Bachelor thesis

The levels of local political and civic participation between different types of citizens based on their local media use

Student: Martin Gerrits

Student number: s1026453

First Supervisor: Dr. P.J. Klok

Second Supervisor: S. Donnelly

Date: 03-07-2019

Programme: Management Society and Technology

University of Twente, Enschede

Word count: 17,436

• Abstract

By using anonymized survey data from the Lokaal Kiezersonderzoek 2018 (Jansen & Denters, 2019), this exploratory research formulates a typology of local media consumers within the Dutch political landscape. The research question, What are the levels of local civic and political participation between different types of citizens based on their local media consumption?, is answered through statistical analysis of the data – making a distinction between *civic* and *political* participation. Different types of local media use are specified in the data and research; these include the internet (social media use and visiting websites), local newspapers and local radio/tv. The typology of local media consumers is created by performing a K-means cluster analysis on selected variables related to local media use, after standardizing these variables with Z-scores. The resulting clusters include individual characteristics such as age, income level, and education. Several types of media consumers result from this typology construct, with differing levels of political and civic participation. The findings of this paper can be a useful addition to the research on the effect of media use on political and civic participation, especially because distinctions are made between types of media use within the local/municipal political and civic context. The main avenue of future research could concern itself with establishing a possible *causal* relationship between (local) media use and (local) civic and political participation.

Keywords

Political participation, civic participation, local media use, typology research, K-means cluster analysis

Table of Contents

I: Introduction
II: Theoretical Discussion7
2.1 Typology research7
2.2 Political and civic participation as concepts
2. 3 Research on media use and its relation to political and civic participation10
III: Methodology 12
3. 1 LKO 2018, case selection & sampling14
3.2 Operationalization of the main concepts and data collection methods
3.2.1 Political participation and civic participation15
3.2.2 Media use typology
IV: Analysis
4.1 Typology analysis – categorization
4.1.1 Result: final five clusters
4.1.2 Income, education and age levels of the clusters
4.2 – Civic and political participation of different types of media users
4.2.1 – Civic participation of different types of media users
4.2.2 – Political participation of different types of media users
V: Conclusion & Discussion
References
Appendix A – Tables of the standardized Z-score variables
Appendix B: ANOVA table for the 5-cluster K-means cluster analysis based on the twelve
standardized Z-scored variables
Appendix C: Full tables per cluster for each indicator variable of political participation75

I: Introduction

Within the field of political science, much research has been undertaken with regard to local politics and local civic and political participation (i.e.: J. Bakker, Denters, Oude Vrielink, and Klok (2012) for research on Dutch municipal inhabitant's civic participation). For the relationship between media use and political and civic participation in general, decades of research has been built up (see, for example, T. P. Bakker and De Vreese (2011)). This research aims to develop a typology of Dutch media users, making a distinction between 'old' or traditional media forms such as radio, newspapers and television use, and 'new' media which includes internet and social media use. The data required to develop such a media user typology is made available through the Lokaal Kiezersonderzoek 2018 report (Jansen and Denters (2019)), henceforth abbreviated to LKO 2018. The LKO 2018 was organized in order to provide insight into "local voter behaviour and opinions about local policies" (Jansen & Denters, 2019), in the context of the Dutch municipal elections, which were held the 21st of March, 2018. Two sets of questionnaires were held: a voormeting, which took place from 5-20 March, 2018, with 3,392 selected participants, and a *nameting*, which took place from 22-27 March, 2018, with 3,380 selected participants. Many participants from both the voor- and nameting were previously contacted for other research, including the LKO 2016. The LKO 2018 dataset provides this research with valuable insights into the participant's media usage preferences, as well as their self-reported political and civic participation – while also being anonymized.

The main exploratory research question for this paper is as follows:

"What are the levels of local civic and political participation between different types of citizens based on their local media consumption?"

This question includes the aspects of *local* civic and political participation, where *civic* participation constitutes a rather non-political form of local participation, focused on the community life (J. Bakker et al., 2012). These may include organizing community events, and doing volunteer work. *Political* participation is aimed at (in)directly influencing the political decision-making process (Verba, Schlozman, & Brady, 1995), and may include activities such as contacting local councillors, and voting.

The 'different types of citizens, based on their local media consumption', means that for the purposes of this research, the creation of the aforementioned local media use typology is

required. It will be based on a combination of individual characteristics, such as age, income level, and education level, and different types of media use, with the aforementioned 'old' and 'new' media use categories.

For the purpose of answering the main exploratory research question, two sub-questions are formulated. The exploratory sub-question one is as follows:

"With regard to local media consumption, which different types of citizens exist?"

This sub-question entails the creation of the local media use typology, which shall be undertaken in the Analysis part (IV) of the paper. It will be formulated, as mentioned on the previous page, by including and combining dataset variables such as age, income level and education level, as well as 'old' and 'new' media use categories.

With the resulting local media use typology, several subtypes of media users are specified, and it will be possible to distinguish between differing levels of political and civic participation between the different groups of media users, by answering the second subquestion:

"How do these types differ in their levels of civic and political participation?"

For answering the second sub-question, the concepts of local civic and political participation are operationalized through the inclusion of survey questions from the *voor-* and *nameting* from the LKO 2018 (Jansen & Denters, 2019), to conclude whether there are any differences between the aforementioned media use types within the media use typology, in their local civic and political participation, thereby answering the main research question.

With regard to the concepts of local civic and political participation, as well as typology research in general and typology research in the context of media use and civic and political participation, these are clarified in the theoretical part of this paper (Part II) by a discussion of the relevant literature. This theoretical part follows this introduction, and includes previous research on the effects of media use on political and civic participation.

The further structure of this paper is as follows. Part III includes the methodology of the paper. In this part, first, the LKO 2018 is discussed and explained in detail, including the actual number of respondents and missing cases, and some of its findings. Second, the operationalisation of the concepts of political participation, civic participation and specific instances of media use is discussed – where, through the theoretical framework of Part II,

individual variables from the *voor*- and *nameting* of the LKO 2018 are combined to constitute these variables. The operationalisation of the local media use typology is included as well.

Part IV includes the analysis, wherein the typology of local media use is specified and several subtypes of this typology arise. From the standardized Z-scored variables, of which there are twelve, a K-means cluster analysis is undertaken, and through *trial and error*, the optimum number of clusters is reached, answering the first sub-question of the paper through a datadriven explorative K-means cluster analysis. In the second part, the political and civic participation of each of these individual subtypes of the typology of local media use is shown, answering the second sub-question of this paper.

Part V constitutes the conclusion and discussion part. In part V, with the analysis results from Part IV, a conclusion is formulated by answering the two sub-questions and answering the main research question of this paper. Interesting insights from the analysis are restated. Also, the limitations of this research are brought to the fore, as well as the implications, and avenues which future research might want to touch.

The Appendixes appear after the list of references, and include detailed information on the dataset, the used variables, the recoding and operationalisation process, as well as the analysis of the constructs. Sometimes, the text refers to one of the appendices – they were not included in the main text, because the rather large tables would clutter the main body of the paper. Appendix A contains tables of the standardized Z-scored variables used to conduct the K-means cluster analysis and answer the first sub-question of the paper. Appendix B contains the ANOVA table for the 5-cluster K-means cluster analysis based on the twelve standardized Z-score variables. Finally, Appendix C shows the full tables per cluster for each indicator variable of political participation.

II: Theoretical Discussion

In these pages, the theoretical framework of the paper is clarified. First, the mechanics of typology research are brought to attention, and the usefulness of typology research within the context of political science, and especially in relation to concepts such as political participation and civic participation, as well as local media use, is discussed.

In the first part of the theory discussion, typology research is looked into, because it informs an important part of the conceptualization of the eventual research. Several papers have been consulted. Second, the concepts of political and civic participation are clarified through several papers which extensively worked with these concepts. Finally, several papers are discussed in which (survey) data is analysed to point towards effects of media use on political and civic participation, which might help in finding practical caveats of conducting survey analysis in general, and in the context of the proposed research, specifically. While the paper is not concerned with *statistically proving* any supposed *causal* relationship between these variables (because it only concerns explorative data-driven research and showing average levels of political and civic participation per group of media users), it will be interesting to see whether such links have been previously identified.

2.1 Typology research

With regard to typology research, Babbie (2013) presents a clear outline on how such research is to be conducted, and how typologies can be constructed. He defines them as "the classification [...] of observations in terms of their attributes on two or more variables". In his example (pp. 184), he creates a typology of newspapers' political orientation in terms of domestic and foreign policy in a fourfold table. In the context of the proposed research, the typology will most likely be more complex because it will include more variables.

He writes that using a typology as an independent variable (as it will be used as such in this research) should pose no real problem, and that typologies be very useful for making the data more easy to understand.

Ekman and Amnå (2012) undertook the formation of a conceptual framework of political and civic engagement. Of course, for this research, these will be the dependent variables, and a typology on media use (as an independent variable) will be constructed instead. Still, this text can also serve as an indicator on how the media use typology can be created.

2.2 Political and civic participation as concepts

For a clarification on the concepts of political and civic participation, and the reason why these are two distinct concepts should be included separately, several texts were used as a theoretical basis. In a thorough discussion on the concepts of civic engagement and political participation, Ekman and Amnå (2012) contest the civic-political distinction and note that historically, many authors have taken the word *civic* to mean anything, including the political, thereby *conceptually stretching* (pp. 284) the concept. In order for the word to mean anything, and being distinct from political (participation) in the context of the proposed research, it has to be conceptually delinked from it.

Regarding *political participation*, Verba et al. (1995) define it as an "activity that has the intent of influencing government action, either directly by affecting the making or implementation of public policy or indirectly by influencing the selection of people who make those policies". According to them, activities such as voting, campaign work, contacting public officials, making party donations, (helping) to form a political entity or attending meetings and being member of a political entity, are all components of political participation.

With regard to *civic participation*, Adler and Goggin (2005) note that there is no clear, uncontested definition of it. According to them, it "refers to the ways in which citizens participate in the life of a community in order to improve conditions for others to help shape the community's future" (pp. 236). Examples include community service, collective action and 'even' political involvement (pp. 238-240). In the table on page 295, the concepts of political participation (with examples such as "voting, contacting political representatives, running for office, being a party member") and civic engagement (with examples such as "writing to an editor, giving money to charity, discussing politics, recycling, volunteering, charity work") are distinctly outlined.

J. Bakker et al. (2012) introduce CI's (citizen's initiatives), which are citizen-led projects where participants "shape their neighbourhood's quality, working for the common good" (pp. 396), through increasing "liability, public safety and social cohesion" (pp. 410). These CI's can be seen as civic participation.

In essence, political participation can be defined as any activity that tries to affect the political decision-making process and influence government action, either directly or indirectly, with the examples given by Verba et al. (1995) as being components. Civic participation, as seen in the example of J. Bakker et al. (2012) is rather de-politicized, focused on the community life – it is a social, rather than a formalized political undertaking.

So, the typical characteristics of political and civic participation, based on the literature, would be as noted in the table below.

Table 1: Characteristics of political and civic participation

political participation	civic participation
Intent to influence political action, directly	focused on community life
or indirectly	
(formalized) political undertaking	Social undertaking

Table 2: Activities typically associated with political and civic participation

political participation	civic participation
voting	citizen's initiatives (CI's)
campaign work	writing to an editor
contacting public officials	giving money to charity
being a political party member	discussing politics
running for political office	volunteering
	doing charity work

2. 3 Research on media use and its relation to political and civic participation

While the scope of this paper does not deal with the *effects* of (forms of) media use on political and civic participation – it does not try to identify a *causal relationship* – it can be interesting to see whether such a relationship may exist, as identified in previous research (but not likely explorative typology research).

T. P. Bakker and De Vreese (2011) conducted research on the effect of media use on political participation under people aged 16 to 24 (a generation which, according to them, has shown consistent lower political participation than other age cohorts). In their findings, they discussed that differing types of media use (i.e. online media vis-à-vis newspaper use) have differently valued positive effects on political participation. This has interesting implications for the research which is to be conducted here: it seems different types of media use, as components of the media use typology to be constructed, may indeed have different effects on political (and maybe also civic) participation.

This same effect, however small, has been found in the case of the effect of *internet use* on *civic engagement* (civic participation), in the meta-analysis conducted by Boulianne (2009), where statistical analysis of 38 studies resulted in the findings that there is a positive effect of internet use on civic engagement, with the caveat that it might be hard to prove statistically significant positive effects, because a factor such as *political interest* might have to be included in the causal model.

Correspondingly, the findings of Nam (2012) point towards a positive effect of the internet on political participation, another clear indicator that the research to be conducted for this paper may prove interesting insights into the effect of media use – in this case, internet use – on *political* participation. In Table 2 (pp. S93), he posits several individual characteristics of respondents, such as age, gender, race, education and income, and it immediately becomes apparent that both offline and online political participation (a distinction made for the purpose of his paper) widely differ between these different individual characteristics. Interestingly, the factor *political interest* has been included in the analysis – which Boulianne (2009) suggested might help in the statistical analysis part.

Within the context of the United States presidential elections of 2000, Tolbert and McNeal (2003) found a positive effect of internet use on political participation as well. Because this research has been undertaken almost 20 years ago, in an age where the internet was a

relatively new and unexplored phenomenon, both in research work as well as in the view of the general public, it will be interesting to see whether this effect still holds, in an age where the internet has become commonplace.

In a paper where the effect of the internet is measured on both *political* and *civic* engagement, Xenos and Moy (2007), through analysing National Election Study survey data, find that the internet has a positive effect on both political and civic engagement. Again, they stress the importance of taking note of *political interest* being a "potential contingent factor".

All of the papers mentioned in this part of the literature review, performed successful analysis of survey data. It is useful to see that effects of (internet) media use from survey data has been measurable, because the *Lokaal Kiezersonderzoek 2018* (Jansen & Denters, 2019) is accompanied by a large dataset of survey respondents, which will have to be used for the research outlined in this paper.

Also, it has become apparent that for any statistical analysis on the effect of local media use on local civic and political participation to take place, the individual component of *political interest* might have to be included, because it might have serious effects on both political and civic participation. In other words, research on such a *causal relationship* needs to control for the variable political interest.

III: Methodology

As mentioned in the *Research question* part of this paper (page 2), the main research question of this paper is answered by a statistical analysis of different types of local media consumers and their civic and political participation. Potential threats include traditional pitfalls related to survey questionnaire response analysis. This does not include self-selection, since the original research of Jansen and Denters (2019) uses survey data gathered from a representative sample of respondents sampled by the CBS and CentERdata. It may include reliability issues, but some of these are addressed by using the *voor-* and *nameting* samples (related questions are asked in both surveys, increasing test-retest reliability, such as is the case for the variable of *political interest*). With regard to the validity of survey research, and this dataset of survey questions and responses in particular, the theoretical underpinning of the categories of media use.

Again, since just a few questions were asked related to every different type of media use, this may seem flimsy, but with regard to the data available, there is no other option but to use all available questions and answers and work with what's readily able to be used. Also, not many questions were asked which can be related to the concept of civic participation. If this prove to be a problem, it may be required for the research to abandon the clearly outlined distinction between local civic and political participation altogether, and use a more generalized term. That is a practical, operationalisational concern. Conceptually, Ekman and Amnå (2012) already extensively discussed the distinction between the civic and the political and the possibly unclear duality, and although the contours and distinctive elements of both are, in my view, clear enough in this proposed research, it may make sense to move on to a one-dimensional dependent variable if the practicalities of the operationalisation may become endangered because of this lack of local civic participation-related question is truly endangering the project.

The typology of media user will be created in this research, with Babbie (2013) providing the theoretical and practical underpinning of typology research. Further texts, including Ekman and Amnå (2012), will specifically guide the creation process of this typology. This constitutes the creation of the independent variable of different types of media users, which influences the independent variables of local civic and political participation.

The possible pitfall of using both the *voor-* and *nameting* datasets from Jansen and Denters (2019), that individual survey respondents may not be present in both datasets, or that they may not be identifiable in order to combine these two sets in one new set, is alleviated, because the dropout rate is rather small (the differences in N are small, and many respondents took part in both surveys), and the respondents are identifiable through specific respondent numbers, which are anonymized so that personal privacy is guaranteed and related ethical issues do not arise.

3. 1 LKO 2018, case selection & sampling

The main sample is derived from the population used by Jansen and Denters (2019). The LISS panel¹, consisting of circa 5.000 members is used by them. Two samples were derived from this population, a *voormeting* which took place between March 5-20 2018 (N=2554) and a *nameting* which took place between March 22-27, 2018 and April 2-14, 2018 (N=2652). The surveys held in both the *voor-* and *nameting* were related to the Dutch municipal elections of 2018, which took place March 21, 2018. These two samples are both used for this research, since they both contain survey questions related to media use and political and civic participation. They are also combinable, since for the most part, individual respondents are included in both datasets and are identifiable by respondent number (anonymized, so privacy is guaranteed and no ethical commission application and approval is required for this paper). There are some respondents who did not both participate in the voor- and nameting (as is immediately apparent from the difference in the number of respondents between the two datasets. These respondents shall be excluded from the typology creation and the eventual statistical analysis.

The combined dataset from the voor- and nameting contains 2916 respondents.

¹ The LISS panel (*Langlopende Internet Studies voor de Sociale Wetenschappen*, in English: *Longitudinal Internet Studies for the Social Sciences*) is a representative internet panel, of which its members are selected by the Dutch Central Bureau for Statistics and CentERdata.

3.2 Operationalization of the main concepts and data collection methods

As mentioned before, data will be used from the *voormeting* and *nameting* sample sets, which are located in .sav files. This is qualitative data in the form of survey question responses by individual survey respondents.

First, de two datasets of the *voor-* and *nameting* are to be merged into one dataset to combine variables of both datasets into one set, which are linked to individual respondents who responded to both questionnaires. This results in a dataset named MERGED_WERKBESTAND_LKO2018_na_2p_gekoppeld_gewicht.sav, which contains 2916 'cases', ergo, individual respondents who were either included in either the *voor-* or nameting in the LKO 2018.

3.2.1 Political participation and civic participation

For the operationalisation of the concepts of civic and political participation, several survey question answers, located in these two databases, are to be used. When a survey question is to be included for measuring political participation, a fat **P** is noted in front of the question. Alternatively, when a survey question is to be used for measuring civic participation, a fat **C** is written in front of the question. The list of questions to be used is as follows, and does not include questions from the *voormeting*, which took place March 5-20, 2018, because no questions were asked and/or answered related to *actual* political or civic participation. One question (v2) does ask whether respondents are *intending* to vote in the local municipal elections of 2018, but such a question is not relevant to indicating whether a respondent actually voted, which is a true indicator of political participation.

Thus, several questions were taken as indicators of either political or civic participation from the *nameting*, which took place March 22-27, 2018. Answer categories are included.

P-V1_nm (Hebt u gestemd tijdens de gemeenteraadsverkiezingen? 1= Ja, 2=Nee, 3 = Ik mocht niet stemmen, -9 = Ik wil het niet zeggen, -8 = Ik weet het niet)

Translation: Did you vote during the municipal elections? (1 = Yes, 2 = No, 3 = I wasn't allowed to vote, -9 = I don't want to say, -8 = I don't know)

P-V11_1_nm (Van welke van de volgende manieren hebt u in de afgelopen 5 jaar gebruik gemaakt? Contact gelegd (via een afspraak, gesprek of in brief) met een gemeenteraadslid, wethouder, burgemeester of ambtenaar 0= Nee, 1=Ja)

Translation: In the past five years, which of the following methods have you used? [applicable to V11_1_nm through V11_8_nm] Made contact (via an appointment, conversation or through a letter) with a municipal council member, councillor, mayor or civil servant (0 = No, 1 = Yes)

P-V11_2_nm (Gemeenteraadsvergadering bezocht) (0 = Nee, 1 = Ja)

Translation: Visited a municipal council meeting (0 = No, 1 = Yes)

P-V11_3_nm (Inspraakavond(en) van uw gemeente bezocht 0 = Nee, 1 = Ja)

Translation: Visited your municipality's consultation evening(s) (0 = No, 1 = Yes)

P-V 11_4_nm (Lidmaatschap van een politieke partij) (0 = No, 1 = Yes)

Translation: Membership of a political party (0 = No, 1 = Yes)

C-V11_5_nm (Actief in een lokale actiegroep) (0 = Nee, 1 = Ja)

Translation: Active in a local action group (0 = No, 1 = Yes)

P-V11_6_nm (Een petitie getekend over een lokale kwestie (op papier)) (0 = Nee, 1 = Ja)

Translation: Signed a petition (on paper) about a local issue (0 = No, 1 = Yes)

P-V11_8_nm (Contact opgenomen met een politieke partij in uw gemeente) (0 = Nee, 1 = Ja) Translation: Contacted a political party in your municipality (0 = No, 1 = Yes)

P-V_13_1_nm (Bent u de afgelopen vijf jaar samen met anderen wel eens actief betrokken

geweest bij een burgerinitiatief in uw gemeente? (1=Ja, 2=Nee).

Translation: In the past five years, have you ever, together with others, been actively involved in a citizen's initiative in your municipality? (1 = Yes, 2 = No).

With the selection of the items from the dataset for the construct *political participation*, it becomes immediately apparent that there are some caveats to work out before the construct can be made.

First, most questions contain a binary answering possibility. These are all aforementioned questions, excluding **V1_nm**, which contains five possible answering categories. However, we are only interested in those cases who either self-reported that they *did* vote in the 2018 Dutch local municipal elections, or *didn't*. Cases wherein people reported they didn't know whether they voted or not (value -8), or that they were not allowed to vote (value 3)(for whatever reason (too young to vote, being cognitively disabled, or not being a Dutch municipal citizen, for instance)), or cases in which a respondent simply didn't want to tell whether he or she voted in the 2018 municipal elections (value -9) can be excluded to simplify the variable into a binary answer variable where 0 means the respondent did not vote (No), and 1 means he or she did vote in the municipal elections (Yes). For this specific purpose, the original dataset variable V1_nm has been recoded into the new variable **V1_nm_rec**.

In this binary answer system, a value of 0 should always represent zero or negligible political participation, and 1 the highest level of political participation in the question category.

This immediately presents a second minor problem, because while the variable V13_1_nm (related to activity in local citizen's initiatives) *does* contain two possible respondent's answers, it starts with a value of 1 for Yes, and follows with a 2 for No. Of course, a No should have a value of 0 and a Yes should be a 1. For this purpose, a recoded variable, V_13_1_nm_rec (0 = No, 1 = Yes) has been created, and the problem is alleviated.

3.2.1.1 Political participation

Summarized in a table, the following new and old variables are used as indicators of political participation, where every individual indicator can either have a value of 0, indicating zero or negligible political participation, or 1, indicating (practically) the highest level of political participation.

	Indicators & values	Description
	V1_nm_rec (recoded from V1_nm)	Voted?
	0, 1	
	V11_1_nm	Contacted individuals
	0, 1	within municipality?
	V11_2_nm	Visited municipal council
	0, 1	meeting?
	V11_3_nm	Visited municipality's
	0, 1	consultation evening?
Political	V11_4_nm	Member of a political
participation	0, 1	party?
	V11_6_nm	Signed a petition about
	0, 1	local issue?
	V11_8_nm	Contacted municipality's
	0, 1	political party?
	V_13_1_nm_rec (recoded from V_13_1_nm)	Been active in
	0, 1	municipality's citizen's
		initiative?

Table 3: The summarized construct of political participation and its indicator variables

3.2.1.2 Civic participation

As is apparent, measuring civic participation with this dataset is only possible through the analysis of one variable, **V11_5_nm** (related to an individual's activity in a local action group), which has a binary answer possibility: 0 for No, and 1 for Yes).

Table 4: The summarized construct of civic participation and its indicator variable

Civic	Indicator	Description
participation	V11_5_nm	Activity in a local action
		group?

Details of the recoded variables can be found in the merged dataset file, MERGED_WERKBESTAND_LKO2018_na_2p_gekoppeld_gewicht.sav.

3.2.2 Media use typology

In order to answer sub-question 1 (with regard to local media consumption, which different types of citizens exist?), first, a construct of local media use has to be created, which will include several variables from the dataset which, in some way, indicate a respondent's level of local media use.

Subsequently, it will be possible to create the typology of local media use. This happens through performing a K-means cluster analysis in the statistical programme SPSS. The result will be that different clusters of respondents will be created, with each cluster containing tens or hundreds of respondents which vary in their local media use in relation to other clusters, in one or more of the indicator variables. The details of this work are included in the Analysis (IV) part of this paper. In this part on operationalization, the questions to be used for the analysis are shown.

For the operationalisation of the concepts of media use and the media user typology categories, survey questions will be used (to look at media use and political interest), and individual characteristics such as age, gender, education level, income level) are included. The following survey responses and questions are included (answering categories are added):

From the *voormeting*, which took place March 5-20, 2018:

V8 (Hoe vaak hebt u de afgelopen weken berichten (nieuws) over de gemeenteraadsverkiezingen gelezen in de lokale of regionale krant?) (1 = (bijna) altijd, 2 = vaak, 3 = zo nu en dan, 4 = zelden of nooit, 5 = ik lees geen lokale of regionale krant).

Translation: In the past few weeks, how many times have you read messages (news) about the municipal elections in the local or regional newspaper? (1 = (almost) always, 2 = often, 3 = occasionally, 4 = rarely or never, 5 = I don't read any local or regional newspaper)

V9 (Als er de afgelopen weken op de lokale of regionale radio of televisie nieuws over de gemeenteraadsverkiezingen werd uitgezonden, hoe vaak luisterde of keek u dan?) (1 = (bijna) altijd, 2 = vaak, 3 = zo nu en dan, 4 = zelden of nooit, 5 = ik luister niet naar lokale radio/kijk geen regionale televisie)

Translation: When, in the past few weeks, local or regional radio or television broadcasted news about the municipal elections, how often did you listen or watch? (1 = (almost) always, 2 = often, 3 = occasionally, 4 = rarely or never, 5 = I don't listen to local radio/don't watch regional television)

V10_1 t/m V_10_4 (Hebt u, om informatie over de gemeenteraadsverkiezingen te zoeken, de afgelopen weken wel eens één van de volgende dingen gedaan? De website van één of meer lokale partijen bezocht (V10_1); De website van de gemeente bezocht (V10_2); Een lokale stemwijzer ingevuld (V10_3); Op sociale media (Twitter, Facebook, blogs, Whatsapp) gelezen over de gemeenteraadsverkiezingen (V10_4).

Translation: In the past few weeks, have you ever did one of the following things, to garner information about the municipal elections? Visited the website of one or more local political parties (V10_1); Visited the website of the municipality (V10_2); Filled in a local voting guide (V10_3); Read about the municipal elections on social media (Twitter, Facebook, blogs, Whatsapp (V10_4).

These four questions all have a binary answering possibility, with 0 = No, and 1 = Yes.

The following questions, to become items for the typology of local media consumptions, are retrieved from the *nameting*, which took place March 22-27, 2018 (with the answer categories added):

V33_3_nm t/m V_33_4_nm (Welk type krant leest u: Betaalde regionale of lokale kranten (V33_3_nm) 0 =Nee, 1 =Ja; Gratis regionale of lokale kranten (huis-aan-huis bladen) (V33_4_nm) 0 =Nee, 1 =Ja

Translation: Which type of newspaper do you read: Paid regional or local newspapers $(V33_3_nm) 0 = No, 1 = Yes$; Free regional or local newspapers (door-to-door papers) $(V33_4_nm) 0 = No, 1 = Yes$.

V34a_nm&b_nm (Als er in de krant lokaal nieuws staat, bijvoorbeeld nieuws over problemen in uw gemeente, hoe vaak leest u dat dan? (V34a_nm) 1 = nooit, 2 = zelden, 3 = zo nu en dan, 4 =vaak, 5 = bijna altijd; Als er op de lokale of regionale radio of televisie nieuws is, bijvoorbeeld nieuws over problemen in uw gemeente, hoe vaak luistert/kijkt u dan? (V34b_nm) 1 = nooit, 2 = zelden, 3 = zo nu en dan, 4 = vaak, 5 = bijna altijd.

Translation: If there is local news in the newspaper, for example news about problems in your municipality, how often do you read that? (V34a_nm) 1 = never, 2 = rarely, 3 = occasionally, 4 = often, 5 = almost always; If there is news on the local or regional radio or television, for example news about problems in your municipality, how often do you listen/do you watch? (V34_b_nm) 1 = never, 2 = rarely, 3 = occasionally, 4 = often, 5 = almost always.

V35_nm (Hoe vaak gaat u op het internet gericht op zoek naar lokaal nieuws, bijvoorbeeld over problemen in uw gemeente?) 1 = nooit, 2 = zelden, 3 = zo nu en dan, 4 = vaak, 5 = bijna altijd.

Translation: (How often do you target search the internet looking for local news, for example about problems in your municipality? 1 = never, 2 = rarely, 3 = occasionally, 4 = often, 5 = almost always.

V36_nm (Volgt u politici uit uw gemeente op sociale media als Facebook, Twitter, of Instagram?) 1 = Ja, 2 = Nee.

Translation: Do you follow politicians from your municipality on social media, such as Facebook, Twitter, or Instagram? 1 = Yes, 2 = No.

Immediately, several issues arise from the selection of these components for the creation of the typology of local media use. The most important issue is that these indicators are not standardized. While some questions contain binary answer possibilities (No or Yes), others follow a 5-level Likert scale, ranging from 1 to 5, with 1 meaning low or no local media use, and 5 meaning the maximum level of local media use.

While these Likert-scale indicators are more detailed and specific, and could possibly thus result in a more detailed and numeric classification of local media users within the typology of local media use, it is impossible to include them in such a manner when *other* indicators only have a binary answering possibility. Thus, the more detailed variables have to be simplified and at least recoded into variables with a minimum of 0 and a maximum of 1 to be able to construct the typology. This happened in the case of V8, V9, V34a_nm, V34b_nm, and V35_nm. These variables were recoded into the following new variables (with answering categories mentioned):

V8_rec_1 In the past few weeks, how many times have you read messages (news) about the municipal elections in the local or regional newspaper?, with: 0 = I don't read local or regional newspapers, 0.25 = rarely or never, 0.5 = occasionally, 0.75 = often, 1 = (almost) always.

V9_rec_1 When, in the past few weeks, local or regional radio or television broadcasted news about the municipal elections, how often did you listen or watch?, with: 0 = I don't listen to local radio/ don't watch regional television, 0.25 = rarely or never, 0.5 = occasionally, 0.75 = often, 1 = (almost) always.

V34a_nm_rec If there is local news in the newspaper, for example news about problems in your municipality, how often do you read that?, with: 0 = never, 0.25 = rarely, 0.5 = occasionally, 0.75 = often, 1 = almost always.

V34b_nm_rec If there is news on the local or regional radio or television, for example news about problems in your municipality, how often do you listen/do you watch?, with: 0 = never, 0.25 = rarely, 0.5 = occasionally, 0.75 = often, 1 = almost always.

V35_nm_rec How often do you target search the internet looking for local news, for example about problems in your municipality? With: 0 = never, 0.25 = rarely, 0.5 = occasionally, 0.75 = often, 1 = almost always.

Then, one variable (V36_nm, related to following local politicians on social media) contained inverse values for local media use (with 1 =Yes, and 2 =No). So, this variable has been recoded into another variable to fit the model:

V36_nm_rec Do you follow politicians from your municipality on social media, such as Facebook, Twitter, or Instagram?, with: 0 = No, and 1 = Yes.

In sum, the following table summarizes the twelve actual variables used to constitute the operationalized construct of local media use, which will be used to formulate the typology of local media use.

	Indicator & values	Description
	V8_rec_1	Read messages on elections
	0, 0.25, 0.5, 0.75, 1	in local/regional newspaper?
	V9_rec_1	Listened to or watched
	0, 0.25, 0.5, 0.75, 1	local/regional radio/tv
		election news?
	V10_1	Visited local party's
	0, 1	website?
	V10_2	Visited municipality's
	0, 1	website?
	V10_3	Filled in local voting guide?
	0, 1	
Local	V10_4	Read about elections on
media	0, 1	social media?
use	V33_3_nm	Reads paid regional or local
	0, 1	newspapers?
	V33_4_nm	Reads free regional or local
	0, 1	newspapers (door-to-door)?
	V34a_nm_rec	Reads about local news in
	0, 0.25, 0.5, 0.75, 1	the newspaper?
	V34b_nm_rec	Listens to/watches news on
	0, 0.25, 0.5, 0.75, 1	local/regional radio/t.v.?
	V35_nm_rec	Target searches internet for
	0, 0.25, 0.5, 0.75, 1	local news?
	V36_nm_rec	Follows local politicians on
	0, 1	social media?

Table 5: The summarized construct of local media use

With the variables from Table 3, the media use typology can be created. However, because some of the variables to be used contain just a 0 or 1 as answer categories, and others can vary between 0 and 1 (with values of 0, .25, .5, .75 and 1), providing more detail, it can be useful to standardize all these media use variables into Z-scores – they then become more easily comparable, and it becomes easier to find values in individual clusters which deviate from the mean value within specific variables which constitute the typology.

So, for all of the variables from Table 3, a standardized Z-scored variable is created, so that the following variables will be used for analysing and creating the construct of local media use through the statistical programme SPSS.

Variable	Variable
Zv8_rec_1	Zv33_3_nm
Zv9_rec_1	Zv33_4_nm
Zv10_1	Zv34a_nm_rec
Zv10_2	Zv34b_nm_rec
Zv10_3	Zv35_nm_rec
Zv10_4	Zv36_nm_rec

Table 6: Standardized Z-scored variables to be used for the local media use construct

Furthermore, there are several variables included in the original dataset which may be interesting to look into *after* the media use typology has been created. When these groups are created, they will be distinguished from each other because they differ (in some way) in their local media use. These variables are:

Iftdcat (Respondent's age in CBS²-categories), with values: 1 = 14 years and younger, 2 = 15-24 years, 3 = 25-34 years, 4 = 35-44 years, 5 = 45-54 years, 6 = 55-64 years, and 7 = 65 years and older.

oplcat (Respondent's education level in CBS-categories), with values: 1 = basic education, 2 = vmbo, 3 = havo/vwo, 4 = mbo, 5 = hbo, 6 = wo, and 9 = Unknown (missing).

² The Dutch Centraal Bureau voor de Statistiek (CBS) is the primary data (analysis) organization of the Netherlands.

Nettocat (Personal net monthly income in categories), with values: 0 = no income, 1 = EUR 500 or less, 2 = EUR 501 through 1000, 3 = EUR 1001 through 1500, 4 = EUR 1501 through 2000, 5 = EUR 2001 through 2500, 6 = EUR 2501 through 3000, 7 = EUR 3001 through 3500, 8 = EUR 3501 through 4000, 9 = EUR 4001 through 4500, 10 = EUR 4501 through 5000, 11 = EUR 5001 through 7500, 12 = More than EUR 7500, 13 = I really don't know, 14 = I don't want to say.

With regard to these variables, it will be interesting to see whether for instance younger people operate more on the internet than older people, older people consume more traditional media than younger people, richer people consume more (paid) local media than poorer people, or more educated people consume more local media than less educated people. This could possibly be inferred from the results of the cluster analysis, and even though these insights are not in anyway related or relevant to answering the two sub-questions or the main research question, for completeness, they can be included to provide a broader insight. Further research could possibly indicate interesting implications.

This exploratory paper does not concern testing for a possible *causal* link between (forms of) media use and political and/or civic participation. If it were, however, including local political interest (as discussed in the literature,(Boulianne, 2009; Nam, 2012; Xenos & Moy, 2007), will probably be required, since it may heavily influence the local political participation dependent variable) in such a typology, as an independent variable. A question from the *voor-and nameting* is available as well.

Voormeting: V16 (In hoeverre bent u geïnteresseerd in de lokale politiek?) (1=niet, 2= tamelijk, 3= zeer).

Nameting: V32b (In hoeverre bent u geïnteresseerd in de lokale politiek?) (1= niet, 2= tamelijk, 3= zeer).

There will be different categories of media users that will emerge from the typology-related sub-question (which is sub-question 1), based on the preceding literature. With regard to the conduct of the research, these specified categories, probably between 3-7 (but maybe more), will each be represented in the data. What that means, is that individual respondents in the combined dataset are, according to their assigned media use category, classified into one of the clusters of the media use typology.

IV: Analysis

This part of the paper contains the analysis work done with the statistical programme SPSS. First, the typology of media use will be created from the twelve indicator variables of local media use, mentioned in part III. This typology is inferred from the data, through trial and error, by conducting a K-means cluster analysis, using the twelve standardized Z-scored variables (see part III). This will answer sub-question 1 of the paper.

Second, with the resulting local media use typology and its *clusters* (types) of local media users, it will be possible to look at levels of local political and civic participation of each cluster. With this analysis complete, it will be possible to answer sub-question 2 and thereby formulate a conclusion for this paper.

4.1 Typology analysis - categorization

The twelve indicator variables and their standardized Z-scored variables of local media use are determined in Part III of this paper, in Table 5 and 6. As mentioned before, some original dataset variables have been recoded into new ones (Table 5), to fit the construct of local media use, where each variable can contain values of 0 (meaning no or negligible local media consumption on the item) and 1 (highest level of local media consumption). For some recoded variables, values of 0.25 (low level of local media consumption), 0.5 (intermediate level of local media consumption), and 0.75 (high level of local media consumption) are also possible, because they have been recoded from Likert-scales ranging from 1-5.

As mentioned in Part III, to partly alleviate this problem, before a K-means cluster analysis is run with some original variables with values of 0 or 1 and other, recoded variables with values of 0, .25, .5, .75 or 1, all the variables from Table 5 are recoded into standardized Z-scored variables, which can be found in Table 6. The frequency tables of these standardized Z-scores, per item, are included in Appendix I, to which the paper refers if required, in future.

From the creation of the standardized Z-scores, one can infer that for some variables, the number of missing cases is rather high. For instance, while the total number of cases for each variable is 2916, the total *valid number of cases* for the worst hit variable is 1889, for the variable **zV34a_nm_rec**. The original variable, v34a_nm, reports the same numbers (see the table below).

Table 7: Frequency table of dataset variable v34a_nm

					Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	Nooit	14	.5	.7	.7
	Zelden	126	4.3	6.7	7.4
	Zo nu en dan	577	19.8	30.5	38.0
	Vaak	715	24.5	37.9	75.8
	Bijna altijd	457	15.7	24.2	100.0
	Total	1889	64.8	100.0	
Missing	System	1027	35.2		
Total		2916	100.0		

Als er in de krant lokaal nieuws staat, bijvoorbeeld nieuws over problemen in uw gemeente, hoe vaak leest u dat dan?

Source: SPSS.

This means that the recoding efforts have not failed and no mistakes have been made. The number of missing cases is exactly the same for both variables, and thus, for the purposes of this research, this variable can be included as an indicator variable of the typology *local media use*.

Other standardized Z-scored variables report a significantly lower number of missing cases, mostly numbering 262 or 357 (constituting 9.0 – 12.2% of the total N of 2916) resulting in valid N's of 2654 and 2559 for most variables (see Appendix I). One can infer from the data different reasons why these missing cases exist (and for variable **zV34a_nm_rec**, why this number is significantly higher than for other variables). One, some people do not fill in all questions in every questionnaire, when they are not required to do so. Two, this combined dataset included people from both the *voor-* and *nameting* of the original LKO 2018 (Jansen & Denters, 2019), even though some people did not participate in both. This will probably be the most important reason why there are several hundreds of missing cases for most variables used in any analysis for the purposes of this paper. Three, for the variable **zV34a_nm_rec**

specifically, the variable deals with local news in newspapers and whether people (ever) read about it in them. This variable touches on a very specific issue within the class of people who (still) read (paid) (local) newspapers, which, according to the data inferable from the standardized Z-scores, seems to constitute about 24% of people (for paid newspapers), and 35.3% of people (for door-to-door free local or regional newspapers) (see Appendix I, variables **zV33_3_nm** and **zV33_4_nm**, respectively). In other words, this low N may simply result from the fact that not many people read newspapers anymore in any case, which is still an interesting fact to include for the purposes of this research.

With regard to the second point made, that as a result of merging the *voor-* and *nameting* files several hundreds of cases (respondents) may not have responded to both LKO 2018 questionnaires, a *vlookup* of the combined dataset in a separate Excel-file results in a number of 356 respondents who have not responded to both surveys. This closely resembles most missing value numbers for the Z-scored variables (357 in all variables retrieved and sometimes recoded from the *voormeting* dataset, and 262 for all but two variables retrieved and sometimes recoded from the *nameting* dataset – for variable **Zv36_nm_rec** this value is 263 (1 higher), and for **zV34a_nm_rec** this value is 1027, as mentioned above).

With the twelve standardized Z-scored variables of local media use, it becomes possible to compute a typology of local media use using the statistical programme SPSS, by performing a K-means cluster analysis. This is arguably the best method of formulating a typology of local media use for this paper (the other method being the 'traditional' way – formulating the typology of local media use from a theoretical construct), because of the availability of the substantial dataset from the LKO 2018 (Jansen & Denters, 2019).

To perform a K-means cluster analysis, one has to define the number of clusters to result from the analysis. One of the allowed methods is to come to the 'optimal' number of clusters through *trial and error* (which simply means running the analysis several times with differing numbers of predetermined clusters). Because the large dataset allows for substantial analysis, this method seems reasonably applicable. So, through trial and error running of the K-means cluster analysis, multiple typologies of local media use will result, with differing numbers of predetermined clusters (each cluster corresponding to a statistically determined subtype of local media-users within the local media use typology). These clusters are formulated by SPSS based on their differing characteristics on one or more variables which are included in the analysis – and it is left to the researcher to label each cluster. These labels should identify one cluster from others, and with the standardized Z-scores one can more easily perform this

task – values hovering around 0 are about average, while values of 1 deviate 1 standard deviation from the mean, values of 2 deviate 2 standard deviations from the mean, etcetera. These values can be negative as well. Thus, the clusters resulting from the K-means cluster analysis could show large numbers for specific Z-scored variables for media use, which may distinguish them from other clusters which do not score as high (or low) on these variables.

The final parameter to be set is the number of iterations. The basic SPSS value for a K-means cluster analysis is 10, but because of the large dataset, and because in some cases, the number of predetermined clusters may be rather high, for the purposes of this research, the basic number of iterations is set to 20, to allow the programme to finish the clustering project in most cases within the set number of iterations.

As mentioned before, *trial and error* will be used to determine the 'optimal' number of clusters. Previously, in the Methodology (III) part, this number has been described as being 'between 3-7, but maybe more'. So, a K-means cluster analysis will be performed six times, for a predetermined number of clusters of three, four, five, six, eight and ten. This should suffice to show why any of these number of clusters is the 'optimal' number, leaving enough distinct clusters to analyse for the second sub-question of the paper, but not too many as to 'muddle' and distort the distinguishably different aspects of individual clusters.

First, the analysis is run for three clusters. For this three-cluster analysis, the basic setting of 20 iterations did not suffice. It was set to 40, and after 39 iterations 'convergence' was achieved. This analysis results in the following final cluster centers:



Graph 1: Final cluster centers for a three-cluster K-means cluster analysis based on 12 Zscored variables of local media use Table 8: Number of cases for aThree-cluster K-means cluster analysis

Number of Cases in each		
Cluster		
Cluster	1	905.000
	2	229.000
	3	550.000
Valid		1684.000
Missing		1232.000

From the graph, it becomes immediately apparent that while the three resulting clusters are indeed rather distinguishable (with Cluster 1 containing scores not being that extreme and most scores being negative except for the reading of local door-to-door newspapers, Cluster 2 containing all positive scores with two Z-scores above or at 1 and one above 2, and Cluster 3 containing 'average' scores with one rather high score of 1+ on the reading of paid local newspapers), the N of each Cluster (see table 8) seems high enough to allow for further division into a higher number of clusters.

Second, the analysis is run for four clusters. Again, the basic setting of 20 iterations did not suffice to result into fully formed clusters. So, the number of iterations was set to 40. After 39 iterations, the clusters were fully formed and convergence was achieved. The analysis results in the following cluster centers:

Graph 2: Final cluster centers for a four-cluster K-means cluster analysis based on 12 Zscored variables of local media use



Compared to Graph 1, one can immediately identify a new, distinguishable group: Cluster 2. This cluster scores disproportionately high on social media use. Cluster 1 from the 3-way analysis (see Graph 1), seems to have become Cluster 4 in this analysis. One important characteristic of Cluster 3 in the 3-cluster analysis (see Graph 1) seems to have been included in the newly formed Cluster 1 for this analysis (the rather high score on reading paid local newspapers). Cluster 3 in this four-cluster analysis distinguishes itself from the other clusters by scoring high on internet media use (visiting local political party websites, and visiting the municipality's website).

Table 9: Number of cases for a Four-cluster K-means cluster analysis

Number of Cases in each Cluster		
Cluster	1	602.000
	2	107.000
	3	252.000
	4	723.000
Valid		1684.000
Missing		1232.000

Again, the number of cases in each cluster seems high enough to justify four clusters. It seems prudent and useful to continue performing a K-means cluster analysis with four clusters.

Third, the analysis is run for five clusters. The basic setting of 20 iterations did suffice this time, with convergence being achieved after fourteen iterations. The analysis resulted into the following final clusters:



Graph 3: Final cluster centers for a five-cluster K-means cluster analysis based on 12 Zscored variables of local media use

Cluster 2 in this five-clustered typology seems to have similar characteristics to Cluster 4 from the four-clustered analysis, in that it contains a similar number of N, and scores high on the reading of free local or regional newspapers, but low on all other variables. This is the third cluster analysis containing a cluster with such characteristics, so it seems to be a solid group, especially when regarding the high N (764 in this analysis, 723 in the previous fourway analysis, and 905 in the three-way analysis). Cluster 5 is another distinguishing cluster, which mostly corresponds to Cluster 2 from the four-way analysis, with a very high score on social media use for one variable (3+ standard deviations above the mean), and a rather high one for another (1+). Cluster 4 is an apparently 'new'cluster, with a rather low N (45), with a very high score (3+) on visiting the municipality's website, but mostly negative scores on all other variables. It may have sprung from Cluster 3 in the four-way analysis (see Graph 2). Cluster 1, with a rather low N as well (83) also distinguishes itself from the other clusters by scoring as high on visiting the municipality's website (3+) as Cluster 4, but also scoring positively above the mean for most other variables, rather than scoring negatively. Cluster 3 contains a substantial amount of respondents (686) and contains those that scored mostly within a range of 0-1 on most variables of local media use, with the exception of most internet-related variables, on which the cluster scored mostly below 0.

In all, it seems readily defensible that these five clusters are interesting enough to be distinguishable from each other based on their item scores, and the number of cases in each cluster remains sufficient (see Table 10).

Table 10: Number of cases for a Five-cluster K-means cluster analysis

Cluster			
Cluster	1	83.000	
	2	764.000	
	3	686.000	
	4	45.000	
	5	106.000	
Valid		1684.000	
Missing		1232.000	

Number of Cases in each

Fourth, a six-cluster K-means cluster analysis is run. With the basic setting of 20 iterations, convergence was achieved after 17 iterations. This resulted in the following final clusters:

Graph 4: Final cluster centers for a six-cluster K-means cluster analysis based on 12 Z-scored variables of local media use



There are six clusters now. Cluster 1 from the six-cluster analysis contains very high scores for visiting the website of local parties and visiting the website of the municipality. This Cluster thus seems to have many characteristics corresponding to Cluster 1 from the fivecluster analysis (see Graph 3). Compared to that cluster, the N is lower now (47 now, 83 for the five-cluster analysis (see Tables 10 & 11). Cluster 2 contains cases with high scores on most variables, and low scores on visiting the municipality's website, reading paid newspapers and following local politicians on social media. Cluster 2 also has an N of 373, which is substantial. Cluster 3 scores rather high (1.5+) on reading paid local newspapers, and mostly scores low on other variables, with a high N of 485, it is a substantial group of 'classic newspaper readers'. This cluster was present in the five-cluster analysis as well, as Cluster 3 in that analysis (see Graph 3). Cluster 4 scores 'high' (a tad lower than 0.5) on reading free home-to-home newspapers, and low on all other variables. This remains the largest cluster with an N of 593, and has been present consistently in previous analyses with fewer clusters. Cluster 5 scores very high (3+) on visiting the municipality's website, while scoring positively on most other variables, excluding visiting the website of local political parties, and following local politicians on social media. It is a cluster with a rather low N (80), and seems to correspond to Cluster 1 from the five-cluster analysis, which has an N of 83 (see table 10). The final Cluster 6 scores above average on every variable, and high (1+) on reading on social media about the municipal elections, and very high (3+) on following local politicians on social media. This 'social media' group isn't very large (106), but is a very different and distinguishing group in relation to the other clusters in this six-cluster K-means cluster analysis.

Table 11: Number of cases for a Six-cluster K-means cluster analysis

Cluster		
Cluster	1	47.000
	2	373.000
	3	485.000
	4	593.000
	5	80.000
	6	106.000
Valid		1684.000
Missing		1232.000

Number of Cases in each

All in all, based on the different cluster's characteristics, which are very different in some cases, it is arguably still possible to use six clusters to constitute the media use typology. With N values still high enough for some variables (the lowest N being 47, see Table 11), there seems to be no stringent reason not to use six clusters, but distinguishability starts to suffer when comparing this analysis to the five-cluster analysis.

Fifth, seven clusters are created out of a seven-cluster K-means cluster analysis. Convergence was achieved after 20 iterations.

Graph 5: Final cluster centers for a seven-cluster K-means cluster analysis based on 12 Zscored variables of local media use



With seven clusters, it will be interesting to see whether the N remains large enough to work with in any reasonable sense. From table 11, it is inferable that even though the lowest N for a cluster has decreased, it remains at 34 (for Cluster 6).

Cluster 1 in this seven-cluster analysis has roughly equal characteristics to Cluster 2 from the six-cluster analysis, in that it shows mostly positive values for most variables, in many cases nearing +1 standard deviation from the mean, with a comparable N to Cluster 2 f rom the six-cluster analysis (N = 392 for Cluster 1, and N= 373 for Cluster 2 from the six-cluster analysis (see Graph 4&5, and Table 11&12).

Cluster 2 shows a positive score for reading paid newspapers, and negative scores for all other variables. This is a more 'extreme' version compared to Cluster 3 in the six-cluster analysis. The N is 402, which is comparable to the 485 value for Cluster 3 in the six-cluster analysis (see Table 11&12).
Cluster 3 shows a very high score for reading on social media about the municipal elections (2.5+), and mostly positive scores, nearing .5 standard deviations above the mean, for most other variables, excluding visiting the website of local political parties, and following local politicians on social media. The N is 101 (see Table 12), which makes it a smaller cluster. Cluster 4 shows a very high score (3.5+) for following politicians on social media, and mostly positive scores for all other variables. It's N is 75 (see Table 12). It seems to display comparable characteristics to Cluster 6 from the six-cluster analysis (see Graph 4&Table 11), which also scored rather high on social media use, and had an N of 80. Cluster 5 is a cluster of which its 'members' show a rather high score (2+) in visiting local

parties' websites, with mostly positive scores for most other variables. It is a larger group with an N of 178.

Cluster 6 shows rather high scores for most variables, with many nearing 1 standard deviations above the mean, and some nearing 2 (visiting the websites of the local political parties and visiting the website of the municipality), or exceeding it (2.5+ for reading on social media about the municipal elections, and 3.5+ for following local politicians on social media). Again, this seems to be the 'internet media group', and with an N of 34, this is a rather small cluster.

Cluster 7 shows a high score for reading free regional or local newspapers / door-to-door magazines (1+) and negative scores for all other variables. This recurring cluster contains 502 cases in this seven-cluster analysis (see Table 12).

With 34 clusters in the smallest group, the N seems workable for the purposes of this paper. However, it is also necessary to evaluate whether groups/clusters are still distinguishably different enough to justify creating and using seven clusters for the typology of local media use. While some clusters keep recurring (Cluster 7 as the large 'negative' media use group has appeared in many cluster analyses, for instance), a 'new' cluster in this seven-cluster analysis, Cluster 3 seems to be a 'breakup' social media group with no other interesting characteristics, making it harder to justify delinking that cluster from the other 'social media cluster', Cluster 4, for instance. Table 12: Number of cases for aSeven-cluster K-means cluster analysis

Number of Cases in each					
Cluster					
Cluster	1	392.000			
	2	402.000			
	3	101.000			
	4	75.000			
	5	178.000			
	6	34.000			
	7	502.000			
Valid		1684.000			
Missing		1232.000			

Sixth, eight clusters are created out of an eight-cluster K-means cluster analysis. Convergence was achieved after 17 iterations.

Graph 6: Final cluster centres for an eight-cluster K-means cluster analysis based on 12 Zscored variables of local media use



Cluster 1 shows similar characteristics to Cluster 3 from the seven-cluster analysis (see Graph 5), in that it scores very high (2.5+) on reading on social media about the municipal elections, and 'around the mean', and mostly positive for most other variables. Its N is also comparable

to this previous cluster (N= 91, and N= 101 for Cluster 3 from the seven-cluster analysis (see Table 11)).

Cluster 2 shows a very high score (3+) on visiting the website of the municipality, and mostly positive scores for most other variables. Its N is 122 (see table 13). It appears to be a 'new' cluster, although it has 'appeared' in the five- and six cluster analysis with differing N's (80 for the six-cluster analysis (see Table 11), and 45 for the five-cluster analysis (see Table 10). Cluster 3 is the recurring cluster in which cases only report a positive score for reading free regional or local newspapers / door-to-door magazines, and negative scores for all other variables. It remains a large cluster with N = 494 (see Table 13).

Cluster 4 scores rather high on many internet and social media indicators. It remains a small cluster with an N of 46 and seems to recur in many K-means cluster analysis with differing sets of user-defined numbers of clusters.

Cluster 5 shows a very high score (2.5+) on visiting the website of local political parties. This recurring cluster shows an N of 121(see Table 13) in this eight-cluster analysis.

Cluster 6 contains cases which show mostly positive scores, nearing 1 standard deviation from the mean or at least exceeding .5 standard deviations from the mean, for most variables. It is a substantial cluster with an N of 292 (see Table 13).

Cluster 7 shows a very high score for following local politicians on social media (3.5+), and positive scores, sometimes nearing 1 standard deviation from the mean, for all other variables. Its N is 85 (see Table 13).

The final cluster, Cluster 8 has an N of 433, making it the second-largest cluster in this eightcluster analysis, after Cluster 3 with an N of 494. Its members show a high score (1.5+) for reading paid local or regional newspapers, and mostly negative scores for most other variables. This cluster has recurred in many K-means cluster analysis with other user-defined number of clusters. Table 13: Number of cases for anEight-cluster K-means cluster analysis

Cluster					
Cluster	1	91.000			
	2	122.000			
	3	494.000			
	4	46.000			
	5	121.000			
	6	292.000			
	7	85.000			
	8	433.000			
Valid		1684.000			
Missing		1232.000			

Number of Cases in each

For the ten-cluster analysis, see Graph 7 and Table 13. After 27 iterations, convergence was achieved. It is not seriously considered for using it as the final 'optimum' number of clusters, for several reasons: the N of some of its clusters lies at or around 20 (for Cluster 2 and 9, see Table 13), and many Clusters show similar 'distinguishable' characteristics – for instance, Clusters 1, 7 and 9 show very high scores (3.5+) for following local politicians on social media, and Clusters 1, 5, 8 and 9 show very high scores (3+) for visiting the website of the municipality.

Even while Cluster 10 from the 10-cluster analysis seems interesting to look into, since it shows a rather high score (2+) (and N = 215, see Table 13) for filling in a local voting guide (which hasn't appeared in any previous lower-clustered analyses), it does not weigh well against the fact that many other clusters do not show readily distinguishable characteristics, and some (Cluster 2 and 9 in particular) show a very low N.

Graph 7: Final cluster centres for a ten-cluster K-means cluster analysis based on 12 Z-scored variables of local media use



Table 13: Number of cases for a

Ten-cluster K-means cluster analysis

	Cluste	ſ
Cluster	1	40.000
	2	27.000
	3	443.000
	4	382.000
	5	54.000
	6	411.000
	7	47.000
	8	45.000
	9	20.000
	10	215.000
Valid		1684.000
Missing		1232.000

Number of Cases in each

4.1.1 Result: final five clusters

The first sub-question can now be answered, which is as follows:

"With regard to local media consumption, which different types of citizens exist?"

In order to answer this research question, the K-means cluster analysis has been undertaken, to determine the 'optimum' number of clusters using twelve standardized Z-scored indicators of local media use/consumption. This K-means cluster analysis was run multiple times, each time with another user-defined number of clusters (three, four, five, six, seven, eight and ten clusters).

The two main general criteria to determine the 'optimum' number of clusters are: the N of each individual cluster should stay high enough to allow further analysis to be meaningful (it should certainly not drop below 20, but anything lower than 40-50 would still be rather low), and individual clusters in each K-means cluster analysis should be distinguishable from other clusters in the same analysis on one or more constituting variables. This is mostly done 'by eye' by the researcher, making it a delicate process.

Looking at each of the seven K-means cluster analyses again, by a process of elimination, it become possible to further reduce the number of possible 'optimum' number of clusters.

First, the three-way analysis undertaken at the start does not contain a good 'optimum' number of clusters (see Graph 1 and Table 8). As mentioned in that part of this chapter, the N of each individual clusters is rather high, with Cluster 1 having an N of 905, over half of all cluster members. It seems to be the case (and as known from further analyses, it is the case) that these clusters can be further divided into smaller ones rather easily.

It is interesting to note that three 'recurring' clusters immediately are apparent from this first three-cluster analysis: Cluster 1 seems to be formed around the large number of people reading free local newspapers / door-to-door magazines, while these people show rather low levels of other forms of local media use. Cluster 2, while appearing rather generic (showing positive and sometimes high values for all variables) does show higher levels for two variables related to social media use. Its lower N of 229 points towards the fact that further analyses with higher number of clusters have shown a 'social media use' group as well, with a lower N compared to most other clusters. Cluster 3 seems to be heavily centred around

readers of paid local or regional newspapers. As known from the further analyses with a higher number of user-defined clusters, this group reappears in many of them.

For similar but inverse reasons, the 10-cluster analysis results show that it is not a very good indicator of the 'optimum' number of clusters for the media use typology. This is because, as mentioned before, the N of two clusters is near 20 (N= 27 for Cluster 2) or at 20 (N= 20 for Cluster 9) (see table 13). Also, as mentioned above, some clusters are clearly harder to distinguish from others, even on the individual variable level: some clusters show high scores on the same variables.

The four-cluster analysis (see Graph 2 and Table 9) shows more details compared to the threecluster analysis, while roughly retaining the three 'types' the three-way cluster analysis identified (free newspaper readers (Cluster 1), social media users (Cluster 2), and readers of paid local newspapers (Cluster 4). Cluster 3 in this four-cluster analysis is centred around visitors of the websites of local parties and the municipality. The number of cases in each cluster is high enough to pose no danger to research and analysis, with the lowest N being 107 for Cluster 2. All in all, the four-cluster analysis clustering result is preferable to the threecluster analysis, in that it retains three previously identified 'types', and seems to add another.

The five-cluster analysis (see Graph 3 and Table 10) is, again, more detailed and most likely preferable to the four-cluster analysis, in that it retains the 'free newspaper readers'-cluster (Cluster 2), the 'paid local newspapers' cluster (Cluster 3), the 'social media users'-cluster (Cluster 5). It seems to have reclustered Cluster 3 (website visitors) (N= 252) from the four-cluster analysis into two 'new' clusters: Cluster 1, with a very high score (3+) for visiting the municipality's website (can be labelled as 'active' website users, in that they actively consume other forms of local media in addition to visiting the municipality's website (3+), but low scores for most other variables, and Cluster 4, with a very high score for visiting the municipality's website (3+), but low scores for most other variables ('passive' website users). In all, it seems the five-cluster analysis result seems preferable to the four-cluster analysis result, even though the 'active'-'passive' website user distinction between Cluster 1 and Cluster 4 seems less important than other previously established differences.

The six-cluster analysis (see Graph 4 and Table 11) retains previously established 'types': website visitors (Cluster 1), paid newspaper readers (Cluster 3), free newspaper readers (Cluster 4), and social media users (Cluster 6). Cluster 2 seems to be centered around 'active media users' in general, with values of media use mostly exceeding the average. Cluster 5

identifies a group which visits the municipality's website (3+), and rather averagely shows other forms of media participation. In this analysis, it seems less defensible to move from five to six clusters in identifying the 'optimum' number of clusters, since the distinction between Cluster 1 and Cluster 5 seems less clear. They seem to differ significantly on one variable: visiting the website of one or more local political parties (Cluster 1 scores high (2+), while Cluster 5 scores low (<0). On further inspection, this does not seem to be a very important difference to justify using six clusters.

Finally, in short, the seven- and eight cluster analysis (see Graph 5&6 and Table 11&12) retain some of the previously 'established' clusters, including the paid newspaper readers (Cluster 2 in the 7, and Cluster 8 in the 8-cluster analysis), and the readers of free local newspapers and door-to-door magazines (Cluster 7 in the 7, and Cluster 3 in the 8-cluster analysis). However, as mentioned above, the seven- and eight cluster analyses also show some Clusters which seem to be less distinguishable from other clusters on characteristics. In some cases, these seven and eight-cluster analyses have 'split' 'outlier-Z-scores' of individual variables into more than one Cluster. This is not desirable.

It seems the 'optimum' number of clusters lies at four, five or six clusters. With the step from four to five clusters, the five-cluster analysis added the 'active' and 'passive' website visitors distinction, while retaining the 'established' types from the three- and four cluster analysis. In comparing the five- cluster analysis to the six-cluster analysis, the six-cluster analysis seems to 'start' with forming new clusters which are less identifiable and distinguishable from other clusters (*starting*, because in the seven, eight and ten-cluster analysis, this happens as well), as became apparent from the rather vague Cluster 1 and Cluster 5 distinction.

Thus, the 'optimum' number of clusters can be identified as five, as a result from the fivecluster K-means cluster analysis performed on 12 Z-scored variables of local media use. In the SPSS merged dataset file, this five-cluster analysis has been saved as QCL_12, with added labels. In the table and graph below, the five clusters, their N and added labels are shown. A minor addendum on the labelling: all clusters are mostly labelled based on their most 'extreme' scores on one (or more) of the Z-scored variables of local media use. This does not mean, however, that other clusters do not show some of these characteristics, albeit most likely less 'extreme'. For instance, Cluster 3, identified as 'paid newspaper readers', indeed contains many cases nearing +1 standard deviation from the mean on reading paid newspapers, but Cluster 1 and 5 also contain cases (albeit less 'extreme') of paid newspaper readers. Table 14: the five labelled clusters, with frequencies

	Clubb		0) 0000 (0	,	
					Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	Active website users	83	2.8	4.9	4.9
	Free newspaper readers	764	26.2	45.4	50.3
	Paid newspaper readers	686	23.5	40.7	91.0
	Passive website users	45	1.5	2.7	93.7
	Social media users	106	3.6	6.3	100.0
	Total	1684	57.8	100.0	
Missing	System	1232	42.2		
Total		2916	100.0		

Cluster Number of Case (5)

Graph 8: Bar charts of labelled five-cluster K-means cluster analysis based on twelve Z-scored variables of local media use



Table 15 (continues on next page): Detailed Z-scored table of the 5-cluster K-means cluster analysis based on twelve Z-scored variables of local media use.

			Cluster		
	1	2	3	4	5
Zscore: Hoe vaak hebt u de	.93495	18908	.59444	.28460	.64695
afgelopen weken berichten					
(nieuws) over de					
gemeenteraadsverkiezingen					
gelezen in de lokale of					
regionale krant?					
Zscore: Als er de afgelopen	.57868	27523	.45389	.11622	.49093
weken op lokale of regionale					
radio of televisie nieuws over					
de					
gemeenteraadsverkiezingen					
werd uitgezonden, hoe vaak					
luisterde of keek u dan?					
Zscore: Hebt u, om	1.24276	00351	12979	08918	.57184
informatie over de					
gemeenteraadsverkiezingen					
te zoeken, de afgelopen					
weken wel eens één van de					
volgende dingen gedaan?					
De website van één of meer					
lokale partijen bezocht					
Zscore: Hebt u, om	3.46473	28475	28475	3.51046	.39552
informatie over de					
gemeenteraadsverkiezingen					
te zoeken, de afgelopen					
weken wel eens één van de					
volgende dingen gedaan?					
De website van de gemeente					
bezocht					
Zscore: Hebt u, om	.78509	03280	10081	00617	.41488
informatie over de					
gemeenteraadsverkiezingen					
te zoeken, de afgelopen					
weken wel eens één van de					
volgende dingen gedaan?					
Een lokale stemwijzer					
ingevuld					

Final Cluster Centers

Zscore: Hebt u, om informatie over de gemeenteraadsverkiezingen te zoeken, de afgelopen weken wel eens één van de volgende dingen gedaan? Op sociale media (Twitter, Facebook, blogs, Whatsapp) gelezen over de gemeenteraadsverkiezingen	.03283	11364	10052	13899	1.30482
Zscore: Welk type krant leest u? : Betaalde regionale of lokale kranten	.38463	37934	.96467	09504	.38515
Zscore: Welk type krant leest u? : Gratis regionale of lokale kranten (huis-aan-huis bladen)	.66218	.46054	.15184	.02443	.26831
Zscore: Als er in de krant lokaal nieuws staat, bijvoorbeeld nieuws over problemen in uw gemeente, hoe vaak leest u dat dan?	.57005	50695	.56426	46588	.22975
Zscore: Als er op de lokale of regionale radio of televisie nieuws is, bijvoorbeeld nieuws over problemen in uw gemeente, hoe vaak luistert/kijkt u dan?	.49908	23195	.67787	00441	.52387
Zscore: Hoe vaak gaat u op het internet gericht op zoek naar lokaal nieuws, bijvoorbeeld over problemen in uw gemeente?	.75430	09037	.19424	11762	.84508
Zscore: Volgt u politici uit uw gemeente op sociale media als Facebook, Twitter, of Instagram?	26079	26079	26079	16981	3.83310

Formally answering the first sub-question, after a five-cluster K-means cluster analysis based on the twelve Z-scored variables of local media use from the LKO 2018 merged dataset, with regard to local media consumption, *five* types of citizens exist, based on the five clusters (for details, see table 15):

- 'Active website users' (N=83), a cluster of cases reporting a very high score (~3.46 standard deviations above the mean) on visiting the website of the municipality to find information about the municipal elections, and above average scores for most other variables;
- 'Free newspaper readers' (N=764), a cluster of cases reporting an above average score (~.46 standard deviations above the mean) on reading free regional or local newspapers (door-to-door magazines), with negative scores on all other variables;
- Paid newspaper readers' (N= 686), a cluster of cases reporting an above average score (~.96 standard deviations above the mean) on reading paid local or regional newspapers;
- 4) 'Passive website users' (N=45), a cluster of cases reporting a very high score (~3.51 standard deviations above the mean) on visiting the website of the municipality to find information about the municipal elections, and mostly below average scores on most other variables;
- 5) 'Social media users' (N=106), a cluster of cases reporting a very high score (~3.83 standard deviations above the mean) on following local politicians on social media such as Facebook, Twitter, or Instagram, and a high score (~1.30 standard deviations above the mean) on reading on social media (Twitter, Facebook, blogs, Whatsapp) about the municipal elections, to find information about the municipal elections, and above average scores on all other variables.

4.1.2 Average income, education and age levels of the clusters

It is interesting to see whether these five clusters, or 'types' of media users within the typology of media use, differ based on personal characteristics, such as age, income level and education level. If any of these clusters show quite different characteristics to other clusters, it may become possible to identify and label these clusters in more detail. For instance, Cluster 5, *social media users*, could have a lower average age than other clusters, allowing the more detailed label of *young* social media users to apply. For this purpose, three personal variables have been selected from the merged LKO 2018 dataset, as noted in the Operationalization part of this paper: **lftdcat**, **oplcat**, and **nettocat**. For each of the five clusters, a table is made, showing the average CBS age category, CBS education level and net monthly income in categories per cluster. The table below shows the category labels for each of these three variables, which will make it possible to interpret the data from the cluster-tables following it.

Variable	Value (s)			
	1 = 14 yr & younger	2 = 15 - 24 yrs	3 = 25 - 34 yrs	
lftdcat	4 = 35 - 44 yrs	5 = 45 - 54 yrs	6 = 55 - 64 yrs	
	7 = 65 yrs and older			
oplcat	1 = basic education	2 = vmbo	3 = havo/vwo	
	4 = mbo	5 = hbo	6 = wo	
	0 = no income	1 = E.500 or less	2 = E. 501-1000	
	3 = E. 1001-1500	4 = E. 1501-2000	5 = E. 2001-2500	
nettocat	6 = E. 2501-3000	7 = E. 3001-3500	8 = E. 3501-4000	
	9 = E. 4001-4500	10 = E. 4501-5000	11 = E. 5001-7500	
	12 = more than E.			
	7500			

	Table 16:	categories	for l	ftdcat,	oplcat,	and	nettoca	t
--	-----------	------------	-------	---------	---------	-----	---------	---

So for these three variables, a higher average number generally corresponds to a higher age category, education level and net income category. This makes it easy to interpret the tables shown below, which reveal the average levels of these variables per cluster.

Table 17: Average age, education level and net monthly income for Cluster 1 ('Active website users')

Descriptive Statistics					
	Ν	Mean	Std. Deviation		
Leeftijd in CBS-categorieën	83	5.64	1.627		
Opleiding in CBS-	83	4.35	1.392		
categorieën					
Persoonlijk netto	77	4.35	2.475		
maandinkomen in					
categorieën					
Valid N (listwise)	77				

So for Custer 1, *active website users*, the average age in CBS-categories corresponds to around 45-54 years of age, the average education level in CBS-categories lies around the mbo level, and the personal net monthly income lies around the 1501-2000 euro level.

Table 18: Average age, education level and net monthly income for Cluster 2 ('Free newspaper readers')

	Ν	Mean	Std. Deviation		
Leeftijd in CBS-categorieën	764	5.43	1.464		
Opleiding in CBS- categorieën	763	3.87	1.529		
Persoonlijk netto maandinkomen in categorieën	730	3.77	2.145		
Valid N (listwise)	729				

Descriptive Statistics

Table 19: Average age, education level and net monthly income for Cluster 3 ('Paid newspaper readers')

Descriptive Statistics					
	Ν	Mean	Std. Deviation		
Leeftijd in CBS-categorieën	686	6.20	1.127		
Opleiding in CBS-	685	3.69	1.465		
categorieën					
Persoonlijk netto	655	3.97	1.929		
maandinkomen in					
categorieën					
Valid N (listwise)	654				

Table 20: Average age, education level and net monthly income for Cluster 4 ('Passive website users')

Descriptive Statistics							
N Mean Std. Deviation							
Leeftijd in CBS-categorieën	45	5.31	1.690				
Opleiding in CBS-	45	3.73	1.514				
categorieën							
Persoonlijk netto	42	3.83	2.273				
maandinkomen in							
categorieën							
Valid N (listwise)	42						

Table 21: Average age, education level and net monthly income for Cluster 5 ('Social media users')

Descriptive Statistics					
	Ν	Mean	Std. Deviation		
Leeftijd in CBS-categorieën	106	5.02	1.567		
Opleiding in CBS-	106	4.14	1.546		
categorieën					
Persoonlijk netto	102	4.10	1.821		
maandinkomen in					
categorieën					
Valid N (listwise)	102				

Descriptive Statistics

What becomes apparent is that the *average* values for age, education level and income level between these groups does not vary all that much. For age, it seems that Cluster 3, *paid newspaper users*, contains a significantly older subset of cases than the other clusters, with a value of 6.2 (see Table 19). Cluster 5, *social media users*, contains an on average younger cohort than the other clusters.

With regard to education level, the small Cluster 1 of *active website users*, together with Cluster 5, *social media users*, seem to contain individuals with an, on average, higher education level than the other three clusters (Cluster 1: 4.35 & cluster 5: 4.14 (see table 17 and 21, respectively), with other clusters scoring an average lower than 4). Looking at average net monthly income levels, Cluster 1 and 5 seem to score a tad higher than the other three clusters as well.

In general, though, the clusters seem to be relatively homogenised amongst each other, with regard to age, education level and net monthly income level, with small differences where Cluster 1 and 5 show higher education and income levels than the other clusters, Cluster 5 showing an on average younger population than the other clusters, and Cluster 3 showing an on average older age level than the other clusters. Further labelling of the clusters based on (average) age, education levels and net monthly income levels does not seem very applicable.

4.2 - Civic and political participation of different types of media users

With the five created clusters from the five-cluster K-means cluster analysis based on the twelve Z-scored variables of local media use, the first sub-question of this paper is answered. It is now possible to answer the second sub-question, which reads:

"How do these types differ in their levels of civic and political participation?"

There are five formulated types, from the cluster analysis in part 4.1 of this paper. For each type, the levels of political participation and civic participation will be indicated through performing a descriptive analysis, filtered per cluster, on the one item related to civic participation (variable v11_5_nm), and on the eight items related to political participation (the variables v1_nm_rec, v11_1_nm, v11_2_nm, v11_3_nm, v11_4_nm, v11_6_nm, v11_8_nm and v_13_1_nm_rec). Because there is only one indicator variable for the level of civic participation per cluster, the average level of civic participation per cluster can be immediately identified.

For measuring political participation, the individual mean scores per item (accompanied by the N and the standard deviation) are shown per cluster. For measuring the average level of political participation per cluster, a new variable has been made: PP_Mean_QCL_12. A table showing the average level of political participation per cluster will be shown for each cluster individually.

With these insights, it will be possible to look at inter-cluster levels of political and civic participation between different variables, and on the average levels of political and civic participation, and the second sub-question can be answered.

4.2.1 – Civic participation of different types of media users

In this part of the paper, the average level of civic participation per cluster will be shown, based on analysis of the variable v11_5_nm, filtered per cluster. The results are as follows:

Table 22: average level of civic participation for Cluster 1 ('Active website users')

Descriptive Statistics				
	Ν	Mean	Std. Deviation	
Van welke van de volgende	83	.04	.188	
manieren hebt u in de				
afgelopen 5 jaar gebruik				
gemaakt? : Actief in een				
lokale actiegroep				
Valid N (listwise)	83			

Table 23: average level of civic participation for Cluster 2 ('Free newspaper readers')

Descriptive Statistics

	Ν	Mean	Std. Deviation
Van welke van de volgende	764	.01	.114
manieren hebt u in de			
afgelopen 5 jaar gebruik			
gemaakt? : Actief in een			
lokale actiegroep			
Valid N (listwise)	764		

Table 24: average level of civic participation for Cluster 3 ('Paid newspaper readers')

Descriptive Statistics

	Ν	Mean	Std. Deviation
Van welke van de volgende	686	.01	.114
manieren hebt u in de			
afgelopen 5 jaar gebruik			
gemaakt? : Actief in een			
lokale actiegroep			
Valid N (listwise)	686		

Table 25: average level of civic participation for Cluster 4 ('Passive website users')

Descriptive Statistics				
	Ν	Mean	Std. Deviation	
Van welke van de volgende	45	.02	.149	
manieren hebt u in de				
afgelopen 5 jaar gebruik				
gemaakt? : Actief in een				
lokale actiegroep				
Valid N (listwise)	45			

Table 26: average level of civic participation for Cluster 5 ('Social media users')

	Ν	Mean	Std. Deviation	
Van welke van de volgende	106	.07	.250	
manieren hebt u in de				
afgelopen 5 jaar gebruik				
gemaakt? : Actief in een				
lokale actiegroep				
Valid N (listwise)	106			

Descriptive Statistics

What becomes immediately apparent is that on average, most members of these five clusters hardly have been active in a local action group in the past five years, resulting in a (very) low mean per cluster for civic participation. While *free newspaper readers*, *paid newspaper readers*, *paid newspaper readers* and *passive website users* show average scores of .01, .01 and .02, respectively, *active website users* show a slightly higher average score of .04, and *social media users* show the highest, but still quite low, average score of .07.

This shouldn't come as a huge surprise, as being active in a local action group in the past five years being the sole indicator for civic participation is a rather 'rare' characteristic of civic participation. The original LKO 2018 dataset (Jansen & Denters, 2019) did not include (possibly more useful) other indicators of civic participation identified in the literature, such as volunteering, doing charity work (Adler & Goggin, 2005), participating in CI's (citizen's initiatives) (J. Bakker et al., 2012), etcetera.

Looking at the standard deviation from the tables, however, it appears that quite a substantial amount of respondents in each cluster displayed significantly higher levels of civic participation within this sole variable. For instance, Cluster 5, *social media users*, had a

standard deviation of .25, meaning that about 68% of values were between the average of .07 for the cluster, and .32, which is quite a lot higher.

Also, we have to keep in mind that the original variable is a binary variable, with 0 = No and 1 = Yes as possible answering categories – there is no degree in between.

In order to look more in depth, we can create a table which shows the counts of each of the binary answer possibilities for Cluster 5:

Table 27: Frequency table of Cluster 5 ('social media users'), for variable v11_5_nm

					Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	Nee	99	93.4	93.4	93.4
	Ja	7	6.6	6.6	100.0
	Total	106	100.0	100.0	

Van welke van de volgende manieren hebt u in de afgelopen 5 jaar gebruik gemaakt? : Actief in een lokale actiegroep

This shows that 6.6% of people within cluster 5 did participate in a local action group in the past five years, scoring a full 1 out of 1 on civic participation, while 93.4% of people did not participate in a local action group in the past five years, scoring a minimum of 0 out of 1 on civic participation.

In general, the indicator variable v11_5_nm should have been supplemented with other variables to make indicating civic participation per cluster / type of media user more useful, but since no other variables were available, and looking at civic participation in contrast to political participation within this research can still be interesting, it is left as is.

It will be interesting to see whether these different groups show higher average levels of political participation than civic participation.

To conclude, the levels of civic participation per cluster are rather low, with some individuals within these clusters scoring rather high (1 out of 1), and most individuals within these clusters scoring low, 0 out of 1, resulting in average levels of civic participation per cluster of .01, .02, .07, .04 and .01 for Cluster 1 through 5, respectively.

4.2.2 – Political participation of different types of media users

While the construct of *civic* participation had one variable as an indicator, the construct of *political* participation has eight variables as indicators. Some of these variables only had binary answer possibilities (0 = No, 1 = Yes), while others were recoded from a 5-level Likert Scale into the same 0-1 value system, with intermediate levels in between (0, .25, .5, .75 and 1), as reported in the Operationalisation part, with the entire construct shown in Table 3.

For the purposes of this paper, to answer the research question, the *average* level of political participation per cluster should be indicated. As mentioned at the start of this chapter, a new variable has been created in the combined dataset, PP_Mean_QCL_12, which can indicate the average level of political participation per cluster. Below, for each one of the five clusters, a table will be shown indicating this *average* level of political participation. Because the construct of political participation consists of eight indicator variables, it might be interesting to see whether there are different levels on specific components of the construct of political participation (for instance, maybe some clusters showed lower average levels of *voting behaviour* (v1_nm_rec) than other clusters, or maybe members of some clusters were on average more often members of a political party (v11_4_nm) than members of other clusters.

This is why per cluster, in addition to the table on *average* political participation based on the variable PP_Mean_QCL_12, in Appendix B (to prevent clutter in the main text, as these tables are rather large), the full tables showing all average levels per item of political participation are shown.

Below, in Tables 22-26, the average scores on political participation are shown per each of the five clusters.

Cluster 1, *active website users*, shows an average score on political participation of .2268. Cluster 2, *free newspaper readers*, has an average score on political participation of .1240. For cluster 3, *paid newspaper readers*, the average score on political participation is .1672. Cluster 4, *passive website users*, has an average score on political participation of .1667. The fifth cluster, *social media users*, has an average score on political participation of .2188. Table 28: The average level of political participation for Cluster 1 ('Active website users')

Descriptive Statistics					
	Ν	Mean	Std. Deviation		
Average scores on political	83	.2268	.13659		
participation					
Valid N (listwise) 83					

Table 29: The average level of political participation for Cluster 2 ('Free newspaper readers')

Descriptive Statistics				
	Ν	Mean	Std. Deviation	
Average scores on political	764	.1240	.10843	
participation				
Valid N (listwise)	764			

Table 30: The average level of political participation for Cluster 3 ('Paid newspaper readers')

Descriptive Statistics

	Ν	Mean	Std. Deviation
Average scores on political	686	.1672	.13000
participation			
Valid N (listwise)	686		

Table 31: The average level of political participation for Cluster 4 ('Passive website users')

Descriptive Statistics

	Ν	Mean	Std. Deviation
Average scores on political	45	.1667	.11918
participation			
Valid N (listwise)	45		

Table 32: The average level of political participation for Cluster 5 ('Social media users')

Descriptive Statistics					
N Mean Std. Deviation					
Average scores on political	106	.2188	.19442		
participation					
Valid N (listwise)	106				

This reveals that the smaller clusters (1, N= 83, participation .2268; and 5, N=106, participation .2188), with a lower N, have a higher average level of political participation than the larger clusters (2, N=764, participation .1240; and 3, N=686, participation .1672). The exception is Cluster 4, which has a low N (45) and a relatively low political participation level of .1667 (see Table 25).

In ranked order (from highest to lowest) the average levels of political participation per 'type' are as follows:

- * Cluster 1, active website users, .2268 (N = 83)
- * Cluster 5, social media users, .2188 (N = 106)
- * Cluster 3, paid newspaper users, .1672 (N = 686)
- * Cluster 4, passive website users, .1667 (N = 45)
- * Cluster 2, free newspaper readers, .1240 (N = 764)

These are the general average levels of total local political participation based on the eight indicator variables per cluster, as required to answer the second sub-question of this paper. It is interesting to note that

In Appendix C however, the full tables per cluster for each indicator variable for political participation are shown. There are some interesting differences between the five clusters to be found based on one or more indicator variables.

A very important variable for measuring local political participation is V1_nm_ rec, which records whether people voted in the municipal elections (turnout). In ranked order (from highest to lowest), the average voting turnout scores per 'type' are as follows:

* Cluster 1, active website users, 1.000

* Cluster 3, paid newspaper readers, .9168

* Cluster 5, social media users, .8842

* Cluster 4, passive website users, .8605

* Cluster 2, free newspaper readers, .7822

Notably, cluster 1, *active website users*, reports all of its members as having voted in the Dutch 2018 municipal elections. Also, since the turnout of the Dutch 2018 municipal elections was 54.97%³, the five clusters each record significantly higher levels of turnout.

Another variable, V_11_4_nm, indicates whether people are members of a political party. Across the Netherlands, a bit more than 315,000 people were a member of at least one political party on January 1st, 2019^4 . From the tables in Appendix C, it becomes apparent that , while Cluster 1-4 all show roughly similar levels of political party membership (between .04 and .07), Cluster 5, *social media users*, has an average level of political party membership of .16 – quite higher than any of the other clusters. These cluster members are also more likely to have visited a municipal council meeting in the past five years (.10, compared to levels ranging from .02 for Cluster 1, through .07 for Cluster 4), or to have contacted a local political party in the past five years (.10, compared to levels ranging from .00 for Cluster 4, through .03 for Cluster 3).

Cluster 2, *free newspaper readers*, has the lowest average value for *average total political participation*. From Appendix C, it also becomes apparent that for none of the eight indicator variables for political participation, this cluster scores higher than other clusters. It decidedly is the cluster with the lowest level of political participation on *all* indicators for political participation, with only once having an equal average score on signing petitions about a local issue (V11_6_nm) to Cluster 1 (*active website users*), .05).

 ³ See the website of the Kiesraad: https://www.verkiezingsuitslagen.nl/verkiezingen/detail/GR20180321
 ⁴ From the *Documentatiecentrum Nederlandse Politieke Partijen*, Rijksuniversiteit Groningen: http://dnpprepo.ub.rug.nl/12154/1/lt_per01012019.pdf

Quite some different average values among the clusters were also recorded for the variable V_13_1_nm_rec, which records whether people were ever, in the past five years, involved in a citizen's initiative within their municipality. High average values were recorded for Cluster 1, *active website users*, and Cluster 5, *social media users*, .2169 and .2075 respectively. Compared to the other three clusters, which report values of .0851, .1589 and .1111 for Cluster 2, 3 and 4 respectively, Cluster 1 and 5 have, for this variable, again indicated a rather high average level of political involvement.

With these insights, it is possible to answer the second sub-question of this paper,

"How do these types differ in their levels of civic and political participation?"

With regard to the levels of civic participation per cluster, based on the one indicator variable for civic participation from the combined dataset, the average levels of civic participation per cluster are .01, .02, .07, .04 and .01 for Cluster 1 through 5, respectively.

With regard to the levels of political participation per cluster, based on the eight indicator variables for political participation from the combined dataset, the average levels of political participation per cluster are .2268, .1240, .1672, .1667 and .2188 for Cluster 1 through 5, respectively.

Cluster	Average level of civic	Average level of political
	participation	participation
1 (Active website users)	.01	.2268
2 (Free newspaper readers)	.02	.1240
3 (Paid newspaper readers)	.07	.1672
4 (Passive website users)	.04	.1667
5 (Social media users)	.01	.2188

Table 33: Average levels of civic and political participation for each of the five clusters

V: Conclusion & Discussion

In this paper, the main undertaking was to formulate a typology of local media use, based on the *Lokaal Kiezersonderzoek 2018* (Jansen & Denters, 2019), to identify different types of media users within the local media use typology, and show each type's levels of local civic and political participation, as per the main research question:

What are the levels of local civic and political participation between different types of citizens based on their local media consumption?

For answering this main research question, two sub-questions were formulated. The first subquestion concerns the creation of the local media use typology (and its clusters):

"With regard to local media consumption, which different types of citizens exist?"

First, the two datasets from the *voor* – and *nameting* of the original LKO 2018 dataset were merged to allow for ease of analysis. The first sub-questions was answered by identifying the twelve indicator variables from the original LKO 2018 dataset, and recoding some of them to have each indicator variable have a score ranging from 0-1, with 0 meaning the lowest level of local media use, and 1 meaning the highest level of local media use. These twelve recoded indicator variables were recoded again into twelve standardized Z-scored variables. These twelve variables were used in the K-means cluster analysis to achieve a preset, 'optimum' number of clusters and identify the clusters ('types') of citizens within the local media use typology. Through trial and error – looking at 3-8 and 10 possible number of clusters, for instance - an 'ideal' subset of five clusters was identified, with relatively distinguishable characteristics (see Graph 9 and Table 34), answering sub-question one.

Graph 9: Bar charts of labelled five-cluster K-means cluster analysis based on twelve Zscored variables of local media use



Table 34: the five labelled clusters, with frequencies

					Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	Active website users	83	2.8	4.9	4.9
	Free newspaper readers	764	26.2	45.4	50.3
	Paid newspaper readers	686	23.5	40.7	91.0
	Passive website users	45	1.5	2.7	93.7
	Social media users	106	3.6	6.3	100.0
	Total	1684	57.8	100.0	
Missing	System	1232	42.2		
Total		2916	100.0		

Cluster Number of Case (5)

The second sub-question uses these five established clusters within the local media use typology, and looks at the average levels of local civic and political participation between these clusters:

"How do these types differ in their levels of civic and political participation?"

By filtering per established cluster, using the cluster variable QCL_12, it was possible to perform a descriptive analysis on the one indicator variable for civic participation. For political participation, a new variable was created to show the average level of political participation per respondent in the combined dataset. This variable was used to compute the average level of political participation per cluster. The overall, summarized results can be found in Table 33.

In general, five media use types were established from a data-driven explorative research using the K-means cluster analysis. These five types of media users differed in their average level of political participation in the following sense:

* Cluster 1, active website users, .2268 (N = 83)

* Cluster 5, social media users, .2188 (N = 106)

* Cluster 3, paid newspaper users, .1672 (N = 686)

- * Cluster 4, passive website users, .1667 (N = 45)
- * Cluster 2, free newspaper readers, .1240 (N = 764)

The least politically active cluster, *free newspaper readers*, coincidentally did not show high levels of local media use as well (see Graph 9). So, it seems to be a large group of people who are generally not that much involved with politics, and also do not use many forms of local media as much as any of the other clusters.

As mentioned before, other interesting conclusions from the research are that Cluster 5, of *social media users*, shows a relatively high level of political participation, together with Cluster 1, *active website users*. It would be interesting to see whether consumers of 'newer' forms of media, such as web browsing or social media, show higher levels of political (or civic) participation than consumers of more 'traditional' media. This research surely seems to have pointed in that direction, and maybe subsequent research can solidify (or disprove) this idea through a data-driven analysis testing this hypothesis.

Because of the explorative character of this research, several caveats exist. First, this research did not try, in any way, to prove or point towards a possible causal relationship between (local) media use, and (local) civic and/or (local) political participation. The paper was merely concerned with formulating a data-driven and data-generated media use typology – in contrast to research formulating typologies based on previous theories (for example: Brandtzaeg and Heim (2011), in which a survey was specifically constructed to be able to construct a typology of 'social networking site users'). Future research might show that such a causal relationship between types within a (local) media use typology and political and/or civic participation exists. In any case, such research would expand upon the explorative research conducted for the purposes of this paper.

Another limitation of this paper is that the concept of civic participation is operationalized with a sole indicator variable, on which most people, after analysis has taken place, have seemed to score rather low. The LKO 2018 did not contain any other possible indicators of the concept of civic participation. It would have been better if this research could have included other, 'true' indicators of civic participation, such as those identified by Adler and Goggin (2005): volunteering, doing charity work, etc. As a result of this limitation, it seems that while the average levels of political participation have been rather clearly indicated through the eight-indicator construct, the usefulness of the civic participation analysis seems to be rather limited, or hampered, by this limitation.

In all, though, this paper has shown that explorative, data-driven typology research can result in interesting, distinguishable clusters, or 'types' of local media users, within the typology of local media use, and insightful differences between average levels of political participation (and civic participation) can be garnered from such a typology in five clusters.

Future research within this field can, for instance, concern itself with establishing whether a causal relationship can be established between a media use typology and political and/or civic participation (of types within the typology, and controlling for the factor *political interest*, as identified in the theoretical discussion (Boulianne, 2009; Nam, 2012; Xenos & Moy, 2007), as a main further research goal. In addition, with other datasets, it will be interesting whether the undertakings of this research can be replicated and a data-driven formulation of a media use typology can be a good alternative to typologies constructed inversely to this method, with a larger focus on predetermined theoretical constructs, rather than, as this paper has shown, the creation of a typology through data analysis.

References

Adler, R. P., & Goggin, J. (2005). What Do We Mean By "Civic Engagement"? Journal of Transformative Education, 3(3), 236-253. Retrieved from <u>https://journals.sagepub.com/doi/abs/10.1177/1541344605276792</u>. doi:10.1177/1541344605276792

Babbie, E. R. (2013). The basics of social research: Cengage learning.

- Bakker, J., Denters, B., Oude Vrielink, M., & Klok, P.-J. (2012). Citizens' initiatives: How local governments fill their facilitative role. *Local Government Studies*, 38(4), 395-414.
- Bakker, T. P., & De Vreese, C. H. (2011). Good news for the future? Young people, Internet use, and political participation. *Communication research*, *38*(4), 451-470.
- Boulianne, S. (2009). Does Internet Use Affect Engagement? A Meta-Analysis of Research. *Political Communication*, 26(2), 193-211. Retrieved from https://doi.org/10.1080/10584600902854363. doi:10.1080/10584600902854363
- Brandtzaeg, P. B., & Heim, J. (2011). A typology of social networking sites users. *Int. J. Web Based Communities*, 7(1), 28-51. doi:10.1504/ijwbc.2011.038124
- Ekman, J., & Amnå, E. (2012). Political participation and civic engagement: Towards a new typology. *Human affairs*, 22(3), 283-300.
- Jansen, G., & Denters, S. A. (2019). Democratie dichterbij: Lokaal Kiezersonderzoek 2018.
- Nam, T. (2012). Dual effects of the internet on political activism: Reinforcing and mobilizing. Government Information Quarterly, 29, S90-S97.
- Tolbert, C. J., & McNeal, R. S. (2003). Unraveling the effects of the Internet on political participation? *Political Research Quarterly*, *56*(2), 175-185.
- Verba, S., Schlozman, K. L., & Brady, H. E. (1995). Voice and equality: Civic voluntarism in American politics: Harvard University Press.
- Xenos, M., & Moy, P. (2007). Direct and Differential Effects of the Internet on Political and Civic Engagement. *Journal of Communication*, 57(4), 704-718. Retrieved from <u>https://dx.doi.org/10.1111/j.1460-2466.2007.00364.x</u>. doi:10.1111/j.1460-2466.2007.00364.x

Appendix A – Tables of the standardized Z-score variables

This appendix includes the tables created by SPSS, after using the following command on the merged dataset:

```
FREQUENCIES VARIABLES=Zv8_rec_1 Zv9_rec_1 Zv10_1 Zv10_2 Zv10_3 Zv10_4
Zv33_3_nm Zv33_4_nm
    Zv34a_nm_rec Zv34b_nm_rec Zv35_nm_rec Zv36_nm_rec
/ORDER=ANALYSIS.
```

					Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	-1.74258	313	10.7	12.2	12.2
	77212	598	20.5	23.4	35.6
	.19834	1083	37.1	42.3	77.9
	1.16880	429	14.7	16.8	94.7
	2.13925	136	4.7	5.3	100.0
	Total	2559	87.8	100.0	
Missing	System	357	12.2		
Total		2916	100.0		

Zv8_rec_1: Zscore: Hoe vaak hebt u de afgelopen weken berichten (nieuws) over de gemeenteraadsverkiezingen gelezen in de lokale of regionale krant?

Zv9_rec_1: Zscore: Als er de afgelopen weken op lokale of regionale radio of televisie nieuws over de gemeenteraadsverkiezingen werd uitgezonden, hoe vaak luisterde of keek u dan?

					Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	-1.21889	725	24.9	28.3	28.3
	21756	835	28.6	32.6	61.0
	.78377	768	26.3	30.0	91.0
	1.78510	180	6.2	7.0	98.0
	2.78644	51	1.7	2.0	100.0
	Total	2559	87.8	100.0	
Missing	System	357	12.2		
Total		2916	100.0		

Zv10_1: Zscore: Hebt u, om informatie over de gemeenteraadsverkiezingen te zoeken, de afgelopen weken wel eens één van de volgende dingen gedaan? De website van één of meer lokale partijen bezocht

					Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	36504	2258	77.4	88.2	88.2
	2.73838	301	10.3	11.8	100.0
	Total	2559	87.8	100.0	
Missing	System	357	12.2		
Total		2916	100.0		

Zv10_2: Zscore: Hebt u, om informatie over de gemeenteraadsverkiezingen te zoeken, de afgelopen weken wel eens één van de volgende dingen gedaan? De website van de gemeente bezocht

					Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	28475	2367	81.2	92.5	92.5
	3.51046	192	6.6	7.5	100.0
	Total	2559	87.8	100.0	
Missing	System	357	12.2		
Total		2916	100.0		

Zv10_3: Zscore: Hebt u, om informatie over de gemeenteraadsverkiezingen te zoeken, de afgelopen weken wel eens één van de volgende dingen gedaan? Een lokale stemwijzer ingevuld

					Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	46867	2098	71.9	82.0	82.0
	2.13288	461	15.8	18.0	100.0
	Total	2559	87.8	100.0	
Missing	System	357	12.2		
Total		2916	100.0		

Zv10_4: Zscore: Hebt u, om informatie over de gemeenteraadsverkiezingen te zoeken, de afgelopen weken wel eens één van de volgende dingen gedaan? Op sociale media (Twitter, Facebook, blogs, Whatsapp) gelezen over de gemeenteraadsverkiezingen

					Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	35185	2277	78.1	89.0	89.0
	2.84101	282	9.7	11.0	100.0
	Total	2559	87.8	100.0	
Missing	System	357	12.2		
Total		2916	100.0		

Zv33_3_nm: Zscore: Welk type krant leest u? : Betaalde regionale of lokale kranten

					Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	59900	1953	67.0	73.6	73.6
	1.66882	701	24.0	26.4	100.0
	Total	2654	91.0	100.0	
Missing	System	262	9.0		
Total		2916	100.0		

Zv33_4_nm: Zscore: Welk type krant leest u? : Gratis regionale of lokale kranten (huis-aan-huis bladen)

					Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	79624	1624	55.7	61.2	61.2
	1.25543	1030	35.3	38.8	100.0
	Total	2654	91.0	100.0	
Missing	System	262	9.0		
Total		2916	100.0		

Zv34a_nm_rec: Zscore: Als er in de krant lokaal nieuws staat, bijvoorbeeld nieuws over problemen in uw gemeente, hoe vaak leest u dat dan?

					Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	-3.04632	14	.5	.7	.7
	-1.95085	126	4.3	6.7	7.4

	85538	577	19.8	30.5	38.0
	.24009	715	24.5	37.9	75.8
	1.33556	457	15.7	24.2	100.0
	Total	1889	64.8	100.0	
Missing	System	1027	35.2		
Total		2916	100.0		

Zv34b_nm_rec: Zscore: Als er op de lokale of regionale radio of televisie nieuws is, bijvoorbeeld nieuws over problemen in uw gemeente, hoe vaak luistert/kijkt u dan?

					Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	-1.67598	353	12.1	13.3	13.3
	84020	515	17.7	19.4	32.7
	00441	869	29.8	32.7	65.4
	.83138	599	20.5	22.6	88.0
	1.66716	318	10.9	12.0	100.0
	Total	2654	91.0	100.0	
Missing	System	262	9.0		
Total		2916	100.0		

Zv35_nm_rec: Zscore: Hoe vaak gaat u op het internet gericht op zoek naar lokaal nieuws, bijvoorbeeld over problemen in uw gemeente?

					Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	-1.37772	587	20.1	22.1	22.1
	40005	802	27.5	30.2	52.3
	.57761	929	31.9	35.0	87.3
	1.55527	264	9.1	9.9	97.3
	2.53293	72	2.5	2.7	100.0
	Total	2654	91.0	100.0	
Missing	System	262	9.0		
Total		2916	100.0		

Zv36_nm_rec: Zscore: Volgt u politici uit uw gemeente op sociale media als Facebook, Twitter, of Instagram?

					Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	26079	2484	85.2	93.6	93.6
	3.83310	169	5.8	6.4	100.0
	Total	2653	91.0	100.0	
Missing	System	263	9.0		
Total		2916	100.0		

Appendix B: ANOVA table for the 5-cluster K-means cluster analysis based on the twelve standardized Z-scored variables

ANOVA							
	Cluster		Error				
	Mean Square	df	Mean Square	df	F	Sig.	
Zscore: Hoe vaak hebt u de	71.094	4	.629	1679	112.951	.000	
afgelopen weken berichten							
(nieuws) over de							
gemeenteraadsverkiezingen							
gelezen in de lokale of							
regionale krant?							
Zscore: Als er de afgelopen	56.963	4	.881	1679	64.693	.000	
weken op lokale of regionale							
radio of televisie nieuws over							
de							
gemeenteraadsverkiezingen							
werd uitgezonden, hoe vaak							
luisterde of keek u dan?							
Zscore: Hebt u, om	43.007	4	.995	1679	43.238	.000	
informatie over de							
gemeenteraadsverkiezingen							
te zoeken, de afgelopen							
weken wel eens één van de							
volgende dingen gedaan? De							
website van één of meer							
lokale partijen bezocht							
Zscore: Hebt u, om	420.440	4	.142	1679	2955.557	.000	
informatie over de							
gemeenteraadsverkiezingen							
te zoeken, de afgelopen							
weken wel eens één van de							
volgende dingen gedaan? De							
website van de gemeente							
bezocht							
Zscore: Hebt u, om	19.268	4	.971	1679	19.841	.000	
---------------------------------	---------	---	-------	------	---------	------	
gemeenteraadsverkiezingen							
te zoeken, de afgelopen							
weken wel eens één van de							
volgende dingen gedaan?							
Een lokale stemwijzer							
ingevuld							
Zscore: Hebt u, om	49.491	4	.853	1679	57.993	.000	
informatie over de							
gemeenteraadsverkiezingen							
te zoeken, de afgelopen							
weken wel eens één van de							
volgende dingen gedaan?							
Op sociale media (Twitter,							
Facebook, blogs, Whatsapp)							
gelezen over de							
gemeenteraadsverkiezingen							
Zscore: Welk type krant	165.388	4	.821	1679	201.543	.000	
leest u? : Betaalde regionale							
of lokale kranten							
Zscore: Welk type krant	12.105	4	1.018	1679	11.888	.000	
leest u? : Gratis regionale of							
lokale kranten (huis-aan-huis							
bladen)							
Zscore: Als er in de krant	113.896	4	.709	1679	160.733	.000	
lokaal nieuws staat,							
bijvoorbeeld nieuws over							
problemen in uw gemeente,							
hoe vaak leest u dat dan?							
Zscore: Als er op de lokale	79.568	4	.689	1679	115.435	.000	
of regionale radio of televisie							
nieuws is, bijvoorbeeld							
nieuws over problemen in uw							
gemeente, hoe vaak							
luistert/kijkt u dan?							
Zscore: Hoe vaak gaat u op	32.302	4	.900	1679	35.879	.000	
het internet gericht op zoek							
naar lokaal nieuws,							
bijvoorbeeld over problemen							
in uw gemeente?							

Zscore: Volgt u politici uit uw	415.745	4	.010	1679	42595.646	.000
gemeente op sociale media						
als Facebook, Twitter, of						
Instagram?						

The F tests should be used only for descriptive purposes because the clusters have been chosen to maximize the differences among cases in different clusters. The observed significance levels are not corrected for this and thus cannot be interpreted as tests of the hypothesis that the cluster means are equal.

Appendix C: Full tables per cluster for each indicator variable of political participation

	Ν	Mean	Std. Deviation
Hebt u gestemd tijdens de	81	1.0000	.00000
gemeenteraadsverkiezingen			
?			
Van welke van de volgende	83	.19	.397
manieren hebt u in de			
afgelopen 5 jaar gebruik			
gemaakt? : Contact gelegd			
(via een afspraak, gesprek of			
in brief) met een			
gemeenteraadslid,			
wethouder, burgemeester of			
ambtenaar			
Van welke van de volgende	83	.12	.328
manieren hebt u in de			
afgelopen 5 jaar gebruik			
gemaakt?:			
Gemeenteraadsvergadering			
bezocht			
Van welke van de volgende	83	.17	.377
manieren hebt u in de			
afgelopen 5 jaar gebruik			
gemaakt?:			
Inspraakavond(en) van uw			
gemeente bezocht			
Van welke van de volgende	83	.06	.239
manieren hebt u in de			
afgelopen 5 jaar gebruik			
gemaakt? : Lidmaatschap			
van een politieke partij			

Cluster 1 – 'Active website users' Descriptive Statistics

Van welke van de volgende manieren hebt u in de afgelopen 5 jaar gebruik gemaakt? : Een petitie getekend over een lokale kwestie (op papier)	83	.05	.215
Van welke van de volgende manieren hebt u in de afgelopen 5 jaar gebruik gemaakt? : Contact opgenomen met een politieke partij in uw gemeente	83	.02	.154
Bent u de afgelopen vijf jaar samen met anderen wel eens actief betrokken geweest bij een burgerinitiatief in uw gemeente?	83	.2169	.41462
Valid N (listwise)	81		

Cluster 2 - 'Free newspaper readers'

Deser			
	Ν	Mean	Std. Deviation
Hebt u gestemd tijdens de gemeenteraadsverkiezingen ?	684	.7822	.41308
Van welke van de volgende manieren hebt u in de afgelopen 5 jaar gebruik gemaakt? : Contact gelegd (via een afspraak, gesprek of in brief) met een gemeenteraadslid, wethouder, burgemeester of ambtenaar	764	.04	.191

Descriptive Statistics

Van welke van de volgende manieren hebt u in de afgelopen 5 jaar gebruik	764	.05	.209
Inspraakavond(en) van uw gemeente bezocht			
Van welke van de volgende manieren hebt u in de afgelopen 5 jaar gebruik gemaakt? : Lidmaatschap van een politieke partij	764	.04	.200
Van welke van de volgende manieren hebt u in de afgelopen 5 jaar gebruik gemaakt? : Een petitie getekend over een lokale kwestie (op papier)	764	.05	.209
Van welke van de volgende manieren hebt u in de afgelopen 5 jaar gebruik gemaakt? : Contact opgenomen met een politieke partij in uw gemeente	764	.01	.108
Bent u de afgelopen vijf jaar samen met anderen wel eens actief betrokken geweest bij een burgerinitiatief in uw gemeente?	684	.0851	.27918

Cluster 3 - 'Paid newspaper readers'

Descriptive Stat	tistics		
Ν	Mean	Std. Deviation	

Hebt u gestemd tijdens de gemeenteraadsverkiezingen ?	625	.9168	.27641
Van welke van de volgende manieren hebt u in de afgelopen 5 jaar gebruik gemaakt? : Contact gelegd (via een afspraak, gesprek of in brief) met een gemeenteraadslid, wethouder, burgemeester of ambtenaar	686	.08	.269
Van welke van de volgende manieren hebt u in de afgelopen 5 jaar gebruik gemaakt? : Gemeenteraadsvergadering bezocht	686	.05	.208
Van welke van de volgende manieren hebt u in de afgelopen 5 jaar gebruik gemaakt? : Inspraakavond(en) van uw gemeente bezocht	686	.08	.265
Van welke van de volgende manieren hebt u in de afgelopen 5 jaar gebruik gemaakt? : Lidmaatschap van een politieke partij	686	.05	.211
Van welke van de volgende manieren hebt u in de afgelopen 5 jaar gebruik gemaakt? : Een petitie getekend over een lokale kwestie (op papier)	686	.07	.248
Van welke van de volgende manieren hebt u in de afgelopen 5 jaar gebruik gemaakt? : Contact opgenomen met een politieke partij in uw gemeente	686	.03	.160

Bent u de afgelopen vijf jaar	686	.1589	.36584
samen met anderen wel			
eens actief betrokken			
geweest bij een			
burgerinitiatief in uw			
gemeente?			
Valid N (listwise)	625		

Cluster 4 – 'Passive website users'

	N	Mean	Std. Deviation
Hebt u gestemd tijdens de gemeenteraadsverkiezingen ?	43	.8605	.35060
Van welke van de volgende manieren hebt u in de afgelopen 5 jaar gebruik gemaakt? : Contact gelegd (via een afspraak, gesprek of in brief) met een gemeenteraadslid, wethouder, burgemeester of ambtenaar	45	.11	.318
Van welke van de volgende manieren hebt u in de afgelopen 5 jaar gebruik gemaakt? : Gemeenteraadsvergadering bezocht	45	.07	.252
Van welke van de volgende manieren hebt u in de afgelopen 5 jaar gebruik gemaakt? : Inspraakavond(en) van uw gemeente bezocht	45	.07	.252
Van welke van de volgende manieren hebt u in de afgelopen 5 jaar gebruik gemaakt? : Lidmaatschap van een politieke partij	45	.07	.252

Descriptive Statistics

Van welke van de volgende manieren hebt u in de afgelopen 5 jaar gebruik gemaakt? : Een petitie getekend over een lokale kwestie (op papier)	45	.09	.288
Van welke van de volgende manieren hebt u in de afgelopen 5 jaar gebruik gemaakt? : Contact opgenomen met een politieke partij in uw gemeente	45	.00	.000
Bent u de afgelopen vijf jaar samen met anderen wel eens actief betrokken geweest bij een burgerinitiatief in uw gemeente?	45	.1111	.31782
Valid N (listwise)	43		

Cluster 5 - 'Social media users'

Descriptive Statistics	Descriptive	Statistics
------------------------	-------------	-------------------

	Ν	Mean	Std. Deviation
Hebt u gestemd tijdens de	95	.8842	.32167
gemeenteraadsverkiezingen			
?			
Van welke van de volgende	106	.18	.385
manieren hebt u in de			
afgelopen 5 jaar gebruik			
gemaakt? : Contact gelegd			
(via een afspraak, gesprek of			
in brief) met een			
gemeenteraadslid,			
wethouder, burgemeester of			
ambtenaar			

Van welke van de volgende manieren hebt u in de afgelopen 5 jaar gebruik gemaakt? : Gemeenteraadsvergadering bezocht	106	.10	.306
Van welke van de volgende manieren hebt u in de afgelopen 5 jaar gebruik gemaakt? : Inspraakavond(en) van uw gemeente bezocht	106	.10	.306
Van welke van de volgende manieren hebt u in de afgelopen 5 jaar gebruik gemaakt? : Lidmaatschap van een politieke partij	106	.16	.369
Van welke van de volgende manieren hebt u in de afgelopen 5 jaar gebruik gemaakt? : Een petitie getekend over een lokale kwestie (op papier)	106	.08	.280
Van welke van de volgende manieren hebt u in de afgelopen 5 jaar gebruik gemaakt? : Contact opgenomen met een politieke partij in uw gemeente	106	.10	.306
Bent u de afgelopen vijf jaar samen met anderen wel eens actief betrokken geweest bij een burgerinitiatief in uw gemeente?	106	.2075	.40748
valid IV (listwise)	90		