel includes around 5000 households. I have no further exclusion criteria, other than the fact that members of the households I sample have participated in the 11th, 12th, 13th and 14th wave of the 'politics and values' dataset and the 11th, 12th, 13th and 14th wave of the 'social integration and leisure' dataset, in order to employ the longitudinal panel research design, my final sample size consisted of the 5000 households minus the non-respondents to any of these sub-questionnaires.
Note: indicate for separate data sources.

What is the size of the population from which you will sample?

The Dutch speaking population that lives in the Netherlands permanently is stated by the LISS panel as their reference population. LISS panel states that the sample frame consists of the (Dutch) nationwide address frame of the CBS (Statistics Netherlands) (see: https://www.lissdata.nl/sites/default/files/bestanden/Sample_and_Recruitment.pdf). This fits with the scope of the research project, as the aim is to only analyse behaviour of the Dutch population.
Note: indicate for separate data sources.

Continue to part V.

Part V: Data storage and backup

Where and when will you store your data in the short term, after acquisition?

I only used digital secondary (anonymized) data files, which were only stored on my personal, password-protected computer.

Note: indicate for separate data sources, for instance for paper-and pencil test data, and for digital data files.

Who is responsible for the immediate day-to-day management, storage and backup of the data arising from your research?

I am personally responsible for the immediate day-to-day management, storage and backup of the data arising from my research.

How (frequently) will you back-up your research data for short-term data security?
I made sure to back up my data at least every two weeks (though in reality it was even more often), in order to ensure short-term data security. However, after the thesis project is finished, I will make sure to delete all my research data, in order to minimize the risk of a future data breach.

In case of collecting personal data how will you anonymize the data?
The data I will work with has already been anonymized by the research institute (CenterData). It is impossible for me to identify specific individuals with the data I received from them. However, this does not mean that I was not careful with the anonymized data I did have access to.

Note: It is advisable to keep directly identifying personal details separated from the rest of the data. Personal details are then replaced by a key/ code. Only the code is part of the database with data and the list of respondents/research subjects is kept separate.

PART VI: SIGNATURE

Please note that it is your responsibility to follow the ethical guidelines in the conduct of your study. This includes providing information to participants about the study and ensuring confidentiality in storage and use of personal data. Treat participants respectfully, be on time at appointments, call participants when they have signed up for your study and fulfil promises made to participants.

Furthermore, it is your responsibility that data are authentic, of high quality and properly stored. The principle is always that the supervisor (or strictly speaking the Erasmus University Rotterdam) remains owner of the data, and that the student should therefore hand over all data to the supervisor.

Hereby I declare that the study will be conducted in accordance with the ethical guidelines of the Department of Public Administration and Sociology at Erasmus University Rotterdam. I have answered the questions truthfully.

Name student: Eva Faessen

Date: 20-3-2022

Name (EUR) supervisor: Thomas Emery

Date: 20/03/2022