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Online vs. Offline Local Political Communication

An analysis of the effect of age on the use of online and offline channels of communication

Bachelor Thesis

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ABSTRACT

This research focuses on the relationship between age and people's use of channels for local political communication and information gathering. The topic will be discussed by addressing the following research question: *Are there age-related differences in the use of online and offline channels for political communication on the local level and which factors explain any such differences in the use of these channels.* This question will be addressed in a cross-sectional multivariate analysis. Data from the Dutch local elections study *Lokaal Kiezersonderzoek (LKO)* from 2016 will be used for this research. Many authors have discussed the effect of age on participation and civil engagement (Jankowski & Strate 1951, Parsons 1951, Einstadt 1956, Kersting 2004, 2016), yet this research will contribute to the existing body of knowledge by studying the field of political online communication on the Dutch local level. This thesis seeks to present the opportunities this channel provides, especially for the youth who is underrepresented in traditional, namely offline, forms of communication.

Keywords: political communication, political deliberation, online participation, youth participation, local attachment, political efficacy, multivariate regression analysis

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1. INTRODUTION

The growing disengagement of people in politics, especially among the youth has become a concern in most established democracies (Verba, Brady & Scholzman, 1995, Verba & Nie, 1972, Delli Carpini & Keeter, 1993, Putnam, 2000, Kersting 2016a). The American author Carpini (2000) has argued that the civic engagement has been in decline over the past 30 years, but that it is particularly acute for young people. Young people's relationship with politics is complex and often problematized At the same time do authors suggest the rise of new, sophisticated forms of participation, most notably within electronic realms and the world wide web, which attract especially young people (Coleman, 1999, 2006). Carpini (2000) argues that youth participation can be easily categorized as disengaged, or active and engaged in new forms of politics. This is in line with Dalton's argument (2006), who notes that what we see is not a general decline in participation, but rather a diversification of how citizens take part in the political sphere.

The mobilizing power of the world wide web promises a growing field of participation, and offers the chance of increasing youth participation and civic engagement. New unconventional forms of participation on the Internet, such as electronic versions of traditional forms of participation for example e-voting or online petition signing, but also completely new forms of cyber involvement, such as politically motivated hackings, have been taken into consideration by social scientists (Jordan & Taylor, 2004). The Internet provides obvious advantages as being one of the fastest, cheapest and most reliable channels of distributing information (Carpini, Cook & Jacobs, 2004). The introduction of the world wide web and subsequently social media have opened a new sphere of face-to-face communication, and is a tool used for political communication, campaigning and discourse. It also offers a platform for online participation in terms of the distribution of information on social media sites, such as Facebook, Twitter or Instagram. The Internet is a platform for the discussion of political and social issues, and social media websites are its most effective medium. The discourse on the effect of social media on the public sphere is extensive, but in general it has been shown that the use of social media for a political discourse can enhance the coordination of events, that it can have a higher impact than traditional forms of participation, and can be used as an instrument for mobilization (Ayres, 1999; Fraser, 1990). The US election in 2008 has shown the extent the Internet can effect the outcome of a national election (Effing, van Hillegerberg & Huibers, 2011). Effind, van Hillegerberg and Huibers (2011) who analyzed the effect of social media in the Dutch political context, found a similar tendency for the effect of social media. It is thus important to focus on the Internet as an influential medium, with its ambiguous effects on the democratic process.

This research will focus on a comparison of the use of online and offline forms of political communication. The goal is to get a better understanding of 'who' is active in which spheres and to find out which channels are used for political communication. A strong focus lies on age as an explanatory variable. Research has found there to be a relationship between a person's age and the likelihood to engage with politics (Marshall, 1952; Parsons, 1951; Einstadt, 1956; Carpini, 2000; Furlong & Cartmel 2007; Kersting, 2016a). This research will study whether the youth is completely absent from political debates, or uses new technologies, such as the Internet, for their political discourse. Further, it will be

analyzed if the effect of age on the two forms of communication is direct or indirect through other factors, which will be developed in the theory section.

Another aspect that is important to mention, when referring to age and the Internet, but which is not the center of this thesis, is the topic of digital divide. The literature on digital divide is broad and definitions are numerous. The Digital divide has been defined in terms of access to technology (Norris, 2001; Bimber, 2003), or in terms of skills to use technology (Mossberger, Tolbert & Stansbury, 2003; Warschauer, 2003). The skills to use the Internet, as well as the access to technology can both be potentially age-related. It can be assumed that an access to the Internet and daily use implies sufficient skills and technological knowledge. In 2016, 97 percent of the household in the Netherlands had access to the Internet and 86 percent of the Dutch population used the Internet on a daily basis (Eurostat, 2016). Thus, it can be said that the majority of the people has access to the Internet and also uses it daily. Therefore, the issue of digital divide will be mentioned but will not focus on it in depth.

Scientific and Social Relevance

The research topic is scientifically relevant as it discusses whether there are differences between the use of conventional and information and communication technology (ICT) based forms of political communication. As the Internet is changing rapidly it is important to study the potential effects that social media has on democratic developments. Although this topic has been studied before (Carpini, 2000; Carpini, Cook & Jacobs, 2004; Kersting, 2016a) this study is based on a recent, high quality, nationwide survey and thus especially contributes to the understanding of the topic from a Dutch perspective. Moreover, does the research at hand focus on the impact of social media on local level politics. This research adds to the findings on social media from previously conducted research by analyzing whether patterns recur when shifting the focus from the general to the local political domain. On the local level political domain proximity and personal contacts may be more important than impersonal digitalized interactions, which we find in social media.

Informed political debates and discussions are crucial for the functioning of a stable democracy. Thus, it is important to analyze where those discussions take place and who is active in those discussions. This research adds to the current understanding of youth engagement. If assumptions are true and the younger generation is not attracted by offline and conventional forms of political discourse it is important to study the fields where the youth potentially participates and use those existing structures to mobilize young people and inform them. This is also important in regard to the small effect traditional forms of participation, such as elections, have. It seems desirable to investigate forms of participation that engage citizens more into the political process and strengthen the responsiveness of the system. Having a better understanding of the use of the Internet for political communication in regard to age structures can help connecting young people to the political process and create a more reprehensive democracy. The impact of the Internet and new participation forms online is not yet enough studied and thus this work also adds to the current body of knowledge. The following section will elaborate the research question and the related sub questions

2. RESEARCH QUESTION

This bachelor thesis aims at answering the following question: *Are there age-related differences in online and offline channels for political communication on the local level and which factors explain any such differences in the use of these channels.* Thus, a comparative analysis will be conducted with the main focus on online and offline communications. The units of analysis are Dutch citizens. The dependent variables are offline and online communication and the independent variable is age. The goal is not only to explore if age has an effect on political communication, but also add to the understanding why there is such an effect. We expect there be age-related impacts on the motivation to politically communicate. Based on the theory, it can be assumed that the attachment to a community or municipality and political efficacy can be such motivating factors. As we expect there be a potential impact of education on this model, we will include education as a control variable. In the theory section we will discus how we arrived at the three age-related factors that will be taken into consideration for this work. Their selection and the importance of their inclusion is described at a later stage. In order to address the overall research question three sub-questions were formulated.

SQ1: Does age have an effect on whether people use offline or online tools for communication?

SQ2: Do young people as compared to older people feel less attached to local politics and thus participate less in online and offline channels in local politics?

SQ3: Do young people as compared to older people feel less political efficacious and thus communicate less in online and offline channels about local politics?

The theory on which this research bases, will be presented in the following section and the terms and concept will be clarified.

3. THEORY AND CONCEPTS

For the following theoretical framework, insights to the central concept of political communication and and the concepts of age, local attachment, internal and political efficacy will be presented. First the findings in the field of online and offline political communication will be presented. Subsequently, the focus is laid on age and its effect on the concepts of local attachment, internal and external efficacy. Those findings and the hypothesis to each concept will be outlined in the following sections and based on this the overall model will be developed.

3.1Political communication

Political communication is located in the field of political deliberation. James Fishkin, an important thinker of the deliberative democracy theory, believes that in a deliberative democracy, the people themselves decide upon the basic guidelines of their politics, based on well-founded arguments (Gutmann, 1993, p.417). Fishkin believes that voters are uninformed and uninterested, because they are aware that the role they play in modern democracy is rather small, and thus, they can not come up with the needed motivation to engage in politics. During political deliberation, meaning an informed discourse on political positions, candidates and parties can have a positive effect on political participation (Fishkin, 1992, p.81). Fishkin assumes that political deliberation creates political knowledge and understanding, and gets rid of impulsive thinking and impulsive actions (Fishkin, 1991, p. 31-36). Another definition of political deliberation provided by Burkhalter, Gastil and Keslshaw (2002) is a combination of problem analysis and an egalitarian process in which participants have adequate speaking opportunities and engage in attentive listening or dialogue concerning public issues. There is some disagreement of the nature of talk, but for this work we follow the understanding of Min (2007, p. 1370), who states that rational human communication is the essence of deliberation, and thus the communication on political issues can be regarded as political deliberation. Political deliberation is talk-centric rather than vote-centric and beliefs that communication and opinion building precedes voting (Chambers, 2003, p.308). It is not understood to replace representative democracy, but it rather expands reprehensive mechanisms (Chambers, 2003, p.308).

For this thesis the focus will lie on political communication and political information gathering as a major component of political deliberation and address this concept under the single term political communication. Accorind to Carpini, Cook and Jacobs (2004) this kind of discourse can be perceived as political participation. Social Scientists such as Brady (1999) and Putnam (2000) accepted a variety of ways in which citizens can act within the political system, yet they seldom consider political communication as a measure of engagement, and instead focus on activities such as voting, working for a political party and lobbying (Brady, 1999; Putnam, 2000). Carpini, Cook and Jacobs (2004, p.319) argue that talking publicly about politics is a valid form of participation as it provides the opportunity

to develop and express their views, learn about the positions of others, shared personal concerns and preferences, and come to understand about matters of public concern. Such form of exchange is very important in order to shape the opinion of people who are withdrawn from electoral politics (Jacobs, Cook & Carpini, 2009). This goes hand in hand with Kersting (2014, p.271) who asserts that the new forms of participation, such as political communication can also function as a counterweight to existing structures that have lost the attachment of the citizens. Further, he states that open dialogs form the decision making process and are important for the agenda setting process as well as articulating protest (Kersting, 2014, p.247).

Political communication can take place in formal institutions as well as civic in and political processes, but it can also be an individual activity (Carpini, Cook & Jacobs, 2004, p. 319). The communication and discursive participation can focus on the national, international or local level (Carpini, Cook & Jacobs, 2004, p. 319). For this research it is most interested to study political communication on local concerns and issues. Further, it can take place in a variety of different mediums including face-to-face exchange, phone conversations, written exchange and exchange via the Internet (Carpini, Cook & Jacobs, 2004, p. 319). For this work a clear distinction between online and offline forms of political communication will be made.

For online communication use the focus is on social media namely on Facebook, Twitter and Instagram. The Internet might be used as an instrument for mobilization and as a counter-public (Fraser, 1990). Kersting (2014, p. 277) describes social media as a tool for mobilization and communication. International studies have shown that the activity level in online forums and discussions has increased over the past years among all age groups starting at the age of 18 (Kersting, 2016a). Offline political communication can be understood as a way of discussion with others on a local political issue. It consists of arguments, expressing and presenting an opinion in a face to face conversation. We focus on the quantity of use and not the quality of the use.
It can be argued that a discourse on the Internet does not satisfy all criteria of an objective and informed discourse on a political issue (Kersting, 2005, 2016) and that there is a strong self-affirmation effect of the Internet that has to be taken into consideration (Kersting, 2014, p.278). Yet many people use this platform for communication and exchange of information. Even though there is valid criticism on this form of political interaction, it is being practiced by many and is even replacing other forms of political exchange for few and thus has to be taken into consideration. The difference in quality of the two channels of political communication raises interesting empirical questions, but this debate is beyond the scope of this thesis.

3.2 Age

For traditional forms of offline participation, such as elections, many studies have been conducted which found a link between a person's age and the level of participation. A study conducted by the OECD has shown that vote turnout increases monotonically with a person's age (OECD, 2006, p. 102). It has been confirmed that young people participate less in conventional forms of participation (Carpini, 2000). Younger people are less active in the political sphere than older (Carpini, 2000; Furlong & Cartmel, 2007; Kersting, 2016a). While young people seem less attached to conventional forms of political participation it is yet unclear if young people generally participate less in political processes or if they use different channels for participation and political discussion.

Early research on participation from Marshall (1952), Parsons (1951) and Einstadt (1956) focuses on socialization theories in order to explain young people's apparent absence among the politically active. Marshall (1952) describes the youth as a generation of incomplete citizens that yet have to acquire social, political and civic rights, before they can fully participate in society. Jankowski and Strate (1951 p.38) came to the conclusions that young adults are more concerned with "getting an education, finding a mate, raising young children, and establishing a career" and that "[m]ost importantly they lack political experience and have not acquired habits of monitoring public affairs information in the mass media". They believe that political participation will increase as people grow older. Age thus occurs as a life cycle effect and based on this assumption has impact on any form of participation. Another important aspect that has to be considered when studying participation with a focus on youth participation is that political distance of the youth and the skepticism and the missing trust in structures, parties and participants in the political system (Hafeneger & Niebling, 2008, p.123).

The question yet remains whether age has a direct effect or if there are other intervening factors. There are numerous studies and theories on why people follow traditional forms of participation or why they do not. Brady, Verba and Scholzmann (1995, p. 271), based on their findings, formulated three possible reasons why people do not participate namely because they can not, because they do not want to and because nobody asked them. Based on Brady, Verba and Scholzmann (1995) two points that can be described as "do not want to" and "can not" factors, will be theoretically elaborate. Age- related factors will be focused on to explain the effect of age on participation. We present three age-related factor: local attachment, internal efficacy and external efficacy.

3.3 Attachment to Local Politics

A reason why people do not communicate about political issues on the local level could be that they do not want to (Brady, Verba & Scholzmann, 1995). This can be partly because they do not feel attached to their community and thus do not have the need to get involved with the community. Local attachment can be qualified as an age-related variable. According to people tend to become more attached to their community as they engage with the normality of family life, interact with neighbors and take part in the

life of the community. These activities increase social investment and result in a closer linkage between personal concerns and politics (Verba & Nie, 1972). There is clearly a development over time that increases with age. Thus, the longer one lives or stays in a certain place and the older a person is, the more attached he or she is to this particular place. If this link to the community does not exist there is an automatic distance to municipal concerns and local topics of interest. Thus the first hypothesis reads:
H1: The older a person, the stronger are local attachments.

3.4 Internal and External Efficacy

It can be argued that a person does not participate because he or she does not have enough political efficacy, or at least has the perception and thus simply cannot participate. Brady, Verba & Scholzmann (1995) focus on a rather socio economical perception of the "cannot factor" and mainly argue that people cannot participate, because they do not have the required resources in order to do so. Preserving the "cannot factor" in terms of political efficacy actually goes a step further, as the socio-economical background can have an effect on political efficacy and hence it is the more adequate level for the purpose of this study. Empirical research has confirmed political inefficacy to be relevant for the concept of political alienation (Denters & Geurts, 1993). Lane (1959, p. 149) distinguishes between the two main parts of political efficacy. The first aspect is the individual sense of competence, termed internal efficacy, and the second is external efficacy, the sense of political responsiveness, that is the individual's assessment of the openness of the political system to the citizen's needs and demands. This can be described as a new aspect of external efficacy. Political efficacy is also an age-related variable. According to Wright (1981, p.31), a sense of political efficacy develops during the political socialization. He believes that a person feels especially little political efficacy at the beginning of political socialization (Wright, 1981, p. 39). Another argument derives from van Deth (1992, p.302), who argues that young people lack time and maturity to develop more secure political attitudes in order to understand politics and participate with efficacy. It can be argueed that some attitudes such as political efficacy that are acquired early on in life through parental socialization stay relatively fixed over the course of life (Krosnick, 1991 p. 555). If the political efficacy is already quite high at the beginning it is expected not to increase very much over the lifespan. In theory, we expect there to be a positive correlation between age and political efficacy (both internal and external). The second and third hypothesis thus are:

H2: The older a person, the higher is the sense of internal political efficacy.

H3: The older a person is, the higher is the sense of external political efficacy.

If we now study the theory on the effect of the mentioned age-related variables local attachment, internal efficacy and external efficacy on offline and online communication we arrive at the following hypothesis (H4, H5, H6). Local attachment, such as neighborhood identification, creates a motivation for local political engagement and a sense of a civic duty. This can also be retrieved from the traditional socialization theory. Local attachments can be both neighborhood attachment, as well as community

attachment. In line with the definition by Unger and Wandersmann (1985), who studied the importance of neighborhood for the society, local attachments are the personal bond to a geographical community. Political discourse is encouraged when people feel that they are attached to a neighborhood and that they identify with it and share concerns and wishes. The positive effect of neighborhood attachment on traditional participation has been shown in earlier research. Individuals who identify with their neighbors and the community become empowered and willing to change their social and political environment to improve the quality of the lives they live there (Minkler & Wallerstein, 2012) and thus get more engaged in discussions and debated on local issues. According to Denters (2014) a sense of local attachment is associated with greater interest in local affairs, including political issues and problems confronting the community, because a sense of attachment implies a psychological stake in the community and that an individual is therefore likely to care for the wellbeing of the community. The fourth hypothesis research question thus reads:

H4: The stronger the local attachment, the higher the political communication online and offline

There are a lot of theories on the effect of political efficacy on participation in general. The older theories have found that there is a tendency that alienated people participate less at least in conventional channels of political behavior (Wright 1981, p.51). According to Denters and Geurts (1993) there are many theoretical reasons for this described relation. First, some people perceive politics as something that is beyond their control and they thus feel unable to influence the outcome of political decisions and second people see politics as a system that is unresponsive to their personal demands. Denters and Geurts argue that this presents an explanation to why people with such attitudes participate less than people that present a higher perception of political efficacy, a higher sense of competence and system responsiveness (1993, p.453). Thus the fifth and sixth hypothesis are:

H5: The higher internal political efficacy, the higher is the political online and offline communication.

H6: The higher external political efficacy, the higher is the political online and offline communication.

3.5 Online and Offline Channels of Participation

The aforementioned studies focus mainly on life cycle effects and have not particularly distinguished between online and offline forms of participation. Marsh, O'Toole and Jones (2007), who conducted a study on youth political engagement in the United Kingdom distinguishes between conventional and unconventional forms of participation and argues that young people are very active, just not in conventional ways. The affection for more unconventional forms of participation may stem from a generational value change that has to do with the way people are raised and socialized. Inglehart (1997) introduced the idea of post-modernization, which according to him is mainly driven by the younger

generations. Post-materialists focus on value related self-expression, individualism, equality and are less concerned with security (Inglehart, 1997). In this post-modern understanding of participation direct and collective forms of participation are a more fruitful form of participation and thus preferred by young people. According to Kersting (2016a) who studied youth participation in Germany, are young people much more actively using online forms of participation than the older generations and online platforms seem to have a mobilizing effect on the younger generation. Kersting (2012) further concludes, that the online participation for the youth increases while the offline participation decreases.

According to the presented theory, there is a relationship between a person's age and their choice of communication channel. The question remains whether age has a different effect on online and offline communication. If we define the above mentioned terms "conventional forms of participation" as offline communication and "unconventional forms of participation" as online communication, it can be expected that younger people participate more actively online than offline. A study by Gibson, Lusoli and Ward (2009) conducted in the United Kingdom has found the exact effect, that is, young people are not only more likely to engage in online politics than offline politics, but they are also much more likely to engage in online politics only in comparison with older people. The seventh hypothesis is:

H7: The younger a person the more local political communication is taking place online than offline.

In summary, the traditional theories focus on life cycle developments that, as part of the political socialization process influence a person's participation. These theories do not distinguish between on- an offline forms of participation. If the research nevertheless indicates a difference between younger and older people that are independent of life cycle development and socialization, it can be suggested that this difference is related to the channels of participation. The following two causal models shown in figure 1 on this page and figure 2 on the next page describe the relations that were brought up in the theory section.

Figure 1: Online Communication

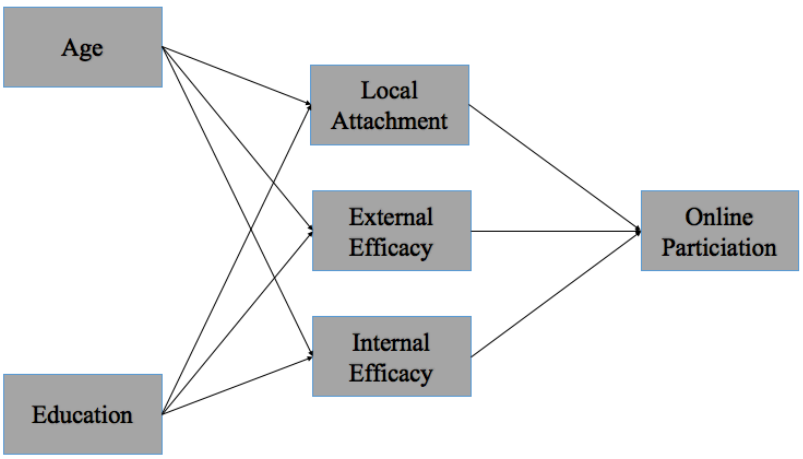
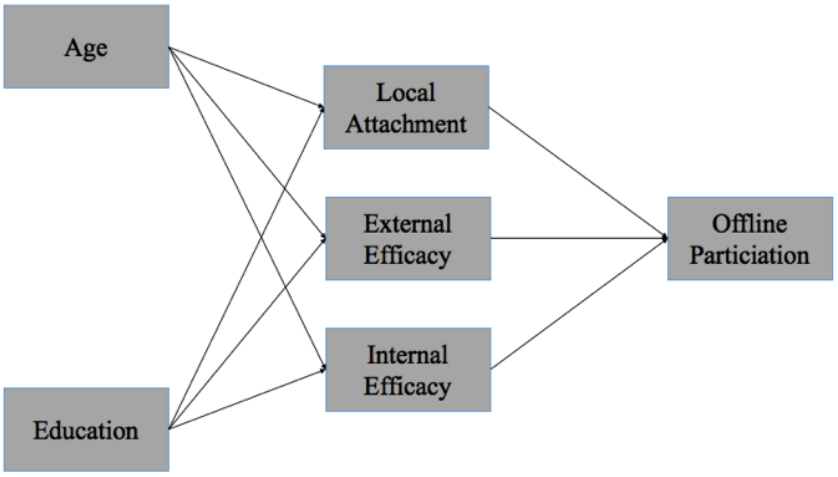


Figure 2: Offline Communication



4. METHODS

4.1 Research design

A cross-sectional multivariate research design will be used for this secondary analysis of the data. The data from the *Lokaal Kiezersonderzoek* (LKO) was collected in an electronic survey in 2016 by *Centerdata* at the same time and no manipulation took place (Centerdata, 2016). The data at hand are survey data and was collected at the individual level in all municipalities in the Netherlands. The population are citizens over 18 and foreigners with five years of local residence. The project was conducted with the help of the LISS panel (Longitudinal Internet Studies for the Social Sciences) and consist of 45000 Dutch households and 700 individuals. The panel is based on a true probability sample of households drawn from the population register by Statistics Netherlands. For this project, the number of the participants is 2643. Because we only include cases that have valid scores for all parts of our model, the sample size N is reduced to 1814. An advantage of such a panel is that it covers a true probability sample of the Dutch population, but only people who are willing to continuously share their information and opinion are part of it and that it is thus unrepresentative. Survey data based on 38 question around politics in the municipalities is analyzed for this study. This data is very suitable for this project as it covers the whole Netherlands and provides recent information, which is particularly important in the area of online media and participation, where change is rapid. It provides all the information needed in order to address the questions of this thesis. The existence of this dataset makes this research feasible. There are a few limitations to the research design, as the research is making use of en existing data set. The advantages the existing data set yet overcome the few disadvantages that arose during the process.

4.2 Internal Validity

The correlation among the different variables can be established easily. Spurious causation can threaten the internal validity as the observed relation might stem from an omitted third variable that has not been included in the model (Dooley, 2001). Education is included as a control variable. Education is most likely to have some effect on the dependent variable and by including it we can see if the effect is an age or education related. There is another threat to internal validity namely reverse causation. This threat arises from the fact that all data was collected at a single point in time. Therefore, one can not be certain about the direction of the causation (Dooley, 2001). This threat can be ruled about by the use of theory. The independent variable (age) can not be affected by reversed causation. No dependent variable could change a person's age. Political efficacy is shaped in the earlier years of political socialization and it can thus be assumed that political communication is dependent upon internal and external efficacy. The threat that political communication has an effect on political efficacy can not be ruled out. Those shortcoming will be considered in the interpretation of the results.

4.3 External Validity

The research design is not threatened by violations of external validity, except for the issue of unrepresentativeness mentioned earlier due to the permeant panel survey data. Due to the large study that was conducted all over the Netherlands with a large variety within the sampled population the results can be generalized to the whole Dutch population. There are limitations when trying to generalize it to a different country or a different point in time.

5. OPERATIONALIZATION

The following section will deal with the operationalization of the main variables and the main concepts. The operationalization of the different variables was conducted on the basis of the codebook that includes 38 survey questions (Centerdata, 2016). An overview of the variables in a translated version (from Dutch to English) included in this work can be found in the appendix[1]. The people's local political communication is operationalized by focusing on two different channels: online and offline participation. The focus thus lies on forms of participation that are not institutionalized.

5.1 Offline Participation

Offline participation will be operationalized in the same way by focusing on activities that require a citizen's initiative. The goal was to select offline equivalents to the online items in order to be able to compare the two indices later on. An index will be constructed that involves two items: how frequently people read local news in the newspaper (v29new) and how actively involved people are in the debated or conversations on local issues (v32new). A factor analysis[2] has been conducted for different items that describe offline participation in order to identify the strongest items (Diaz-Bone, 2013), which can be combined to one item. The Cronbach's alpha for the two items is .54. We can thus assume there to be an internal consistency. Scores are possible between 0 and 1 (N=1814). Offline participation is measured on a scale from 0 to 1 and is quasi metric.

5.2 Online Participation

Online participation will be operationalized by looking at the political use of the Internet, as this activity is initiated by the citizen. More precisely the use of social media for a political purpose and for political information will be studied. An index will be developed from four items of the dataset (question 10.10, 10.11, v30new and v31new). Items from the survey that were taken into consideration can be found in appendix 1. The focus is on commenting on a local political on social media (Facebook, Twitter or (10.10), whether or not information on political issues has been shared via social media (10.11), how frequently people search for local news on the Internet (v30new) and whether people are following politicians from the community on social media (v31new). Out of those four items the online index was created and each participant could score between 0 and 1 (N=1814). The Cronbach' s alpha coefficient for the four items is .5 and thus the items have an internal consistency (Diaz-Bone, 2013). In addition to this a factor analysis[3] has been conducted which confirmed that it is legitimate to combine these items in a scale for online communication. Online participation is measured on a scale from 0 to 1 and is quasi metric.

[1] Appendix A & B
[2] Appendix C
[3] Appendix D

5.3 Age

The independent variable age will be operationalized by using age in years[4]. In order to see if age per se has an impact on the choice of the participation channel or if the effect is indirect through political internal and external efficacy and local attachment the operationalization of those independent variables follows. Age is a metric variable.

5.4 Local Attachment

This independent variable will be operationalized by focusing on the subjective perception of the attachment to a community. Question v14_1, v14_2 and v14_3 from the survey have be used as the questions ask for the attachment to the municipality and the city. Answers are possible from "feel very attached" to "do not feel attached at all". An index was created for local attachment using a factor analysis[5]. The three items that each measure the personal connection to a location were taken into consideration. First the connection to the neighborhood (v14_1), second the connection to the municipality (v14_2), thirdly the connection to the region (v14_3). All three component had to be answered in order to compute the mean. An index was based upon those three items. The scale of the index is between 0 and 1 and is quasi metric.

5.5 Internal and External Efficacy

As discussed in the theory section political efficacy according to Lane (1959, p. 149) comprises a person's sense of competence and secondly, a persons' conception of the responsiveness of the system. Internal and external efficacy will be investigated in two different variables and thus in two steps. For the first part the focus will lie on external efficacy by studying the personal assessment of the effectiveness of political participation in different categories. An index will be created that includes the effectiveness of contacting a city councilor, an alderman, a mayor or another local official (v13_1new), of signing a petition (v13_2new), of attending a public hearing at the municipality (v13_3new) and the effectiveness of starting a local action group (v13_4new). Those four items estimate how much sense of efficacy a person has. A factor analysis was conducted in order to identify the most important items for the construction of this index[6]. Answers were possible in three categories "the action has no impact", "the action has a lot of impact" and "do not know". For the purpose of this study we will mark "do not know" as missing cases. We also constructed another index in which we recoded "do not know" as the middle value, but it did not change the result substantially. The scale of the index is between 0 and 1 and is quasi metric.

Secondly, internal efficacy will be studied by looking at the perception of competence as an indicator. Competence as has been mentioned in the theory section. It will represent the assessment of whether people belief that they are personally qualified to take an active part in politics as a measure of

[4] Appendix E
[5] Appendix F
[6] Appendix G

competence (v24_11). The variable is on a scale from 0 to 1. Based on the factor analysis[7] we decided to create to separate variables for political efficacy.

Education is also included as a control variable. It has been operationalized by creating six education levels from primary education all the way to university. We treat the education variable as quasi metric. In the table below, we present an overview of the descriptive of all the variables included. What is striking is that the maximum score of the online index has not been reached (.94). The mean for the online index is also rather low (.1281), where the mean for offline index is rather high (.7005). The mean for age is 53.6 years.

Table 1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Variance
Offline Index	1814	,00	1,00	,7005	,052
Online Index	1814	,00	,94	,1281	,019
Local Attachment Index	1814	,00	1,00	,5981	,047
External Efficacy	1814	,00	1,00	,6384	,051
Internal Efficacy	1814	,00	1,00	,4293	,075
Age	1814	18,00	98,00	53,5943	282,578
Education	1814	1,00	6,00	4,1852	1,978
Valid N (listwise)	1814				

[7] Appendix G

6. ANALYSIS

The subsequent part will deal with the data analysis. This part will include theory testing in order to answer the sub questions as well as the overall research question of this bachelor thesis.

The analysis will be done in two sections. Firstly, the analyze of the effect of age on the intervening variables (local attachment, internal and external efficacy) will be presented. Secondly, we will look at the effect of the intervening variables as well as the effect of age on offline and online communication and make a comparison between the two channels. As mentioned earlier we will also control for the effect of education on the model.

In order to conduct a linear regression analysis, first the assumptions of linearity were tested[8]. A logistic regression has been conducted in order to prove the robustness of the model[9]. No major difficulties were detected and the results from the linear and logistic regression analysis suggest essentially the same results. The logistic regression in itself is also robust. The bivariate correlations between all relevant items suggest no major problems of multicollinearity. This is also confirmed by the regressions tolerance statistic[10]. In a cross-sectional design like the one that was used in the LKO the assumption of uncorrelated errors is normally problematic. There might be some problem of clustering, because respondents may come from the same municipality (spatial auto correlation). But the design of the LKO sample was created in such a way that for each municipality only a few respondents were selected. Hence any possible clustering effects are likely to be minor.

Hypothesis 1

The first hypothesis is: *The older a person, the stronger are local attachments*. Considering the results from the first linear regression table (Table 2), there is a statistically significant positive effect of age on a person's local attachment (unstandardized coefficient Beta: .002). Thus, for additional 10 years in age, the local attachment increases by .02 on the index scale, holding all other variables in the model constant. Taking into consideration that the variable local attachment is measured on a scale from 0 to 1, we can see an increase of 2 percent. Thus, we can reject the null hypothesis. Even though those results need to be interpreted carefully, it can be seen that age has a positive effect on the local attachment as theoretically expected. Education has no statistical significant effect on the local attachment index. Age and education explains 4 percent of the variance in the dependent variable (adjusted R-Squared=.033).

[8] Appendix H
[9] Appendix I
[10] Appendix J

Table 2: Regression Analysis Age and Local Attachment

	Unstandardized Coefficient B	Std. Error	Standardized Coefficient Beta	t
Constant	.495	.027		18.138
Age	.002**	.000	.173	7.064
Education	-.004	.004	-.025	-1.038

a. Dependent Variable: Local Attachment Index (N=1814)
*b. ** p<.01*
c. Adjusted R-Squared .033
d. F 31.46

Hypothesis 2

The second hypothesis reads: *The older a person, the higher is the sense internal efficacy.* When focusing on internal efficacy we will also control for the effect of education.

Table 3:Regression Analysis Age and Internal Efficacy

	Unstandardized Coefficient B	Std. Error	Standardized Coefficient Beta	t
Constant	.222**	.030		6.53
Age	.000	.000	.009	,377
Education	.048**	.005	.244	10.070

a. Dependent Variable: Internal Efficacy (N=1814)
*b. ** p<.01*
c. Adjusted R-Squared .057
d. F 55.73

We can see (Table 3) that there is no statistically significant relationship for age and internal efficacy and we hence, have to reject our second hypothesis. There is a strong statistical significant effect of education on internal efficacy. One unit increase in education causes a .048 percent increase in internal efficacy. Internal efficacy is measured on a scale from 0 to 1. Thus, we can say that the higher the education the higher internal efficacy. The independent variables in the model account for five percent of the variance in the dependent variable (Adjusted R-Squared= .057).

Hypothesis 3

As we can see (Table 4) do the independent variables age and education included in the model explain one percent of the variance in the dependent variable external efficacy (adjusted R-Squared=.010). One

unit increase in age causes a .001 increase in external efficacy, holding all the the other variables constant. Hence, a ten-year increase in age results in an increase of one percent in external efficacy. This is statistically significant with a P-value lower than .00. We can see that there is also a statistical significant effect for education. One unit increase in education cause a increase of .017 in the dependent variable, holding the other variables constant. Thus, when looking at the standardized beta coefficient it can be seen that the effect of our control variable (.105) is stronger than the effect of age (.071), but that the affect of age is as expected negative.

Table 4: Regression Analysis Age and External Efficacy

	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t
Constant	,517**	,029		18,015
Age	,001**	,000	,071	2,864
Education	,017**	,004	,105	4,222

a. Dependent Variable: External efficacy (N=1814)
*b.** p<.01*
c. Adjusted R-Squared .010
d. F 10.10

Therefore, the findings from the first part of the analysis show that the theoretical expected relation between age and local attachment and the relation between age and external efficacy can be seen. We could not confirm the effect of age on internal efficacy. An effect of the control variable education was found for all three different independent variables. Those results will be discussed after presenting the second half of the analysis.

For the second part of the analysis the two dependent variables online and offline participation will be studied. It will be studied which effect age, education, local attachment, external and internal efficacy have on both online and offline communication. In order to do so, a hierarchical analysis will be conducted. We will begin with focusing on offline communication as a dependent variable.

Offline Communication

In order to determine whether age has a direct effect in offline communication or whether the effect goes through the intervening variables (internal efficacy, external efficacy and local attachment) we will conduct a stepwise regression. At the first step of this procedure we enter the variables age and education and in a second step external and internal efficacy and the local attachment index will be added. We can see that both the first and the second model are statistically significant (.000). The first model explains 14.4 percent of the variance of the dependent variable, where the second model explains approximately 12 percent more (R square .267).

If we look at the first step and the effect of age and education on the dependent variable offline participation, we can see that there is a statistical significant effect of age on the use of offline tools off political talk. For additional ten years in age the offline index increases by 5 percent (unstandardized coefficient beta= 0.005) on a scale from 0 to 1. We can also see a statistically significant effect of education on offline communication. Each unit increase in education causes an increase of 0.028 points in the offline index. Thus, there is a strong effect of the control variable. For this model, I will also report the standardized beta coefficients in order to make comparisons between the different variables. On the basis of a comparison of the standardized coefficients we can conclude that the effect of age is considerably stronger than that of education. If we now focus on the second model, we can see that the effect of age remains relatively strong. The effect of education becomes a lot weaker after having introduced the other variables into the model (standardized coefficient of .017 in step two as compared to .24 in step 1). This is the result of the fact that education, more so than age, is having an indirect effect on offline political communication via the intervening variables, especially via internal and external efficacy.

Table 5: Hierarchical Regression for Offline Communication

	Step 1			Step 2		
	Unstandardized Coefficient B	Standardized Coefficient Beta	Sig.	Unstandardized Coefficient B	Standardized Coefficient Beta	Sig.
Age	.005	.404	.000	.005	.351	.000
Education	.024	.147	.000	.017	.017	.000
Local Attachment				.278	.265	.000
External Efficacy				.083	.083	.000
Internal Efficacy				.130	.157	.000

a. Step 1: Adjusted R Square .144, F: 154.01 (N=1814)
b. Step 2 Adjusted R Square .267, F 133.32 (N=1814)

It can be observed that as expected, based on the theory, all three factors have a positive direct effect. The relative effect of local attachment is the strongest effect among the intervening variables (standardized coefficient beta= .265) followed by internal efficacy (.157) and external efficacy (.083). The effect of age as compared to the effects of the intervening variables is the strongest (standardized coefficient beta= .351). We can say, the higher the internal and external efficacy, the higher offline communication and the higher the local attachment the higher offline communication.

Online Communication

A hierarchical analysis with the depended variable online communication has been conducted in order to describe the last part of the overall model (Table 6). The first step model with the independent variables age and education explains 1.6 percent of the variance in the dependent variable (R-Squared=.016). The second step model explains 9.7 percent of the variance and thus explains approximately eight percent more than the first one. Both models are statistically significant.

We begin by looking at the unstandardized coefficients in the first step of the regression. We can see that a ten year increase in age cause a decline of one percent in the online communication index (unstandardized coefficient b= -.001). Thus the older a person gets the lower is their communication activity in social media. One unit increase in education increases the online index by .024. Both findings are statistically significant.

Table 6: Hierarchical for Online Communication as a Dependent Variable

	Step 1			Step 2		
	Unstandardized Coefficient B	Standardized Coefficient Beta	Sig.	Unstandardized Coefficient B	Standardized Coefficient Beta	Sig.
Age	-.001	-.079	.000	-.001	-.102	.000
Education	.024	.147	.000	.002	.021	.385
Local Attachment				.075	.120	.000
External Efficacy				.002	.003	.893
Internal Efficacy				.125	.252	.000

a. Step 1: Adjusted R Square .016; F: 15.479 (N=1814)
b. Step 2: Adjusted R Square .097; F: 40.112 (N=1814)

We now look at the standardized coefficients in order to make comparisons within and between the model. The relative effects of age and education differ not only in the way that there is a negative effect for age and a positive effect for education, but also in the magnitude of the effects. The effect of age is relatively weaker than the effect of education in the first step. If we now look at the second step model, we can see that the effect of age is stronger than in the first step. It can also be seen that the effect of age is again not really effected by the introduction of the intervening variables and that there is even a slight increase in the effect (from -.079 to -.102). The effect of education disappears, with the introduction of the intervening variables. This may be the result of the fact that education effects the use of online communication tools only indirectly. The results depicted in table 6 suggest that the effect runs via internal efficacy, as external efficacy is not related to online communication and education is not related

to local attachments (see table 2). Hence the only remaining variables via which education can have an indirect effect is internal efficacy. The strongest effect on online communication has internal efficacy (standardized coefficient beta= .252) it is followed by local attachment (standardized coefficient beta= .120). The negative effect of age is in compression to the other variables relatively weak (standardized coefficient beta= -,102). We can thus say, the higher the internal efficacy, the higher online communication and the higher the local attachment the higher online communication.

In the subsequent section, the first results from the analysis will be summarized and the results from the last two analyses will be compared. The higher political internal efficacy, the higher is the political communication offline and online. It can be said that the effect of internal efficacy is stronger on online participation than on offline participation. It further became obvious that the effect of local attachment is much weaker for online communication than for offline communication.

The sixth hypothesis reads: The higher political external efficacy the higher is political communication offline and online. It can be said that external efficacy has a statistical significant effect on offline participation, but not on online participation. The effect of external efficacy is also weaker than the effect of internal efficacy. We have to reject parts of the sixth hypothesis.

The last hypothesis is: *The younger a person the more local political communication is taking place online than offline.* The coefficient for the effect of age on online participation is negative and the the effect of age on online participation is positive. Thus, we can say that there is a tendency for older people to participate offline and a tendency for younger people to participate online.

If we compare the result from the analysis with online communication as a dependent variable to the once from the analysis with offline communication as a dependent variable, we can see that the effect of age on the two depended variables is very different. As expected based on the theory is there an age-related difference in the use of offline and online channels of communication. We controlled for the effect of education, but on offline participation there was no statistical significant effect of education, but there was such a statistical significant weak effect for offline communication. We found a direct relationship between age and education.

Figure 3: Final Model Offline Communication

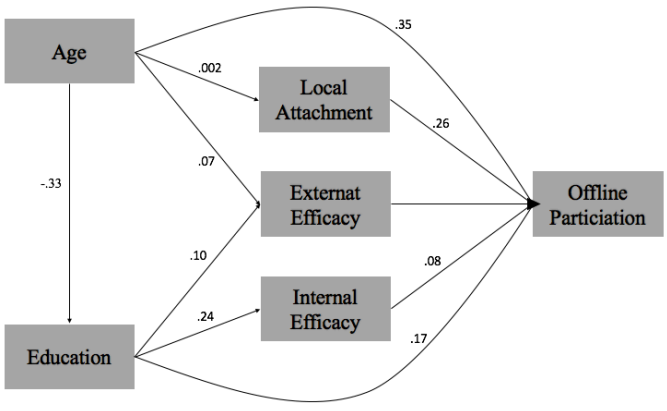
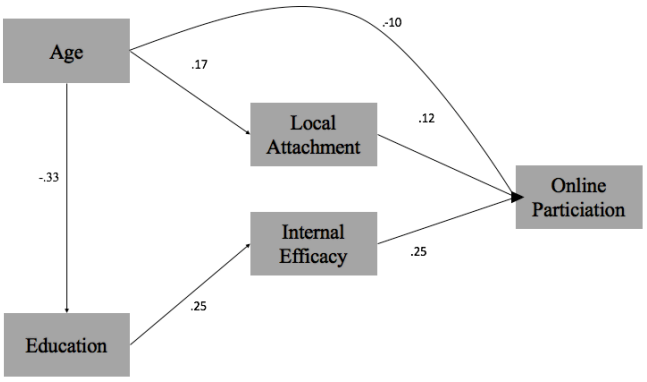


Figure 4: Final Model Online Communication



The figures three and four summarize the findings from our research. On the basis of the analysis we can answer the overall the sub questions and the overall research question

We were able to find our that age has a direct effect on whether people communicate online and offline which answers our first sub question (SQ1: Does age have an effect on whether people use offline or online tools for communication?). We could see that age has a direct effect, but also an indirect effect via local attachment. As older people feel more attached to the municipality and neighborhood, and this attachment has a strong effect on offline communication, it can be assumed that younger people participate less offline because they do not feel attached to their community (SQ2: Do young people as compared to older people feel less attached to local politics and thus participate less in online and offline channels in local politics?). We could further see that older people feel more external efficacy and that external efficacy has a positive effect on offline communication. For online communication there is not such an effect. There is an effect of the control variable education on internal efficacy and throw this effects on online and offline communication. Thus we can say that external efficacy is effected by age but is only important when looking at offline participation and that internal efficacy effect online communication but is not effected by age (SQ 3: Do young people as compared to older people feel less political efficacious and thus communicate less in online and offline channels about local politics?). In the following sections we discuss the implications of our findings and interpret them.

7. CONCLUSION

With the data at hand we can now come back to the heart of our initial research interest: Are there age-related differences in the use of online and offline channels for political communication on the local level and which factors explain any such differences in the use of these channels. The subsequent section will thus present the main implications of this research. The section will consist of two parts. The first part will cover the theoretical implication, while the second part will discuss practical implications.

Theoretical Conclusion

At the beginning of the research intervening variables have been developed (local attachment, internal efficacy and external efficacy). We were able to account for some of the theoretically developed relationships between age and those three variables. The assumptions in regard to local attachment, which is mainly based on Strate, Parrish, Elder and Ford (1989), had to be rejected. Thus older people tend to be more closely attached to their neighborhood and municipality. For further research it could be interesting to also include the size of the municipality for an eventual impact on the other variables. It can be assumed that the sense of local attachment is higher in a smaller community.

Based on Lanes distinction (1959) internal and external efficacy have been developed as two concepts of political efficacy. The same positive effect of age on the two forms of political efficacy cannot be found on the basis of the analysis at hand. There is an effect of age on external efficacy, which was theoretically expected, but not on internal efficacy. This could be the case, because external efficacy is something that increases overtime with experience, whereas internal efficacy might be something that is age-related but takes place in the earlier years of the political socialization. Hence, internal efficacy might not change anymore during the later stage of the adulthood. Thus, the effect of age on internal efficacy could not be depicted on the basis of this study, as the panel only includes people older than 18. For further research it could be interesting to include also younger people (below the age of 18) to include the effect of earlier socialization.

The age-related variables were developed in order to find out whether age has a direct effect on the use of the channels for online or offline communication or whether the effect is indirect via the developed variables. For further research it could be interesting to extend the number of age-related variables to reduce the threat on internal validity even further. Yet, the results from the analysis showed that there is a constant direct effect of age on offline and online communication and an additional indirect effect. As expected from theory, this effect has a positive impact on offline communication, as older people are more attached to traditional forms of participation and a negative impact on online communication. The second part of the analysis focused on offline and online communication as the dependent variables. The dearth of previous research in the field of local level political communication, especially online communication, has also been a disadvantage as this has forced us to apply traditional argumentations

which have proven to hold for offline political talk to the online sphere. As we can see from the results, this has only created a few statistically significant outcomes and the explanatory power of the online part of the model only accounts for about nine percent and is thus rather weak. This leads to an important theoretical finding: theories that account for offline communication are not necessarily completely applicable to the online communication sphere.

According to our findings, and in line with the theoretical expectation has age a negative effect on online communication. This might also be influenced by the fact that social media websites such as Facebook, Twitter and Instagram are more frequently used among the youth. The results might thus be effected by the way we operationalized online communication. Even though the use of the Internet is equally high for all people in the Netherlands it might be the case that the younger people are more familiar with social media websites than the older people. We only focused on the use of particular social media websites and thus is possible that older people use the Internet for political communication but use different ICT-based platforms. For further research it could also be worthwhile considering to include other forms of online political communication, such as web forums for discussions, online petition signing and email contact with politicians.

Theoretically interesting is that local attachment has a stronger effect on the use of offline communication than on the use of online communication. Even though local level political communication has been studied, the offline communication about local level issues is higher when the local attachment is stronger. Hence, people communicate about local level political issues online, even if their attachment to their community is not as high.

Thus, we can asses that there are age-related differences in the use of online and offline channels for political communication on the local level and that local attachment and internal efficacy (and for offline communication also external efficacy) explain any such differences in the use of these channels.

Practical implications

Our findings show that older people communicate more offline than the younger people who use social media and online features for their political communication more frequently. The question remains what can be done in order to increase overall political communication and thereby political participation and civic engagement. On the basis of our findings we will try to provide some potential solution approaches. Based on the findings, the effects of age influence offline participation the most. Thus, lowering the barriers for political communication for the younger generation could potentially help attaching the youth to the political offline sphere. Possible ways to integrate the youth are presented by Kersting (2016a) for example by introducing youth parliaments, where young people can debate political issues. Further, there should be a focus on integrating the potential of the Internet to reach people for offline political communication. Kersting (2016b) has shown in an international comparison that online participation can be the starting point for offline participation. The Internet can help mobilizing the youth online towards offline participation. In addition to that it is important to institutionalize the debates

that are taking place online. By increasing the variety of information that is being spread on the Internet the self affirmation effect of the Internet is being reduced and the quality of the discourse online potentially increases. This is just a starting point, for further research. It could be interesting to study the effect of online communication on offline participation and communication.

As traditional forms of political participation do not attract the younger generations anymore it is more important than ever to use the full potential of the Internet to reattach people to democratic and political processes.

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Appendix

Appendix A

Table A: Classification of survey items (own translation)

Age	**Offline Participation**	**Online Participation**
gebjaar	v10_1: Contact with municipal councilor, councilor, mayor or official	v30new: How often do you focus on searching for local news on the Internet, for example about problems in your municipality?
	v10_5: Active in a local action group	v31new: Are you following politicians from your community on social media like Facebook, Twitter, or Instagram
	v10_6: Took part in a citizens' initiative in order to address personal problems	
	v29new: If there is local news in the newspaper, for example, news about problems in your municipality, how often do you read?	
	v32new: If you talk about news from your municipality, do you usually join the conversation, listen with interest, do not listen	

Appendix B

Table B: Classification of survey items (own translation)

Local Attachment	**External efficacy**	**Internal efficacy**	**Education**
14_1new: Connection to neighborhood	v13_v1new: How effective is it to contact a city councilor, an alderman, mayor or official.	v24v11new: I am able to play an active role in local politics.	Oplzon: Highest education irrespective of completion of training
v14_2new: Connection to municipality	v13_v2new: How effective is it to attend public hearings at the municipality		
v14_3new: Connection to region	v13_v3new: How effective is it to sign a petition on a local issue (on paper or via the Internet)		
	v13_v4new :How effective is it to start a local action group		

Appendix C

Factor analysis Offline Communication

A factor analysis has also been conducted for offline communication. The results depict to possible components. We decided to create on the extracted items that add to the first component with the higher loading. Thus, the items: 'If there is local news in the newspaper, for example, news about problems in your municipality, how often do you read?' and 'If you talk about news from your municipality, do you usually join the conversation, listen with interest, do not listen' will be considerer for the index creation and the other items that have potentially to do with offline communication, will be disregarded for the purpose of this study

Table C1: Rotated Component Matrix Offline Communication

Rotated Component Matrix[a]

	Component	
	1	2
Contact with municipal councilor, councilor, mayor or official	,189	,631
Active in a local action group	-,057	,586
Took part in a citizens' initiative in order to address personal problems	,080	,729
If there is local news in the newspaper, for example, news about problems in your municipality, how often do you read?	,815	,056
If you talk about news from your municipality, do you usually join the conversation, listen with interest, do not listen	,821	,083

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Table C2: Reliability Test Offline communication

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,536	,537	2

Table C3: Item Overview

	Item Statistics		
	Mean	Std. Deviation	N
If there is local news in the newspaper, for example, news about problems in your municipality, how often do you read?	,6421	,28481	1814
If you talk about news from your municipality, do you usually join the conversation, listen with interest, do not listen	,7590	,26601	1814

Appendix D

Factor analysis Online Communication

The following tables depicts the factor analysis we conducted in order to identify which variables can be grouped in one index (Diaz-Bone, 263). We conducted such a analysis not only for online communication, but also for offline communication, local attachment and political efficacy. If we look at the rotated component matrix, we can see the results from the principal component analysis.

From the table we can see that only one component has been extracted. From the loadings we can see that all items ad in a meaningful way to the component. For this analysis we follow the rule that all loadings above .3 add in a meaningful way to the component. Thus, based on the principal component analysis it has been decided to include all items that are listed below in order to create the online communication index.

Table D1: Rotated Component Matrix Online Communication

Component Matrix[a]	
	Component 1
Commented on political issues in the local municipality on social media (Facebook, Twitter, Instagram)	,726
Shared information on political issues in the local municipality via social media (Facebook, Twitter, Instagram)	,785
Are you following politicians from your community on social media like Facebook, Twitter, or Instagram	,663
How often do you focus on searching for local news on the Internet, for example about problems in your municipality?	,363

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Table D2: Reliability Test Online Communication

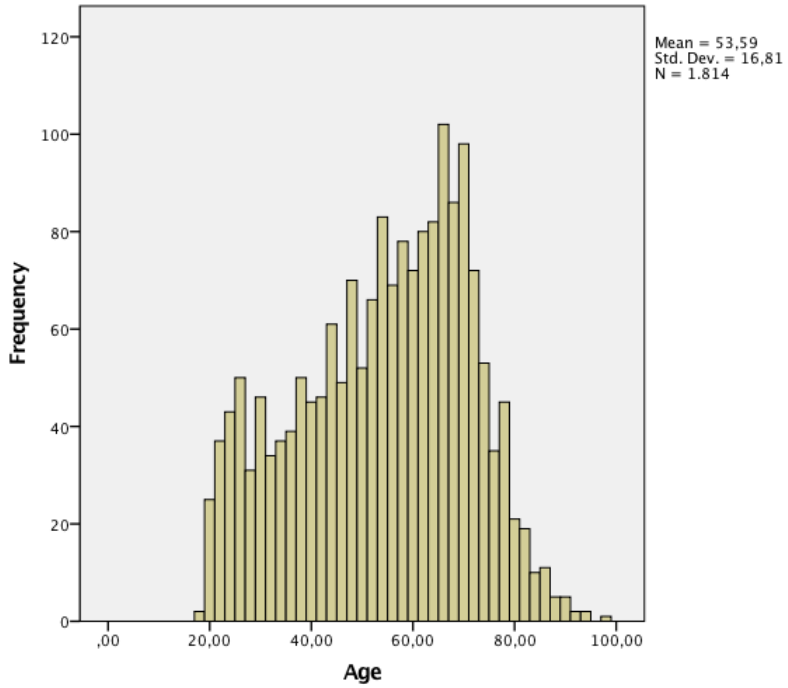
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,498	,534	4

Table D3: Item Overview

	Item Statistics		
	Mean	Std. Deviation	N
Commented on political issues in the local municipality on social media (Facebook, Twitter, Instagram)	,0320	,17598	1814
Shared information on political issues in the local municipality via social media (Facebook, Twitter, Instagram)	,0325	,17744	1814
Are you following politicians from your community on social media like Facebook, Twitter, or Instagram	,0606	,23873	1814
How often do you focus on searching for local news on the Internet, for example about problems in your municipality?	,3873	,25975	1814

Appendix E

Figure E: Histogram for Age



Appendix F

Factor analysis Local Attachment

If we look at the rotated component matrix of the principal component analyisis, we can see the results from the principal component analysis. From the table we can see that only one component has been extracted. From the loadings we can see that all items ad in a meaningful way to the component, thus an index has been created on the basis of those items.

Table F: Factor Anlyisis

Component Matrix[a]

	Component
	1
Connection to neighborhood	,811
Connection to municipality	,864
Connection to region	,798

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Appendix G

Factor analysis Internal and External efficacy

For the factor analysis for political efficacy we included all items that have to do with political efficacy. Two components have been extracted. As there are high loadings for each of the components we decided to make two new variables. The index, which we refer to as external efficacy will be created on the basis of the first four items that are listed in the principal component analysis. All items have a meaningful loading. The second item that will be considered separately is 'I am able to play an active role in politics' this has been extracted for the second component. We will include this item as a single variable as internal efficacy.

Table G: Factor Analysis

	Component	
	1	2
How effective is it to contact a city councilor, an alderman, mayor or official	,714	,138
How effective is it to attend public hearings at the municipality	,796	-,005
How effective is it to sign a petition on a local issue (on paper or via the Internet)	,763	-,104
How effective is it to start a local action group	,692	,133
I am able to play an active role in politics	,050	,987

Notes Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization

a. Rotation converged in 3 iterations.

Appendix H

Linear Regression Assumptions

All linear regression assumptions need to be meet in order to receive trustworthy results from that part of the analysis (Gemenis, 2016). We will check the assumptions in the following order:

1. Linear Relationship between all variables involved in the model
2. Independence of errors
3. Constant Error Variance
4. Normally distribution of errors

H1: Linear relationship between dependent and independent

The first assumption is that there is a linear relationship between the independent and the depended variable. In this case this means that there has to be a linear relationship between age and internal, external efficacy, local attachment, online and offline communication. As well as between those internal and external efficacy, local attachment, education and the dependent variable online and offline communication. An ideal relationship could normally be depicted in a scatterplot and it would create a straight line that goes from the left hand corner to to the upper right hand corner. Only a linear relation would present such an output. Linear regression can only meaningfully estimate such a relation if the relationship is linear in nature (Dolley, 2001).

Scatterplots for all combinations possible were created. Only weak linear relationships or no linearity could be found between the independent and the dependent variables studied in this research. One reasons for this could be that there are influential cases. When looking at the graphs it is not possible to identify influential cases. As the number of cases included in the study is high (N=1814) it is unlikely that one case can effect the output substantially. This means that the estimate of our coefficient B will be misleading and have to be interpreted with caution. In order to control for the robustness, we also conducted a logistic regression. The results and implications will be presented later on in the appendix.

H2: Independence of errors

The second assumption refers to the independence of errors. If the errors are dependent on each other this suggests that the results of our linear regression analysis correlate with each other. This would mean that the calculated estimates are not valid (Gemenis, 2016). The independence of errors can be assessed by looking at a scatterplot that includes the standardized predicted value of a variable on the x-axis and the standardized residual on the y-axis (Gemeinis, 2016). If the errors spread randomly across the scatterplot there is independence of errors. All important scatterplots have been assessed and we found that for all scatterplots the errors concentrate and do not spread out randomly. Therefore, it has to be

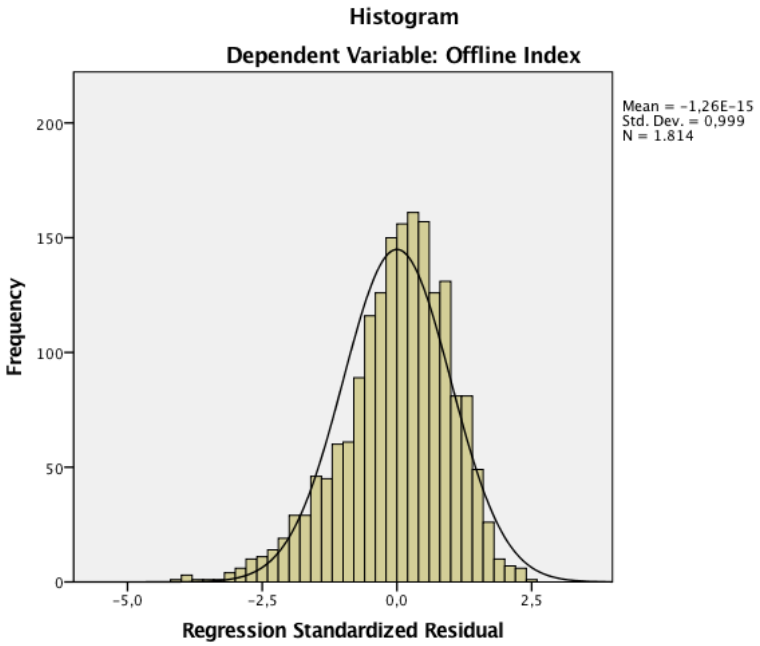
concluded that the independence of errors is not met. Thus, we have to take this shortcoming into consideration when interpreting the results of the analysis.

H3: Constant Error Variance

Constant error variance is also referred to as 'homoscedasticity', which means that the variance of the errors should not change across the values of x. The opposite of homoscedasticity is hetroscedasticity and if this occurs it will bias the standard error of b and will make it inefficient (Gemenis, 2016). This assumption can be tested by looking at the standardized residuals and standardized predicted values in order to see if the residuals spread around the line (Gemenis, 2016). If this is the case do not we face the problem of hetroscredascity and we detected a constant error variance. We looked at all the scatterplots and were able to see that the constant error variance was not met in any of the cases. Thus, we have to take this into consideration when interpreting the standard error of be.

H4: Normality of distribution errors

The last assumption is the normally distribution of errors, which we will visually investigate by looking at a histogram of the residuals (Gemenis, 2016). A perfect distribution would be a bell shape that is equally around zero. We looked at the residual histograms for all dependent variables. From the histogram below we can see that they all create a bell curve around 0. Thus, it can be assumed that the errors are normally distributed and the last square assumptions of our model are effective. The histogram of offline communication is depicted as an example of an equal distribution.



Appendix I

Logistic Regression Analysis

We recoded online and offline communication into a dummy variable in order to conduct a logistic regression analysis as a test of robustness for or liner regression results (ReStore,2017). As not all linear regression assumptions were meat this presents a chance to control for the robustness of our linear model. From the logistic regression analysis, we can see that the substantive results are the same as the once from the linear regression. This is true for both online and offline communication. External efficacy for example does not have a statistically significant effect on online communication in both the linear and the logistic regression. Age has a negative effect on online communication in both linear and logistic regression. The goodness of fit suggests that moth models are a good fit for our data as the the p value is above 0.5 (ReStore,2017).

Table I1: Logistic Regression for Online Communication

Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Local Attachment Index	1,810	,832	4,733	1	,030	6,108
	External Efficacy	,881	,780	1,276	1	,259	2,413
	Internal Efficacy	3,988	,675	34,930	1	,000	53,962
	Age	-,034	,010	10,705	1	,001	,966
	Education	-,009	,126	,006	1	,941	,991
	Constant	-6,001	1,052	32,561	1	,000	,002

Table I2: Hosmer and Lemeshow Test Online Communicaiton

Hosmer and Lemeshow Test			
Step	Chi-square	df	Sig.
1	5,815	8	,668

Table I3: Logistic Regression for Offline Communication

Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Local Attachment Index	3,004	,306	96,449	1	,000	20,156
	External Efficacy	1,151	,280	16,866	1	,000	3,162
	Internal Efficacy	1,091	,237	21,236	1	,000	2,977
	Age	,044	,004	114,728	1	,000	1,045
	Education	,205	,049	17,291	1	,000	1,227
	Constant	-4,753	,406	137,197	1	,000	,009

Table I4: *Hosmer and Lemeshow Test Offline Communicaiton*

Hosmer and Lemeshow Test			
Step	Chi-square	df	Sig.
1	3,552	8	,895

Appendix J

Multicollinarity-Test

Tables blow include the variance-inflation-factors for our multiple regression analysis. There is no multicollinearity as all variance-inflation-factors are close to 1. The collinearity statistics are the same with the dependent variable online and offline participation as the independent variables included stay the same thus I will only depict one of the two tables. Same is true for internal, external efficacy and local attachment.

Table J1: Offline Communication

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	,098	,028		3,455	,001		
	Age	,005	,000	,351	16,235	,000	,864	1,158
	Education	,017	,004	,107	4,842	,000	,830	1,204
	Local Attachment Index	,278	,023	,265	12,324	,000	,875	1,143
	External Efficacy	,083	,021	,083	3,924	,000	,910	1,099
	Internal Efficacy	,130	,017	,157	7,500	,000	,919	1,088

a. Dependent Variable: Offline Index

Table J2: Internal Efficacy

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	,222	,034		6,522	,000		
	Age	,000	,000	,009	,377	,706	,888	1,126
	Education	,048	,005	,244	10,070	,000	,888	1,126

a. Dependent Variable: Internal Efficacy

Table J3: Correlation (N=1814)

		age in years	Online Index	Offline Index	External Efficacy	Local Attachment Index	Internal Efficacy	Education
Age	Pearson Correlation	1	-,105**	,355**	,036	,182**	-,072**	-,334**
	Sig. (2-tailed)		,000	,000	,125	,000	,002	,000
Online Index	Pearson Correlation		1	,214**	,060*	,132**	,280**	,106**
	Sig. (2-tailed)			,000	,011	,000	,000	,000
Offline Index	Pearson Correlation			1	,194**	,363**	,199**	,012
	Sig. (2-tailed)				,000	,000	,000	,614
External Efficacy	Pearson Correlation				1	,278**	,101**	,081**
	Sig. (2-tailed)						,000	,001
Local Attachment Index	Pearson Correlation					1	,126**	-,083**
	Sig. (2-tailed)						,000	,000
Internal Efficacy	Pearson Correlation						1	,241**
	Sig. (2-tailed)							,000

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

*. Correlation is significant at the 0.05 level (2-tailed).

Appendix K

Frequencies

Table K1 : Local Attachment Index

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	,00	90	3,4	3,5	3,5
	,11	31	1,2	1,2	4,8
	,22	28	1,1	1,1	5,9
	,23	46	1,7	1,8	7,7
	,33	7	,3	,3	8,0
	,34	42	1,6	1,7	9,6
	,34	262	9,9	10,3	19,9
	,45	40	1,5	1,6	21,5
	,45	325	12,3	12,8	34,3
	,56	14	,5	,6	34,9
	,56	364	13,8	14,3	49,2
	,67	2	,1	,1	49,3
	,67	88	3,3	3,5	52,8
	,67	586	22,2	23,1	75,9
	,78	311	11,8	12,3	88,1
	,89	179	6,8	7,1	95,2
	1,00	122	4,6	4,8	100,0
	Total	2537	96,0	100,0	
Missing	System	106	4,0		
Total		2643	100,0		

Table K2: External Efficacy

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	,00	56	2,1	2,7	2,7
	,13	33	1,2	1,6	4,3
	,25	65	2,5	3,2	7,5
	,38	140	5,3	6,8	14,3
	,50	543	20,5	26,4	40,6
	,63	298	11,3	14,5	55,1
	,75	435	16,5	21,1	76,2
	,88	291	11,0	14,1	90,3
	1,00	199	7,5	9,7	100,0
	Total	2060	77,9	100,0	
Missing	System	583	22,1		
Total		2643	100,0		

Table K3: Internal Efficacy

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not at all	373	14,1	16,6	16,6
	no	677	25,6	30,2	46,9
	medium	674	25,5	30,1	76,9
	yes	412	15,6	18,4	95,3
	very much	105	4,0	4,7	100,0
	Total	2241	84,8	100,0	
Missing	System	402	15,2		
Total		2643	100,0		

Table K4: Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1,00	79	3,0	3,0	3,0
	2,00	533	20,2	20,4	23,4
	3,00	189	7,2	7,2	30,7
	4,00	616	23,3	23,6	54,3
	5,00	756	28,6	29,0	83,3
	6,00	437	16,5	16,7	100,0
	Total	2610	98,8	100,0	
Missing	System	33	1,2		
Total		2643	100,0		