To trust or not to trust? The relationship between social media and trust in the Dutch government

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Abstract

This study investigates the relationship between social media usage and trust in the Dutch government, alongside the role of echo chambers, filter bubbles and the spread of misinformation. With trust in the Dutch government being historically low, the study aims to contribute to understanding the influence of social media on attitudes and behaviours and its possible impact on institutional trust. It contributes to a growing body of literature on social media usage and its influence on behaviours and attitudes. A quantitative research design was employed, using a questionnaire to collect data (N= 146). Exposure to echo chambers, filter bubbles and misinformation were measured, along with filter bubble awareness. While the internal consistency of the scales was too low, factor analysis showed seven different factors. In addition, trust in different institutions was asked and showed a high correlation with trust in information. Moderate positive correlations were found between social media usage and political institutions. In all, the data did not provide enough evidence to investigate the role of misinformation and the relationship between social media usage and trust in the government. However, the high correlations between trust in the institutions and the information people receive from these institutions indicate that institutions could focus on providing accurate information to build trust.

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1. Introduction

According to the Dutch Central Statistical Office, trust in the Dutch government is at a historically low point, with only a quarter of people over 15 years old having trust in the parliament, and only 20 percent having trust in politicians (CBS, 2023). While the level of trust has been rising during the COVID-19 pandemic, it has drastically lowered in the light of inflation, and a shortage of houses within the Netherlands (NOS, 2022). Other factors that are mentioned by citizens are invisibility of the government, unfair treatment of certain groups, and incompetence (Peeters et al., 2020). This trend is not new and not only present in Europe with trust in public institutions decreasing from 73 percent in 1958, to 24 percent in 2021 in the United States (Perry, 2021).

As is suggested by previous work (Forgette & Morris, 2006; Aalberg et al., 2012), political opinion is influenced by the consumption of traditional media, especially if this media is "strategic", or is seen as "conflict heavy coverage". However, as more and more people use social media platforms such as Facebook and Twitter, it is relevant to investigate the usage of these online platforms and the role they play within the relationship between citizens and the government. Currently, 88.1 percent of Dutch citizens are active on social media platforms (Kemp, 2023). Even though European citizens are doubtful of the accuracy of information on social media, many still use it to access news and political content (Watson, 2022). It means that social media plays a large role in people's perception of the government, as the content that is shared on social media is often highly contentious, emotional and moralized in nature (Klein & Robinson, 2020).

While the easy accessibility of user-generated content on social media platforms enables people to come together based on their shared interests, and/ or perspectives, it also enables the spread of unverified rumours (Del Vicario, 2016). This culminates in the spreading of misinformation, disinformation, and 'fake news'. The latter term gained

popularity during the 2016 presidential election, where many commentators argued that Donald Trump would not have won without the aid of false narratives and the aforementioned 'fake news' (Allcott & Gentzkow, 2017). The Russian invasion of Ukraine is a more recent example of how misinformation can be used to radicalize the public, and influence public opinion (Ruiz & Nilsson, 2022). Besides, the spread of misinformation is caused by the existence of echo chambers, which are media spaces with an abundance of attitude-consistent information and a lack of opposing views (Arguedas et al., 2022). The misinformation spread in these spaces contains three characteristics: (1) similar misinformation is often repeated to users; (2) the content is emotionally loaded; and (3) meant to mislead through cognitive biases and social cognition (Jiang et al., 2021).

Existing literature mostly focusses on the aforementioned concepts as single concepts, but the interrelationships of these concepts are not researched yet. The literature is also mostly set in countries other than the Netherlands, with most data being collected in other parts of the world, where political attitudes could differ largely. Furthermore, echo chambers and filter bubbles are underexplained in the literature and thus need further research. Thus, the present paper aims to formulate answers for the following research questions:

Q1: What is the relationship between social media usage and trust in the Dutch government?

Q2: What are the relationships between echo chambers and filter bubbles in the spread of misinformation on social media platforms?

The present study will contribute to the growing body of literature on the effects of social media on individuals' attitudes and behaviours, as well as the potential impact of social media on governmental and political trust.

2. Theoretical Framework

2.1 Trust between citizens and the government

Trust between citizens and their government is a prevalent concern in public administration and has been a major worry for public sector leaders in recent decades (Denhardt & Denhardt, 2009, as cited in Song & Lee, 2016). The concept of trust is broad and cannot be confined to one definition. As stated by Rotter (1967, p.651) trust can be seen as "an expectancy held by an individual or a group that the word, promise, verbal written statement of another individual or group can be relied upon". Mayer et al. (1995, p.712) define trust as "the willingness to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party". Furthermore, Davis & Schoorman (1995) argue that trust can defined as an individual taking a risky course of action with full confidence that all individuals involved will act competently and dutifully. Finally, Rousseau et al (1998, p. 395) synthesize these different definitions into: "a physiological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behaviour of another". When referring to the concept of trust in this study, this latter definition will be used, as it is formulated based upon previous literature and contains all the aforementioned elements.

These definitions all mention the presence of positive expectations, which originate from perceptions of trustworthiness (Porumbescu, 2016). As is stated by Grimmelikhuijsen et al. (2013), trustworthiness comprises of three aspects: competence, benevolence, and honesty. Within this framework proposed by Grimmelikhuijsen et al. (2013), competence refers to an assessment of government performance, benevolence reflects citizens' perception that their government puts the needs of the public above their own, and honesty refers to a citizens' perception of whether their government is truthful in its interactions. Within this framework, trust in the government is defined as a person's "rational belief in the benevolent motivation

and performance capacity of the government" (Norris, 2017, p.19). And thus, trust in the government is dictated by the government putting the needs of the people above the needs of the government itself. As is stated by Song & Lee (2016), trust in the government is heavily dictated by perceived transparency and perceived performance of the government, which in turn is influenced by the information one consumes.

2.2 Social media usage and trust in government

The way people are exposed to news and civic information is increasingly influenced by online social media networks (Bakshy et al., 2015). This information is rarely apolitical, with many Americans reporting that they obtain political news from social media platforms (Shearer & Matsa, 2018). This development causes an ongoing decrease in quality of available information, through the spread of biased narratives, 'fake news', and misinformation, even though the internet was initially meant to provide easy access to (correct) information (Törnberg, 2018). Not only are people getting more of their information from social networks, public trust in news media has waned over the last years (Fink, 2018). "Strategic" and/or "horse race" content within mass media also leads to heightened distrust of these channels (Aalberg et al., 2012). The same holds true for conflict-heavy coverage. Fink (2018) also proposes that a lack of trust leads to people seeking other sources for their information, such as social media. Crises such as the COVID-19 pandemic also led to a lack of trust in news media and the government, as an association is drawn by some people between news and the crisis response by the government (Kye & Hwang, 2020). However, it is also argued that obtaining news from social media platforms undermines trust, as political content is often shared between people of similar political predispositions, leading to echo chambers and filter bubbles within these networks (Barberá et al., 2015).

2.3 Echo Chambers & Filter Bubbles

The terms 'echo chamber' and 'filter bubble' are used interchangeably within the literature. Jamieson and Capella (2008, p.76) define the concept of echo chambers as "a bounded, enclosed media space that has the potential to both magnify the messages delivered within it and insulate them from rebuttal". Within this definition, the magnification and insulation refer to, respectively, an abundance of attitude-consistent information, and a lack of opposing views (Arguedas et al., 2022). The same literature review by Arguedas et al. (2022) proposes that the difference between echo chambers and filter bubbles lies within the reasons why people might live in a bubble, where on the one hand, an echo chamber can be created by people actively choosing to live in one and the situation is created by demand instead of supply or distribution. On the other hand, filter bubbles are created through ranking algorithms which are designed to customize and personalize the user's online experience, with the consequence of placing the user in a bubble where they are only shown information that matches their previous consumption (Spohr, 2017). Echo chambers were already present in traditional media to some extent, but the increasing prevalence of social media in daily life has perpetuated the presence of these phenomena, especially filter bubbles, through algorithms and personalization of content (Rhodes, 2021).

Echo chambers and filter bubbles lead to polarization within networks (Interian et al., 2022), which is referred to as a marked political division within the population (Weber et al., 2021). This is due to the fact that echo chambers lead to people interacting more with like-minded individuals, which reinforces their own ideological viewpoint and diminishes the validity of other, differing opinions, which in turn leads to further polarization (Cinus et al., 2021). Besides this, Del Vicario et al. (2019) state that an increasing polarization and segregation of users is directly related to the spread of misinformation online.

2.4 Spread of misinformation and/or fake news

The spread of misinformation online is becoming more and more pervasive, so much so that the WEF (World Economic Forum) has coined the phenomenon as one of the largest threats to our society (Howell, 2023). Misinformation is referred to as information that is inaccurate or misleading (Vosoughi et al., 2018). The definition of this term is widely agreed upon, but the term 'fake news' is used interchangeably with misinformation within the literature (Aïmeur et al., 2023). Fake news is often defined based on two factors; intent (whether the purpose is to mislead or cause harm) and authenticity, which refers to whether the content is verifiably false or not (Aïmeur et al., 2023). Within the framework proposed by Aïmeur et al. (2023), disinformation is classified as information that is verifiably false, and intends on causing harm. As stated by Adjin-Tettey (2022), the two main differences between misinformation and disinformation are the following: "1) fake news mimics the form of mainstream news, while disinformation does not; and 2) while disinformation is purposefully crafted to mislead, the one engaged in misinformation does not deliberately do so because they are not aware information being shared is fabricated or false." (p.1).

Social platforms have been put under scrutiny over the last few years for becoming a potent environment in which misinformation, fake news, hoaxes etcetera are able to thrive (Fernandez & Alani, 2018). As described in a literature review by Wang et al. (2019), misinformation is spread by both non-human actors, such as social bots, and human actors. Human actors can be split into two groups: malicious and benign, where the former refers to individuals who spread misinformation with the intent of causing harm or pursuing a political goal, while the latter refers to individuals who spread misinformation without recognizing that the information is false. Allcott & Gentzkow (2017) propose three different reasons why social media is prone to the spread of misinformation. Firstly, the relatively low costs of entering platforms and producing content cause an increase in profitability for "fake news

producers" (p. 221). Secondly, the format of social media can make it difficult to assess the validity of information that is being presented. Lastly, as was shown by Bakshy et al. (2015), online social networks are heavily ideologically segregated. In order for misinformation to be successful, it must appear trustworthy by readers, which can be achieved by employing a process of strategic presentation of fake content and is thus referred to as fabricated legitimacy (Di Domenico et al., 2021).

2.5 Effects of misinformation and echo chambers on trust in the government

While the aforementioned concepts have been extensively researched on their own, the effects of misinformation and echo chambers on the relationship between citizens and the government have not yet been explored. As is proposed by Guess & Lyons (2020), misinformation feeds into extremism and affective polarization, while also diminishing trust in traditional media sources and the ability of individuals to identify valid information. These effects could be seen as being related to distrusting the government, but a correlation between these two concepts has not yet been discovered. As for echo chambers, their effects are still up for discussion. Barberá (2015) stated that social media users are not able to avoid challenges on their opinions and attitudes since (1) the consumption of content is incidental and presented in the context of social cues and (2) most of the content is shared by 'weak ties', which is more likely to be ideologically diverse than 'strong ties'. Thus, it is important to research the effects of these phenomena on the relation between citizens and the government.

3. Methods

The following section will contain information about the research aim, design and measurements. Furthermore, ethical considerations will be discussed, along with sample characteristics and reliability analyses of the scales used in the study.

3.1 Research aim and design

The aim of the research is to find out which of the variables (echo chambers, filter bubbles, and misinformation) has the largest effect on the relationship between citizens and the government. Therefore, this study employed a quantitative research design, utilizing a survey to collect data from a sample of participants. While a quantitative research design such as the one used in the present study depends on self-reported answers, it allows for data collection from a larger sample than a qualitative approach, leading to a higher generalizability of results (Goodman, 2008). The survey was constructed using Qualtrics, an online survey program, with data being collected anonymously. A convenience sampling procedure was followed, where the survey was promoted through social media posts and messages, which garnered a large enough sample to form conclusions. Furthermore, a cross-sectional design was used, as data was collected at one point in time. The survey was in Dutch, as the research aimed to find out more about the relationship between citizens and the Dutch government, which is a topic that is less relevant for international citizens. Analyses were performed through Rstudio. The significance of results will be assessed using a significance level of .05

3.2 Measurement instrument

The survey consisted of Likert-scale type items, along with separate items where the social media usage of participants was measured. Each scale intended on measuring one of the concepts of the research questions. These items were based on existing research in this field, which will be elaborated upon further in this chapter.

The survey started with demographical items, and age and education of participants

was asked, along with their social media usage. After this, their general trust in institutions and people was assessed. This scale is adapted from the Eurobarometer 82.3 (2014). Institutions from their list that were included in the survey were as follows: *The written press*, *Radio*, *Television*, *Online social networks*, *Regional or local public authorities*, *The European Union*, and *The United Nations*. Furthermore, *Friends or family*, *Corporations*, *Non-profit organizations*, *Science*, and *The Tweede Kamer* were added to provide a complete list of institutions.

Einav et al. (2022) proposed that open mindedness is negatively related to exposure to filter bubbles, thus their scale was adapted for the present study. Before this, the participant was shown a news article about the climate policy of the Dutch government (NOS, 2023), and participants had to answer the questions in relation to this article. This article was chosen due to the involvement of the Dutch government in the topic. The seven items were *I would like to explore new information about this topic*, *I would wish to share information about this topic with other people*, *I would not mind reading different arguments on this topic*, *If my friend does not think the way I do on this topic, I would like to hear what he or she has to say*, *All views on this topic should be heard*, *There is no one correct opinion on this topic*, *I am willing to consider an argument on this topic that is different than* mine.

Furthermore, the awareness of filter bubbles on online social media platforms was measured, as Burbach et al. (2019) proposed that awareness is negatively related to their effectiveness. Items included in this scale were: *I have already heard of filter bubbles*, *Filter bubbles are a problem*, *Filter bubbles affect me personally*, *Filter bubbles only display interesting posts*, and *I take conscious action against filter bubbles*. The fourth item was coded in reverse, as a higher score on this item meant a lower awareness.

Exposure to echo chambers on an individual level was measured using scales adapted from Lee et al., (2017) and Barberá et al. (2015). Items included on this scale were *I am*

frequently exposed to opinions on social media that align with my own beliefs, *I tend to interact more with people on social media who share my political views*, *I feel that my social media feeds are customized to show me information that confirms my existing beliefs*, *I find myself disagreeing with or distrusting information that comes from people with different political views than my own*, and *I am open to considering different perspectives and ideas, even if they challenge my own* beliefs.

Lastly, exposure to misinformation on social media was measured based on scales constructed by Chan (2022) and Talwar et al. (2020). Items included in this scale were *I try to validate the information I see on social media, as much as possible, I am confident in my ability to distinguish between accurate and inaccurate information on social media*, *I have shared social media posts that I later found out contained false or misleading information*, *I trust the information I see on social media*, and *I have come across social media posts that I believed contained false or misleading information in the last month*. All of the items were translated to Dutch using online translation tools. Full translations of all the items can be found in Appendix A.

3.3 Ethical considerations

Ethical considerations for this study were as follows: participation in the study was completely voluntary, with participants being given the option to withdraw from the study at any time. Before a respondent filled in the survey, an informed consent form was issued, where the participant was informed about the study's purpose, procedures, and potential risks and benefits. If they did not consent to participating in the study, they would not have to fill in the questions and their data would be removed. Data was reported anonymously and in aggravated form and will be deleted after the legally mandatory retention period of 6 months. Ethical approval for the study was granted by the Ethics Committee of the faculty

Behavioural, Management and Social Sciences (BMS) at the University of Twente (Request

number 230817).

3.4 Sample characteristics

Data was collected through a convenience sampling method, in which the questionnaire was

spread through social media messages and posts. Out of the 166 collected responses, 20

incomplete questionnaires were deleted. This led to a sample of N= 146. Participants were

aged between 18 and 80 years old, with a mean age of M= 34.42 (SD= 16.15). Level of

education was spread across 7 categories, which is shown in table 1. The sample is very

diverse in terms of age and education level. The sample mainly consists of students, who have

only completed *Middelbare school,* or secondary school, and professionals who are highly

educated. This can be accredited to the fact that the sampling method mostly reached these

groups.

Level of Education	Frequency	Percentage
Geen Opleiding	0	0
Basisschool	0	0
Middelbare school	47	32.2
Middelbaar Beroepsonderwijs	35	24.0
Hoger Beroepsonderwijs	43	29.5
Universiteit Bachelors diploma	12	8.2
Universiteit Master diploma	9	6.2

Table 1 Distribution of the item "Level of education"

3.5 Reliability of measurements

Reliability of the scales was assessed using Cronbach's alpha, the results of which can be

found in table 2. Due to the low reliability of certain scales, further analysis was necessary.

Hence why an exploratory factor analysis was performed, in which the items that would lead

to the highest improvement of Cronbach's alpha were removed to improve the consistency of

the scales.

Scale Name	Number of items	Cronbach's alpha	Improved alpha after factor analysis
Trust in institutions	12	.93	n/a
Trust in information	12	.93	n/a
Open mindedness	7	.67	.72
Filter bubble awareness	5	.40	.43
Exposure to echo chambers	5	.34	.48
Exposure to misinformation	5	.11	.37

Table 2 Cronbach's alpha of survey scales

The scales which measure trust in institutions and their information were above the acceptable threshold of .70, and thus no items were removed. As for the scale measuring open mindedness, the item "*Er is geen enkele juiste mening over dit onderwerp*" was removed, which led to an improvement of Cronbach's alpha to an acceptable value of .72. This scale can thus be used for further analysis as it is reliable enough to measure the concept of open mindedness.

Within the filter bubble awareness scale, one item was removed to improve the value of Cronbach's alpha. Removing "*Filterbubbels hebben persoonlijk invloed op mij*" improved the maximum value of Cronbach's alpha to 0.43, which was still insufficient to measure filter bubble awareness. Removing further items also did not improve the internal consistency of the scale. Investigating the spread of the items through histograms and boxplots, furthermore, showed that the items were differently spread, and thus further analysis in their relationships is necessary. Boxplots of the items also showed some outliers, but as the items were measures

using a five-point Likert scale, these were not extreme values.

The exposure to echo chambers scale had an unacceptable value of Cronbach's alpha, which also meant that the items did not consistently measure the concept of echo chambers. Explorative factor analysis showed two items which could be removed: "*Ik merk dat ik wantrouwig ben tegenover informatie die afkomstig is van mensen met andere politieke opvattingen dan de mijne.*", and "*Ik sta open voor het overwegen van verschillende perspectieven en ideeën, zelfs als ze mijn eigen overtuigingen uitdagen.*". Removing these items led to an alpha of 0.48, which could not be improved further by removing other items. Histograms and boxplots of these items also showed different spreads and distributions of the data.

In order to improve the reliability of the misinformation scale, "*Ik heb social media berichten gedeeld die later onjuiste of misleidende informatie bleken te bevatten*", and "*Ik vertrouw op de informatie die ik op sociale media zie*" had to be removed to improve the alpha to a maximum value of 0.37, which was also insufficient to measure exposure to misinformation. When analysing the correlation between items in these scales, it was also found to be very low, and thus the consistency of the scales is inadequate to investigate further relationships. When further investigating the items using histograms and boxplots, the same held true as with the other scales, with distributions differing greatly per items.

To find out whether underlying factors might be measured by the survey items, further exploratory factor analysis was performed to find correlations between items from different scales. The filter bubble awareness (FBA) scale, exposure to echo chambers (EEC) scale and exposure to misinformation (EM) are included. The factor solution was obtained through principal axis factoring with varimax rotation. See table 3 and 4.

Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
FBA 1	0.129	0.191	-0.183	-	0.322	-	-
FBA 2	0.426	0.189	-0.223	-	0.165	-	-
FBA 3	-	0.602	-	-	-	-	-
FBA 4	0.446	-	-	0.101	-	-	-
FBA 5	0.609	-	0.107	-	0.108	-0.127	0.161
EEC 1	-	0.518	-	-0.144	0.195	0.398	-
EEC 2	-	0.121	-	0.101	-	0.761	0.168
EEC 3	-	0.547	-	-	-	-	-
EEC 4	-	-	-	-	-	0.173	0.367
EEC 5	-	-0.203	0.275	-	-	-	0.310
EM 1	0.113	-	-	0.111	0.736	-	-0.103
EM 2	-0.475	-	-0.305	0.142	0.380	-0.146	0.503
EM 3	-	-	0.702	-	-	-	-
EM 4	-0.451	-	0.183	-0.472	0.134	0.337	0.146
EM 5	-	-	-	0.726	0.726	0.103	-

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
Eigenvalues	1.234	1.077	0.809	0.837	0.921	0.942	0.585
Proportion of variance explained	0.082	0.072	0.054	0.056	0.061	0.063	0.039
Cumulative variance explained	0.082	0.154	0.208	0.264	0.325	0.388	0.427

Table 3&4 Factor loadings for filter bubble awareness (FBA), exposure to echo chambers (EEC) and exposure to misinformation (EM), and explained variance per factor

The factor analysis revealed seven different factors underlying the survey items. Eigenvalues of these factors ranged from 1.234 to 0.585, together accounting for 42.7% of variance within the data.

The conclusion of this exploratory factor analysis was that the reliability of the current data is too low to form valid conclusions based on the data. The low reliability can be accredited to multiple factors. Firstly, the sample was very diverse, with the age and education level being very varied. The histograms and box plots show this. In addition, for such a diverse sample, the sample size was too small. Secondly, filter bubbles and echo chambers are relatively new concepts and not well known with the general public. Especially in this diverse sample, some respondents were most likely not able to give well informed answers to the questions related to these concepts. Thirdly, respondents are less likely to report that they are influenced by echo chambers or misinformation and are more likely to give socially acceptable answers. These three factors all contribute to a low correlation between items within scales and thus a low reliability. Despite the items being reliable in previous literature, the current study does not find enough evidence to replicate those findings.

However, the high number of factors that appear to be measured by the data calls for further research as many different influences were found on the data. Factor 1 is represented by items related to filter bubble awareness and is negatively correlated with *I am confident in my ability to distinguish between accurate and inaccurate information on social media* and *I trust the information I see on social media*. This implies that the awareness of filter bubbles is influenced by exposure to misinformation online. Factor 2 is mostly represented by items measuring personal perception of exposure to echo chambers. The item FBA 3 is also related to personal perception of the concept of filter bubbles (*Filter bubbles affect me personally*). Factor 3 is most strongly correlated with an item about sharing misinformation online and is negatively correlated with personal assessment of judging information online and filter bubble

awareness items. Factor 4 is most strongly correlated with an items measuring whether one has come across false information online but is negatively correlated with trusting information online. As for Factor 5, it also strongly correlated with coming across misinformation online, but also trying to validate information one comes across. However, it is also related to personal assessment of information and having heard of filter bubbles. Factor 6 is mostly related to items from the exposure to echo chambers scale but is also related to trusting information online. Lastly, Factor 7 is most strongly represented by a personal assessment of false information online but also items related to exposure to echo chambers.

4. Results

After performing an explorative factor analysis on the scale items, trust in institutions and their information is analysed. Linear regressions are performed with the different variables.

4.1 Analysis of Trust- and Information Scores

In order to analyse trust in institutions, answers to the items related to trust in institutions and their information were recoded to numbers, where the lowest answer is represented by 1, and the highest answer by 5. This led to a mean trust score for each institution and the information people get from these institutions, see figure 1. The least trusted institution using this metric is *Online Social Media* (M= 2.19, SD= 0.90, p < .05), with the most trusted being *Science* (M = 4.10, SD =1.28, p < .05). The same holds true for the information people get from these sources, with *Online Social Media* being trusted the least (M= 2.19, SD= 0.90, *p* < .05), and *Science* the most (M= 3.97, SD= 1.28, p < .05).

As for the government, the *Tweede Kamer* has a relatively low trust score (M= 2.64, SD= 1.21, *p* <.05) and their information is also not rated highly (M= 2.70, SD= 1.21, p <.05). *Regional or local governments* are trusted more (M= 3.01, SD= 1.16, p < .05), and so is their

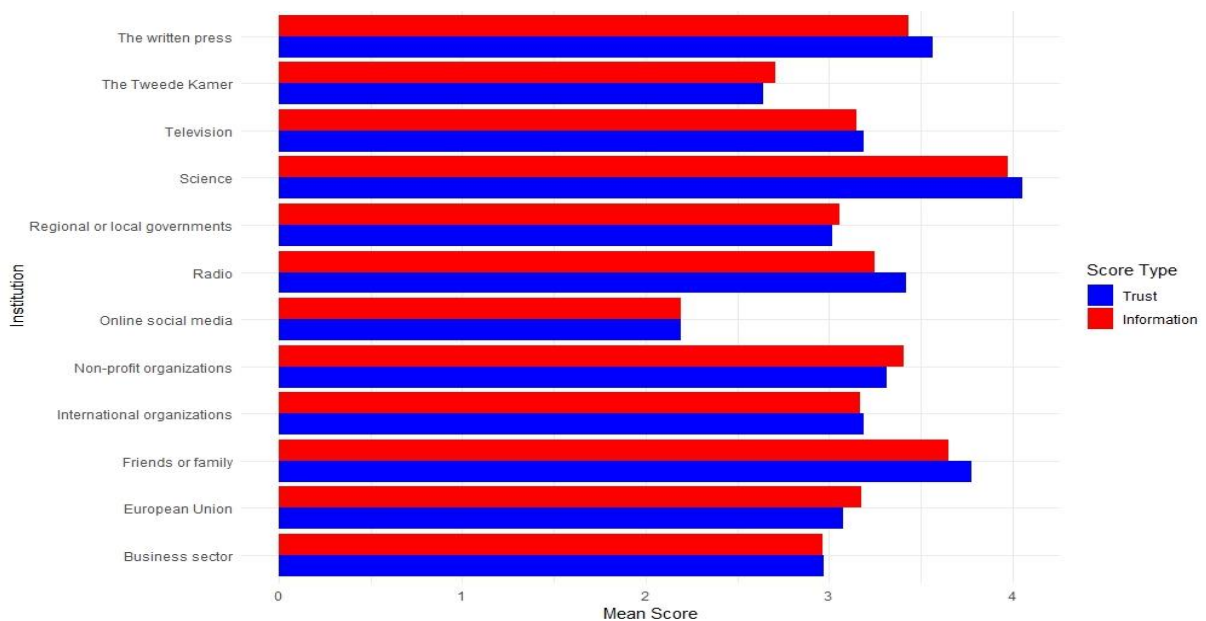*Figure 1 Mean Trust and Information scores per Institution*

information (M= 3.05, SD= 1.16, p < .05). Furthermore, the *European Union* is trusted more

than the *Tweede Kamer* (M= 3.07, SD= 1.30, p < .05), and so is their information (M= 3.17,

SD= 1.23, p < .05), even though this form of politics stands further from the citizen. The exact

trust- and information of the other institutions can be found in Appendix B. Trust scores and

Information scores were found to be highly correlated, *r*(10)= 0.99, p < .05.

Relating social media usage to trust in the government was done by calculating the

correlation between trust scores of the *Tweede Kamer*, *Regional or local governments,* and the

European Union and the reported social media usage of participants. In order to do so, the

categorical variable of social media usage had to be recoded to represent numbers. The lowest

group (*less than 1 hour*) would represent 1, the next group (*1-2 hours*) would represent 2 and

so on till the highest group, which would represent 5. Furthermore, the mean of the trust score

and information score was taken for both institutions as these are highly correlated.

Social media usage and trust in the *Tweede Kamer* were found to be moderately

positively correlated, *r(*140) = .16, *p* = 0.05. There was, therefore, not enough evidence to say

that social media usage and trust in *Regional or local governments* are correlated, *r*(138) =

.14, *p* = .09, as the significance threshold is not met. The same holds true for the *European*

Union, *r*(137) = .14, p = 0.09.

4.2 Linear regressions

To find out more about the correlation between social media usage and trust in the *Tweede Kamer,* a simple linear regression was calculated. A significant regression equation was found (F(1,140) = 3.96, p = .05), with R^2 = .03, see table 5.

Predictor	b	b 95% CI	*beta*	*beta* 95% CI	sr^2	sr^2 95% CI	r	Fit
(Intercept)	2.36**	[1.99, 2.73]						
Social media usage	0.19*	[0.00, 0.37]	0.17	[0.00, 0.33]	.03	[.00, .10]	.17*	
								R^2 = .028*
								95% CI[.00,.10]

Table 5 Regression results of social media usage and Tweede Kamer

Trust in the *Tweede Kamer* is equal to 2.36 + 0.19 (social media usage). Thus, the mean of trust score and information score is predicted to go up by .19 for each level of social media usage. This could be explained by many politicians in the Dutch parliament being active on platforms such as Twitter. However, the low value of R^2 indicates that the data does not fit the regression model well. Important to note here is that each level of social media usage does not necessarily represent an hour of social media use, but rather a category in the scale.

Besides, the correlation between open mindedness and trust in the government was investigated, as this was the only scale with an acceptable reliability. In order to so, the answers to the open mindedness scale were recoded, ranging from -2 through 2, and were added to compute an open mindedness score. Open mindedness is moderately positively correlated with trust in the *Tweede Kamer*, however, this correlation does not meet the requirements of significance, r(126) = 0.16, p = .08. The same holds true for the correlation

between open mindedness and trust in the *European Union*, $r(124) = 0.17$, $p = .05$. However,

trust in *Regional or local governments* and open mindedness are significantly positively

correlated, $r(124) = 0.21$, $p < .05$. A simple linear regression analysis of this correlation

reveals a significant linear equation (F(1, 124) = 5.81, $p < .05$), $R^2 = 0.05$, see table 6.

Predictor	b	b 95% CI	beta	beta 95% CI	sr^2	sr^2 95% CI	r	Fit
(Intercept)	2.92**	[2.68, 3.17]						
Open mindedness	0.06*	[0.01, 0.11]	0.21	[0.04, 0.39]	.04	[.00, .13]	.21*	
								$R^2 = .045*$ 95% CI[.00,.13]

Table 6 Regression results of open mindedness and Regional or local governments

Trust in *Regional or local governments* is equal to 2.92 + 0.06 (open mindedness). This

means that trust in *Regional or local governments* is predicted to go up by a value of 0.06 for

each point on the open mindedness scale. However, as is once again the case, open

mindedness is not a strong predictor for trust in this institutions due to a low value of R^2.

Furthermore, a stepwise linear regression model was created to find out more about

the relationship between the measured variables and trust in the government. In order to do so,

the mean trust scores of *Regional or local governments,* the *Tweede Kamer,* and the *European*

Union were taken, as these were found to be highly correlated, see table 7.

	Regional or local governments	Tweede Kamer	European Union
Regional or local governments	1	.868	.850
Tweede Kamer	.868	1	.833
European Union	.850	.833	1

Table 7 Correlation matrix of trust scores for government institutions

A forward stepwise linear regression was used to identify possible predictors of trust in the government out of the following controlling variables: open mindedness, filter bubble awareness, exposure to echo chambers, exposure to misinformation, and social media usage. At each step, variables were chosen according to their contribution to the model's residual sum of squares. Based on this analysis, none of the variables could be removed from the model, as this would lower the value of AIC. See table 8 for the linear regression. Important to note is that filter bubble awareness, exposure to chambers, and exposure to misinformation were not consistently measured by the scales.

Predictor	*b*	*b* 95% CI	*beta*	*beta* 95% CI	sr^2	sr^2 95% CI	*r*	Fit
(Intercept)	2.57**	[2.16, 2.98]						
Open mindedness	0.07**	[0.02, 0.12]	0.25	[0.08, 0.42]	.06	[-.02, .13]	.19*	
Filter bubble awareness	-0.06	[-0.12, 0.01]	-0.15	[-0.32, 0.02]	.02	[-.02, .06]	-.12	
Exposure to echo chambers	0.06	[-0.01, 0.14]	0.15	[-0.02, 0.31]	.02	[-.02, .06]	.07	
Exposure to misinformation	-0.13**	[-0.22, -0.03]	-0.22	[-0.39, -0.06]	.05	[-.02, .12]	-.18*	
Social media usage	0.21*	[0.04, 0.39]	0.21	[0.04, 0.38]	.04	[-.02, .10]	.18*	
								R^2 = .155** 95% CI[.03,.24]

Table 8 Multiple linear regression results

5. Discussion

The present research aimed at uncovering the relationship between social media usage and trust in the government, while also investigating the role of misinformation, echo chambers, and filter bubbles in this relationship. This led to the following research questions:

Q1: What is the relationship between social media usage and trust in the Dutch government?

Q2: What are the relationships between echo chambers and filter bubbles in the spread of misinformation on social media platforms?

However, due to low consistency values of the scales used to measure exposure to misinformation, filter bubbles, and echo chambers, the data was deemed unfit to answer the second research question. The data, however, did provide valuable insights into trust in the Dutch government, local governments and other institutions. Furthermore, explorative factor analysis found seven different influences on variance within the data, meaning that the relationships between echo chambers, filter bubbles, and misinformation are complex.

5.1 Main findings

Firstly, the high correlation between trust in institutions and trust in the information one receives from these institutions implies that information is very important in people's perception of institutions. This is line with previous work (Denize & Young, 2007), where it was argued that information exchange norms, formed over a long period of time, have a positive relationship with trust embedded in a relationship. However, this article by Denize & Young (2007) is focussed on managerial actions, and not on institutions. Further work into the relationship between trust and information is focussed on interpersonal trust (Williams, 2005), or the diffusion of identifiable information online (Mesch, 2012). No further work has been done in the context of institutional trust and the diffusion of information and is potentially a fruitful future research direction.

Secondly, a moderate positive correlation between social media usage and trust in the *Tweede Kamer* was found. This means that in the sample more social media usage led to a higher trust score in the *Tweede Kamer*. While the correlations between social media usage and other governmental institutions were not significant, these were also moderately positive. As was found in a literature review by Håkansson and Witmer (2014), many studies have found a positive relationship between social trust and social media usage. However, these studies are firstly mostly set before the year 2010 and are secondly not focussed on institutional trust. Van Dijck & Alinejad (2020) argue that social media can be seen as a double-edged sword in building institutional trust (scientific expertise in their case), as it helps to spread both accurate and inaccurate information. On the other hand, Ceron (2015) found that the access to information on social media is linked to a lower propensity for political trust. These conflicting findings indicate that the relationship between social media usage and trust in the government has not yet been fully discovered, which is line with the present findings.

Thirdly, a positive correlation between open mindedness and trust in *Regional or local governments* was found; and insignificant positive correlations between the other governmental institutions and open mindedness were found. While Sedlár (2022) found an indirect relationship between open mindedness and trust in strangers, no further research has been done into the predictive power of open mindedness for trust in the government. However, the present study found moderate correlations, with a linear regression revealing a low value of R^2. This means open mindedness is a weak predictor for trust in the government, and further research would probably not reveal much about this relationship.

Lastly, factor analysis revealed seven different factors that explain 42.7% of the variance in the data of the scales with low reliability. Many items provide contrasting information about the concepts. It implies that the relationship between echo chambers, filter

bubbles, and misinformation is complex and calls for further research. Seeing as most of the factors were represented by items of multiple different scales, the concepts are interrelated. These relationships need to be studied further in order to find out what the role is of these phenomena on online social platforms. As of now, the literature does not contain research about these relationships, and thus more research in the future is needed to understand these concepts.

5.2 Practical implications, limitations, and directions for further research

The present research has practical implications for policy makers, government officials, and researchers. Firstly, the high correlation between trust in information and trust in institutions implies that institutions should put effort into disseminating accurate and trustworthy information to the public, as this has a large influence on the perception of an institution. Secondly, conflicting findings about the relationship between trust and social media usage imply that more research needs to be done to fully uncover the influence of social media on institutional trust. However, based on the current findings, social media can be used by government officials to build trust, as long as the dissemination of misinformation online is addressed adequately.

The study has some limitations that need to be discussed. Firstly, a survey research design relies on self-reported answers, which are not always consistent with the truth. Especially in the case of echo chambers, filter bubbles, and misinformation, people are not always aware of whether they are being influenced by these phenomena. Additionally, as is often the case in surveys, people are more inclined to give socially preferrable answers (Bowling, 2005), or in other words, often give answers that present a better image of themselves. This is especially case with the aforementioned phenomena, as being influenced by misinformation can be seen as not socially preferrable. Secondly, the sampling approach of the study led to a very diverse sample, with a large variance in age and education level. While

this helps with the generalizability of results, the sample size was too small to get many significant results relating to different groups within the sample.

Lastly, a low consistency of scales used to measure exposure to echo chambers, filter bubbles, and misinformation led to the decision of these scales not being used in further analysis. This meant that it was not possible to investigate the second research question, but more importantly, it showed that filter bubbles and echo chambers are relatively new concepts within the general public. While the survey contained information about filter bubbles to inform participants of the concept, this was not enough to allow participants to give fully informed answers. The low consistency can also be accredited to the fact that items were translated from English to Dutch, and some meaning could have been lost in translation.

As for further research directions, firstly, the low consistency values of the aforementioned scales indicate the need for more research into survey items to investigate exposure to echo chambers, filter bubbles and misinformation. This could lead researchers to be able to investigate the role of misinformation more adequately. However, questions also need to be raised as to whether a survey is the most effective design to research this relationship. The scraping of data could also be a valuable tool, as used in Bakshy et al., (2015), or the use of algorithms, such as used in Cinus et al. (2021). Secondly, the interrelatedness of echo chambers, filter bubbles and misinformation call for more research into their relationships. Lastly, the high correlation between information and the trust in institutions calls for more research into the specific factors that influence trust in information, such as credibility and the assessment of misinformation. This could provide insights into how institutions can utilize information to build trust among people, especially in the context of social media.

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7. Appendices

Appendix A Questionnaire text & items

U bent uitgenodigd om deel te nemen aan een onderzoek uitgevoerd door Misha Zoet als onderdeel van een scriptieonderzoek voor de opleiding Communication Science aan de Universiteit Twente. Het doel van deze studie is om de relatie tussen social media-gebruik en vertrouwen in de Nederlandse overheid te onderzoeken. Daarnaast wordt de rol van filterbubbels en echokamers en het verspreiden van misinformatie onderzocht. Voordat u besluit deel te nemen is het belangrijk dat u de informatie in dit toestemmingsformulier leest. Bij vragen of opmerkingen kunt u terecht bij m.zoet@student.utwente.nl.

Als u besluit deel te nemen aan dit onderzoek, wordt u gevraagd een online enquête in te vullen. Deze bestaat uit een reeks vragen over uw social media gebruik en omgang, en uw vertrouwen in verschillende organisaties. Het invullen van de enquête zal ongeveer 10 minuten duren.

Uw antwoorden worden anoniem en vertrouwelijk behandeld, en de verzamelde gegevens worden uitsluitend gebruikt voor het onderzoek. Er zijn geen grote risico's verbonden aan deelname aan deze studie. Het bespreken van onderwerpen met betrekking tot het gebruik van sociale media, vertrouwen in de overheid en misinformatie kan wel persoonlijke meningen of emoties oproepen. Mocht u tijdens de enquête enig ongemak ervaren, dan kunt u zich op elk moment terugtrekken uit het onderzoek. Uw deelname draagt bij aan een beter begrip van de relaties tussen social media-gebruik en vertrouwen in de Nederlandse overheid en de rol die misinformatie hierin speelt.

Deelname aan het onderzoek is volledig anoniem en alle verzamelde gegevens zullen strikt vertrouwelijk worden behandeld. De gegevens worden veilig opgeslagen en zullen alleen toegankelijk zijn voor het onderzoeksteam. Daarnaast zal uw persoonlijke informatie niet in eventuele rapporten of presentaties gebruikt worden. Mocht u zich willen terugtrekken uit het onderzoek wordt uw data volledig verwijderd.

Als u vragen of zorgen heeft met betrekking tot dit onderzoek, kunt u contact opnemen met Misha Zoet via m.zoet@student.utwente.nl. Als u zich zorgen maakt over uw rechten als onderzoeksdeelnemer, kunt u contact opnemen met de Ethische commissie van de Universiteit Twente via decaan-bms@utwente.nl Erkent u dat u dit toestemmingsformulier hebt gelezen, en wilt u meedoen aan het onderzoek?

○ Ja (1)

○ Nee (2)

Wat is uw leeftijd?

_____

Wat is uw hoogst voltooide opleiding?

○ Geen opleiding (1)

○ Basisschool (2)

○ Middelbare school (3)

○ Middelbaar Beroepsonderwijs (4)

○ Hoger Beroepsonderwijs (5)

○ Universiteit Bachelors diploma (6)

○ Universiteit Master diploma (7)

Hoeveel uur per dag zit u op social media?

○ Minder dan 1 uur (1)

○ 1-2 uur (2)

○ 2-3 uur (3)

○ 3-5 uur (4)

○ Meer dan 5 uur (5)

Gemiddeld genomen, hoe vaak deelt u inhoud op social media met uw vrienden, kennissen of familie per dag?

○ Zelden of nooit (1)

○ 1 keer per week (2)

○ 1 keer per dag (3)

○ 1 tot 5 keer per dag (4)

○ 5 tot 10 keer per dag (5)

○ 10 of meer keer per dag (6)

Welk van deze platformen gebruikt u regelmatig?

☐ Facebook (1)

☐ Instagram (2)

☐ Twitter (3)

☐ YouTube (4)

☐ WhatsApp (5)

☐ TikTok (6)

☐ Reddit (7)

☐ Anders, namelijk: (8) _____

Voor elk van de volgende instellingen/personen, geef alstublieft aan in hoeverre u deze betrouwbaar vindt.

	Erg onbetrouwbaar (1)	Enigszins onbetrouwbaar (2)	Niet betrouwbaar/ niet onbetrouwbaar (3)	Enigszins betrouwbaar (4)	Erg betrouwbaar (5)
De geschreven pers (kranten) (1)	○	○	○	○	○
Radio (2)	○	○	○	○	○
Televisie (3)	○	○	○	○	○
Online social media (zoals Facebook of Twitter) (4)	○	○	○	○	○
Vrienden of familie (5)	○	○	○	○	○
Het bedrijfsleven (6)	○	○	○	○	○
Maatschappelijke organisaties (7)	○	○	○	○	○
De wetenschap (8)	○	○	○	○	○
De Tweede Kamer (9)	○	○	○	○	○
Regionale of lokale overheden (zoals de Provinciale Staten) (10)	○	○	○	○	○
De Europese Unie (11)	○	○	○	○	○
Internationale organisaties (zoals de Verenigde Naties) (12)	○	○	○	○	○

In uw mening, hoe betrouwbaar is de informatie die u ontvangt van de volgende informatiebronnen?

	Erg onbetrouwbaar (1)	Enigszins onbetrouwbaar (2)	Niet betrouwbaar/ niet onbetrouwbaar (3)	Enigszins betrouwbaar (4)	Erg betrouwbaar (5)
De geschreven pers (kranten) (1)	○	○	○	○	○
Radio (2)	○	○	○	○	○
Televisie (3)	○	○	○	○	○
Online social media (zoals Facebook of Twitter) (4)	○	○	○	○	○
Vrienden of familie (5)	○	○	○	○	○
Het bedrijfsleven (6)	○	○	○	○	○
Maatschappelijke organisaties (7)	○	○	○	○	○
De wetenschap (8)	○	○	○	○	○
De Tweede Kamer (9)	○	○	○	○	○
Regionale of lokale publieke overheden (zoals de Provinciale Staten) (10)	○	○	○	○	○
De Europese Unie (11)	○	○	○	○	○
Internationale organisaties (zoals de Verenigde Naties) (12)	○	○	○	○	○

Lees het volgende nieuwsartikel aandachtig door. De komende vragen gaan over dit artikel.

Kabinet trekt 28 miljard uit voor 120 klimaatmaatregelen: 'Zal af en toe knellen'

Het kabinet is het eens geworden over een "ambitieus, rechtvaardig en uitvoerbaar" klimaatpakket. De plannen leveren een extra reductie op van 22 megaton aan CO_2-uitstoot in 2030. Daarmee zou het doel om in 2030 minstens 55 procent minder koolstofdioxide (broeikasgassen) uit te stoten dan in 1990, ruimschoots gehaald kunnen worden. De coalitiepartijen hopen zelfs dat hiermee 60 procent wordt gehaald.

Klimaatminister Rob Jetten heeft het pakket met in totaal 120 klimaatmaatregelen gepresenteerd. Er is 28 miljard euro mee gemoeid. Daarmee is het grootste deel van het klimaatfonds met 35 miljard euro nu toegekend. Een deel van het geld was al 'uitgegeven'.

Alleen de 4,7 miljard voor de ontwikkeling van kernenergie is nog over. Het kabinet wilde al dat er twee nieuwe kerncentrales bij komen, maar daar is nog geen besluit over genomen. In het klimaatplan is nu opgenomen dat het kabinet zich ook gaat inzetten voor het versnellen van de ontwikkeling van kleinere kernreactoren. Daar is 65 miljoen voor gereserveerd.

Het is de bedoeling om "de lusten en lasten" zoveel mogelijk te verdelen. "Het kabinet vindt het cruciaal dat het klimaatbeleid voor iedereen gaat werken, ongeacht woonplaats, leeftijd of inkomen", stelt Jetten. "In het bijzonder ook voor mensen die vanwege geldzorgen, beperkte tijd of minder digitale vaardigheden nu nog minder goed kunnen meekomen."

De maatregelen zijn vooral gericht op een reductie van de CO_2-uitstoot in de industrie, de mobiliteit en bij de elektriciteitsopwekking. De doelstelling voor de elektriciteitssector is verscherpt: die moet in 2035 al CO_2-vrij zijn. In de industrie wil het kabinet in 2030 nog eens 5 megaton extra reduceren, waardoor het totaal voor deze sector op 20 procent uitkomt.

(Via NOS)

Terugdenkend aan het artikel wat u zojuist heeft gelezen, geef alstublieft aan in hoeverre u het eens bent met de volgende stellingen.

	Sterk mee oneens (1)	Oneens (2)	Niet eens/ niet oneens (3)	Eens (4)	Sterk mee eens (5)
Ik zou graag nieuwe informatie willen vinden over dit onderwerp (1)	○	○	○	○	○
Ik zou graag informatie over dit onderwerp willen delen met andere mensen (2)	○	○	○	○	○
Het lezen van verschillende argumenten over dit onderwerp stoort me niet (3)	○	○	○	○	○
Als mijn vriend(in) of familielid niet op dezelfde manier denkt over dit onderwerp, hoor ik graag wat hij/zij te zeggen heeft (4)	○	○	○	○	○
Alle opvattingen over dit onderwerp moeten worden gehoord (5)	○	○	○	○	○
Er is geen enkele juiste mening over dit onderwerp (6)	○	○	○	○	○
Ik ben bereid om een argument te overwegen dat anders is dan het mijne (7)	○	○	○	○	○

Geef alstublieft aan in hoeverre u het eens bent met de volgende stellingen. De overige vragen van deze enquête hoeft u niet te relateren aan het artikel wat u zojuist heeft gelezen. Een filterbubbel is het verschijnsel waarbij websites en zoekmachines hun resultaten afstemmen op uw (eerdere) online zoekgedrag.

	Sterk mee oneens (1)	Oneens (2)	Niet eens/ niet oneens (3)	Eens (4)	Sterk mee eens (5)
Ik heb al gehoord van filterbubbels (1)	○	○	○	○	○
Filterbubbels zijn een probleem (2)	○	○	○	○	○
Filterbubbels hebben persoonlijk invloed op mij (3)	○	○	○	○	○
Filterbubbels tonen alleen interessante berichten (4)	○	○	○	○	○
Ik onderneem bewust actie tegen filterbubbels (5)	○	○	○	○	○

Denkend aan uw eigen social media gebruik. Geef alstublieft aan in hoeverre u het eens bent met de volgende stellingen.

	Sterk mee oneens (1)	Oneens (2)	Niet eens/ niet oneens (3)	Eens (4)	Sterk mee eens (5)
Ik word regelmatig blootgesteld aan meningen op sociale media die overeenkomen met mijn eigen overtuigingen. (1)	○	○	○	○	○
Ik neig ertoe meer interactie te hebben op sociale media met mensen die mijn politieke opvattingen delen. (2)	○	○	○	○	○
Ik heb het gevoel dat mijn social media feeds zijn aangepast om mij informatie te tonen die mijn bestaande overtuigingen bevestigt. (3)	○	○	○	○	○
Ik merk dat ik wantrouwig ben tegenover informatie die afkomstig is van mensen met andere politieke opvattingen dan de mijne. (4)	○	○	○	○	○
Ik sta open voor het overwegen van verschillende perspectieven en ideeën, zelfs als ze mijn eigen overtuigingen uitdagen. (5)	○	○	○	○	○

Denkend aan uw eigen social media gebruik, geef alstublieft aan in hoeverre u het eens bent met de volgende stellingen.

	Sterk mee oneens (1)	Oneens (2)	Niet eens/ niet oneens (3)	Eens (4)	Sterk mee eens (5)
Ik probeer de informatie die ik op sociale media zie zoveel mogelijk te valideren (1)	○	○	○	○	○
Ik ben ervan overtuigd dat ik kan onderscheiden tussen nauwkeurige en onnauwkeurige informatie op sociale media (2)	○	○	○	○	○
Ik heb social media berichten gedeeld die later onjuiste of misleidende informatie bleken te bevatten (3)	○	○	○	○	○
Ik vertrouw op de informatie die ik op sociale media zie (4)	○	○	○	○	○
Ik ben in de afgelopen maand social media berichten tegengekomen waarvan ik geloofde dat ze onjuiste of misleidende informatie bevatten (5)	○	○	○	○	○

Appendix B Trust scores and information scores per institution

Institution	Mean trust score	Mean information score	SD (trust score)	SD (information score)	*p* (trust score)	*p* (information score)
The written press	3.57	3.43	1.36	1.29	$< .05$	$< .05$
Radio	3.43	3.25	1.20	1.13	$< .05$	$< .05$
Television	3.19	3.15	1.22	1.11	$< .05$	$< .05$
Online social media	2.19	2.19	0.90	0.93	$< .05$	$< .05$
Friends or family	3.77	3.65	0.97	0.90	$< .05$	$< .05$
Business sector	2.97	2.97	1.06	1.05	$< .05$	$< .05$
Non-profit organizations	3.32	3.41	1.13	1.11	$< .05$	$< .05$
Science	4.06	3.97	1.28	1.28	$< .05$	$< .05$
Tweede Kamer	2.64	2.70	1.21	1.19	$< .05$	$< .05$
Regional or local governments	3.01	3.06	1.16	1.14	$< .05$	$< .05$

European Union	3.08	3.17	1.30	1.23	< .05	< .05
International organizations	3.19	3.17	1.28	1.23	< .05	< .05

Appendix C Literature Search Log

Source	Search Date	Search Query	Hits	Remarks
Scopus	30-3	Social media AND distrust government	151	
Scopus	3-4	Social media AND trust government	1115	
Google Scholar	3-4	Social media AND trust government	2.600.000	
Scopus	12-4	Misinformation AND trust government	195	
Google Scholar	12-4	Misinformation AND trust government	185.000	
Google Scholar	13-4	Misinformation AND social media	463.000	
Scopus	13-4	Misinformation AND social media	4.436	
Scopus	14-4	filter bubbles social media	213	
Google Scholar	14-4	filter bubbles social media	73.300	
Google Scholar	17-4	filter bubbles AND social media AND trust government	25.100	
Scopus	17-4	filter bubbles AND social media AND trust government	2	too specific for scopus
Google Scholar	17-4	trust in government	2.790.000	general query for definitions of trust
Google Scholar	17-4	political trust	4.210.000	general query for definitions of political trust
Google Scholar	19-4	echo chambers polarization	37.600	
Google	20-4	echo chambers survey items	23.100.000	I used regular Google for the survey items, which garnered much more hits
Google	24-4	measuring exposure to misinformation	5.130.000	Same remark
Google	25-4	measuring trust in institutions	50.800.000	Same remark
Google	25-4	measuring echo chambers social media	27.200.000	Same remark
Google Scholar	26-4	Trust AND Government	3.140.000	
Google Scholar	1-5	political support	6.140.000	
Google Scholar	1-5	Political support Social media	3.990.000	

Google Scholar	4-5	fake news developments	248.000
Google Scholar	8-5	Misinformation AND trust government	185.000
Google Scholar	10-6	interpersonal trust and information	2.480.000
Google Scholar	11-6	social media and institutional trust	3.610.000
Google Scholar	11-6	open mindedness and trust	506.000