MASTER THESIS

Bringing Civility Back to Internet-Based Political Discourse on Twitter

Research into the Determinants of Uncivil Behavior During Online Political Discussions on Twitter

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ABSTRACT

With the rising number of controversial discussions about politics on the Internet, the amount of uncivil behavior on the Internet also grows. As the body of researches in this field is limited, this study aims to extend the body of researches by providing insights into potential determinants of uncivil behavior on the microblog Twitter. With the growing number of Twitter users, the possibility to comment and discuss Twitter contents and the opportunity to act without social presence of others, the temptation of performing uncivil behaviors during online political discussions also grows. This uncivil behavior is acted out in different forms for instance by name-calling, aspersion, using synonyms for lie/lying, vulgarity, hyperbole, non-cooperation, pejorative (for) speech, writing in all capital letters, provocative punctuation and provocation in general. In order to uncover potential determinants of the previously mentioned incivilities, a research with a 2x2x2 factorial design with the potential determinants of anonymity, impulsivity and peer pressure is conducted. The results of the research are diverse. Firstly, the research reveals that 43.12% of the respondents' reactions contained at least one incivility. Secondly, the results indicate that provocation is the incivility that was used the most, followed by the use of vulgarity and non-cooperation. Finally, the main findings indicate that the general occurrence of incivilities is significantly predicted by peer pressure and the interaction between impulsivity and peer pressure, while name-calling is significantly predicted by peer pressure and the interaction between anonymity and impulsivity. Furthermore, it is found that impulsivity is a significant predictor for the use of synonyms for lying. Additionally, it is uncovered that the interaction between impulsivity and peer pressure predicts vulgarity and the interaction between anonymity and impulsivity predicts the use of hyperbole significantly.

Keywords: Uncivil Behavior During Internet-Based Political Discourse on Twitter, Incivilities, Anonymity, Impulsivity, Peer Pressure

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1. INTRODUCTION

Due to the diversity of information that is spread online, social media are important tools for political discourse. Twitter, which was launched in October 2006, is one of the numerous social media that is used for political discourse. Compared to other social media like Facebook and blogs, Twitter is characterized as a microblog (Java, Song, Fini & Tseng, 2007). In comparison to common blogs, the microblog Twitter offers the possibility for fast communication as it limits the message length to 140 characters. The little amount of time and forethought that is needed to publish a message, called *tweet*, encourages Twitter users to compose several status updates a day and not only once or twice a week. Previous research shows that microblogging is mostly used to report daily activities, to inform oneself about current topics and to seek and share important information (Sakaki, Okazaki & Matsuo, 2010).

Some researchers highlight the importance of social networking sites like Twitter for diverse political discourse, while others criticize the way social networking sites are used for political discourse. Papacharissi (20014, p.259) for example claims that social networking sites "pave the road for a democratic utopia". He supports his thesis by the fact that the Internet has no borders and thus offers the opportunity to bring people across borders closer together. Opponents of the growth of the Internet argue that the anonymity of the Internet facilitates being rude and encourages expressing so-called *hasty opinions* rather than elaborated and rational discourse. These two opposing argumentations indicate that the topic of political discourse and the linked behavior of social media users is currently heavily discussed.

Currently, a massive change of societal discourse on the Internet and social media is noticeable. The culture of debate on the Internet is increasingly aggressive, hurting and filled with hatred (Abramson, Orren & Arterton, 1990; Papacharissi, 2004; Rzepka, 2017). This induced the Federal President of the Federal Republic of Germany Frank-Walter Steinmeier to complain in a public speech about the massive increase of uncivil and disrespectful behavior on the Internet (Rzepka, 2017). The result of such uncivil behavior makes respectful Internet-based communication impossible. To fight uncivil behavior and hate crime on the Internet, the German Federal Minister of Justice Heiko Maas introduced in 2017 the so-called *Netzwerkdurchsetzungsgesetz* (engl.: Law of Network Implementation), which aims at improving the culture of debate by removing indictable contents from social media (Bundesministerium für Justiz und Verbraucherschutz, 2017; Beuth, 2017).

In 2015, Heiko Maas started a Task Force with amongst other contact persons of different social media in order to solve the problem of hate crime on social media by means of an agreement (Bundesministerium für Justiz und Verbraucherschutz, 2017). This agreement

contained that the social media have the duty to remove uncivil and hate-containing comments within 24 hours after being posted. After observing and monitoring this actions, research revealed that some social media disregarded this agreement, which forced the German Federal Minister of Justice to implement the contentious *Netzwerkdurchsetzungsgesetz*. The *Netzwerkdurchsetzungsgesetz* is a legal reporting commitment for social media about the handling of hate crime, an effective complaint management and the nomination of a contact person in Germany. If social media platforms violate this law, they are punished by horrendous administrative fines. The *Netzwerkdurchsetzungsgesetz* is frequently criticized by amongst others media, journalists and private persons. They criticize that the law is an impairment of the freedom of opinion as people fear to be punished online for their stated opinion (Krempl, 2017). Furthermore, they criticize that the potential anonymity of social media users is violated, because user-related data of offenders are saved and documented for an undefined time.

According to scholars, the users' anonymity is partly responsible for the increasing amount of uncivil behavior online (Papacharissi, 2004; Kushin & Kitchener, 2009; Coe, Kenski & Rains, 2014). Furthermore, numerous scholars claim that the fast-paced nature of online communication and peer pressure contribute to the occurrence of hate crime on social media (Dickman, 1990; Ott, 2017; Brundidge, 2006, Kushin & Kitchener, 2009). It is chosen to focus on the effects of anonymity, impulsivity and peer pressure for several reasons. Social media facilitate to act anonymously online by tolerating that users sign up to the platform with anonymous nick-names. Previous research shows that this anonymity leads users to act uncivil during online political discourse, because they do not feel vulnerable and responsible for their actions. Impulsivity is an important factor as discussions on social media become increasingly fast-paced. Twitter encourages its users to act impulsively by only allowing to compose contents with a maximum pf 140 characters. Research reveals that impulsivity tempts social media users to not elaborate on created content and do not consider potential consequences. As these reactions are purely conceived, they tend to contain more incivilities.

Inspired by previous researches and the current debate about uncivil behavior on the Internet, this study seeks to research the previously mentioned potential determinants of uncivil behavior. The research aim is to find whether anonymity, impulsivity and peer pressure predict amongst others the general use of uncivil behavior, name-calling, aspersion, using synonyms for lying, vulgarity, hyperbole, non-cooperation, pejorative for speech, writing in all capital letters, provocative punctuation and provocation.

2. THEORETICAL FRAMEWORK

This research aims to answer the following research question ***"RQ:** Which determinants encourage (a) uncivil behavior in general, (b) name-calling, (c) aspersion, (d) synonyms for lying, (e) vulgarity, (f) pejorative (for) speech, (g) hyperbole, (h) non-cooperation, (i) all capital letters, (j) provocative punctuation, and (k) provocation on Twitter during online political discourse?"***. Therefore, the dependent and independent variables are described in detail.

2.1 Uncivil Behaviors on the Internet

According to Papacharissi (2004), civility is considered as a requirement for democratic discussions, as it is characterized as universal politeness and courtesy in a democracy. The lack of such civility in political discourse has derogatory implications for a democratic society. Especially in political online discourse, the interactive nature of the Internet creates numerous opportunities for debate. The rapid acceleration of the number of debates and the rapid pace of information exchange have caused a rise of incivility (Coe et al., 2014). Uncivil behavior occurs in different forms and is therefore difficult to define. Scholars generally make a distinction between politeness and general civility (Papacharissi, 2004; Coe et al., 2014). Politeness concerns individual manners in order to enable respectful exchange of ideas. The term civility describes norms that aim to support the collective good. Jamieson (1997, p.1) defines civility as "the norm of reciprocal courtesy and that the differences between members and parties are philosophical, not personal, that parties to a debate are entitled to presumption that their views are legitimate even if not correct, and that those on all sides are persons of goodwill and integrity motivated by conviction".

In recent years, scholars and also politicians have recognized a crisis of civil behavior and an increase in incivility, which are "features of discussion that convey an unnecessarily disrespectful tone toward the discussion forum, its participants, or topics" (Coe et al., p.660). Uncivil behavior thus consists of a lack of mutual respect of the conversational partners and the uncivil statements do not contribute to the current discussion (Papacharissi, 2004; Brooks & Geer, 2007). In addition, scholars identified different forms of incivility, including name-calling, aspersion, synonyms for lie/lying, vulgarity, hyperbole, non-cooperation and pejorative for speech (Jamieson, 1997; Papacharissi, 2004; Coe et al., 2014). Furthermore, the use of capitals and provocative punctuation as well as general provocation are forms of incivility occurring during online political discourse.

In their paper, Coe et al. (2014) define the different forms of incivilities clearly. These definitions serve as basis for the current paper and are therefore borrowed. The incivility of

name-calling is defined as the usage of mean or insulting words that are targeted to a single person or a group of people. By insulting the target person or target group of people, the offender aims at humiliating the target during a political campaign, a discussion or an argument (Coe et al., 2014). While name-calling targets at people, aspersion is an attack on plans, ideas, policies and behaviors of the conversational partner. By using derogatory and insulting remarks, the offenders frequently aim to harm the target's reputation (Coe et al., 2014). Accusing someone of lying is the third observed form of incivility. People who use synonyms for lying tend to claim that a plan, policy or idea is dishonest (Coe et al., 2014). The incivility of using vulgarity is defined as using improper and profane language in a professional or objective discourse, while pejorative (for) speech includes making disparaging judgments about a person, an idea or a person's way of communication (Coe et al., 2014). An additional form of incivility is the use of hyperbole during a discussion. When hyperbolizing, the offenders uses obvious and sometimes extreme exaggerations. By means of the exaggeration, the offenders often aim to trigger strong emotions in order to receive extreme feedback (Coe et al., 2014). Non-cooperation is the last form of incivility that is based on scientific literature. Non-cooperative Internet users ignore the conversational partner and context (Coe et al., 2014). The non-cooperative conversational partner is thus not responsive to the discourse, but makes for example an incoherent statement.

Writing in all capital letters, the use of provocative punctuation and general provocation complement the list of forms of incivilities. Writing in capitals has become over the years the code for yelling at others (Tschabitscher, 2017). A cardinal rule on the Internet is thus to not conclusively use all capital letters when writing e-mails, instant messages or when taking part in an Internet-based discourse. Writing in all capital letters is seen as a sign of poor etiquette and unprofessional behavior. This is caused by the fact that humans do not read letter-by-letter, but by word shapes (Strizver, n.d.). Word shapes, that are primarily created by the incidence of ascending and descending letters and the position of those, do not exist when writing in all capital letters. Therefore, words in all capital letters are more difficult to read and are conclusively perceived as impolite.

Furthermore, the use of provocation and provocative punctuation complement the list of forms of incivility. Provocations in general are actions and statements that are meant to incite and arouse negative emotions like anger. Provocative punctuation is for example question marks and exclamation points directly after each other (e.g. !?!?!?!). Another form of provocative punctuation is using numerous questions marks (e.g. ???) and exclamation points

(e.g. !!!) at the same time. These provocative punctuations are frequently used to emphasize a statements and aims at provoking a reaction of the conversational partners.

2.2 Anonymity

Existing literature shows that one culprit of uncivil behavior on the Internet during online political debate is anonymity (Papacharissi, 2004; Kushin & Kitchener, 2009; Coe, Kenski & Rains, 2014). Anonymity is defined as "the inability of others to identify an individual or for others to identify one's self" (Christopherson, 2007, p.3040). Previous researches found that anonymity has several negative effects in a conversational context. Being anonymous encourages aggressive and anti-social behavior (Zimbardo, 1969). These negative effects often happen through a process of deindividuation. Zimbardo (1969) and Christopherson (2007) claim that deindividuation is the process by which individuals begin to think that they are not accountable for their actions. This happens through a loss of self-awareness and a decrease in the amount of self-evaluation.

In accordance with the definition, technical and social anonymity have been identified (Hayne & Rice, 1997). Technical anonymity includes the complete absence of important information by which a person can be identified (Christopherson, 2007). The Internet and social media like Twitter enable technical anonymity by allowing its users to participate in discussions without being registered or by enabling the users to act online by using an incognito screen name (Suler, 2004). These two opportunities allow the users to be anonymous and unidentifiable during the occurring conversation. Because of the difficulty to uncover identities beyond an online profile, the offered opportunity to be anonymous on the Internet encourages people to perform rude and impolite behavior. According to Ott (2017), offenders experience it as easier to express something nasty when the conversational partner is unknown and not in physical presence. This is mainly because the offenders have the conviction that they are not responsible for their uncivil online behavior. Offenders consequentially ignore any offline morality or societal norms in the online environment (Davis, 1999; Christopherson, 2007).

In contrast, social anonymity is described as the fact that people perceive the self as anonymous in a social context, although they are present in a specific situation (Christopherson, 2007). The focus of the current research is on technical anonymity, which facilitates ignoring societal norms and averting responsibilities for own actions. Therefore, it is expected that anonymity on the Internet encourages showing anti-social behavior like incivility during online political discussion.

H1: *Individuals being anonymous on the Internet are more likely to perform/use (a) uncivil behavior during Internet-based political discourse, (b) name-calling, (c) aspersion, (d) synonyms for lying, (e) vulgarity, (f) pejorative (for) speech, (g) hyperbole, (h) non-cooperation, (i) all capital letters, (j) provocative punctuation, and (k) provocation, than people who are identifiable by their name.*

2.3 Impulsivity

The concept of impulsivity can be defined in numerous ways. An aspect that becomes apparent in all definitions is that impulsivity "covers a wide range of actions that are poorly conceived, prematurely expressed, unduly risky or inappropriate to the situation and that often results in undesirable outcomes." (Evenden, 1999, p. 348). Therefore, it is not possible to conclude that impulsivity is unitary in nature, but that it occurs in different forms. People not only react impulsively when suffering from a mental illness or other disorders, but also in stressful or spontaneous situations. Based on this assumption, it is possible to recognize that in Internet-based political discourse on Twitter, spontaneous reactions are common.

Dickman (1990) has found two forms of impulsivity, which are dysfunctional and functional impulsivity. Dysfunctional impulsivity is characterized by interacting spontaneously and with no or less forethought with one another. Dysfunctional impulsive actions are therefore characterized as thoughtless (Dickman, 1990). Ott (2017) argues in his paper that some activities on the Internet and especially social media require little effort. Due to the easiness of commenting contents on the Internet, the author of such Internet content has the tendency to not engage sufficiently in forethought and neither reflects nor considers the potential consequences of the reaction to online political content. Internet-based activities like tweeting and reacting to contents are therefore frequently highly impulsive actions. Because of the spontaneity, these unthought and impulsive actions can lead the individual into some difficulties such as misunderstandings and disputes. In contrast, functional impulsivity is defined as acting out impulsive behavior when the situation is appropriate (Evenden, 1999). As online behavior is frequently acted out without any forethought and without thinking about potential consequences, the aim is to find out the effect of dysfunctional impulsivity on uncivil behavior during Internet-based political discourse. Due to the fact that impulsive actions on the Internet are poorly conceived, it is expected that it contains uncivil behavior.

H2: *The more impulsive a reaction during Internet-based political discourse on Twitter is, the more likely it is that it contains (a) uncivil behavior, (b) name-calling, (c) aspersion, (d) synonyms for lying, (e) vulgarity, (f) pejorative (for) speech, (g) hyperbole, (h) non-cooperation, (i) all capital letters, (j) provocative punctuation, and (k) provocation.*

2.4 Peer Pressure

People taking part in online discussions often have the same beliefs about the political issues they are talking about. Davis (1999) showed in his study that people are more likely to join an online political discussion when the group fits with the own view or adapt their point of view to the situation. Therefore, he concluded in his work that the Internet is no place where people can express their opinion inherently free. Brundidge (2006) complements this finding by reporting that people seek out likeminded conversational partners in political discussions and avoid people with an opposed political view. People thus segregate themselves from discussions with which they generally disagree. This effect is intensified by the phenomenon of selective exposure by which individuals on the Internet are increasingly confronted with information that fits with their own beliefs (Kushin & Kitchener, 2009). The Internet activist Eli Pariser called this effect *filter bubble* (Pariser, 2011). In his book, Pariser claims that *filter bubbles* are the consequence of amongst other personalized searches, which search engines store. Based on these gathered personalized data, the algorithms decide to which type of information an Internet user is exposed to. Resulting from this process, Internet users are effectively isolated in their personalized ideological bubble (Pariser, 2011). Thereby, opposing view points are no longer confronted with each other and the discourse gets lost, which means that homogenous groups interact with each other and increasingly confirm their held point of view. This is seen as a quite dangerous process, as it affects firstly the way we think and secondly what we think. When people with different points of view are no longer confronted with each other, an important source of progress disappears (Pariser, 2011). If people are now exposed to contents, which do not fit their personal point of view, people tend to conform to the opinion of the majority, because of the present peer pressure.

Papacharissi (2004) broaches this topic shortly in his paper by claiming that when people possess good manners, they socially conform to the opinion of the majority of the group. This occurs by accepting the behavioral standards of the majority of the discussion group and results in the tendency of individuals to inhibit a free expression of their individual opinions.

This adjustment to predominant behavioral standards is rooted in the human nature as humans want to avoid social sanctions of peers. Such sanctions are expected to occur when people violate the dominant social norms. Such social norms are defined as personally held beliefs of individuals about appropriate behavior (Bendor & Swistak, 2001). Scholars make a clear distinction between injunctive and descriptive norms (Lapinsiki & Rimal, 2005; Mähönen, Jasinsjaka-Lathi, Liebkind & Finell, 2010).

Cialdini, Reno and Kallgren (1990) characterized injunctive norms as a person's perception about which behavior is approved or desired by peers in a specific situation. Contrary, the concept of descriptive norms involves typical patterns of behavior with the expectation that people will behave according to the pattern. Thus, descriptive norms provide mainly observation-based information about what is commonly done by others and injunctive norms indicate what ought to be done (Cialdini et al., 1990). To avoid sanctions, people tend to not violate these norms and adjust their behavior to them. Due to the emerging peer pressure, which is caused by the inherently negative nature of the different reactions to Internet contents, it is expected that people conform their opinion to the predominant opinion.

H3: *The more uncivil reactions an Internet-based political discourse has, the more (a) uncivil behavior, (b) name-calling, (c) aspersion, (d) synonyms for lying, (e) vulgarity, (f) pejorative (for) speech, (g) hyperbole, (h) non-cooperation, (i) all capital letters, (j) provocative punctuation, and (k) provocation it contains.*

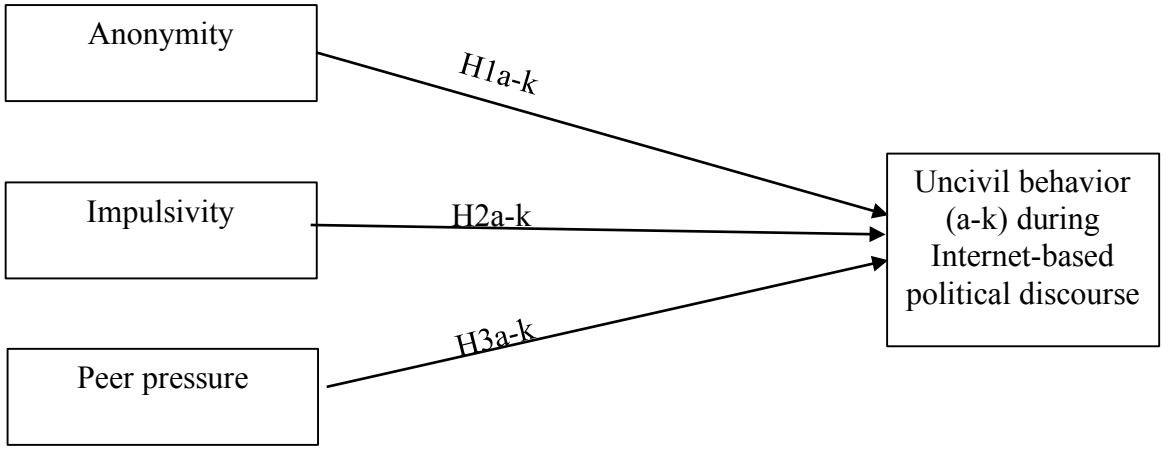

Fig. 1. Conceptual model with hypotheses.

3. METHOD

After describing potential predictors of incivilities during Internet-based political discourse on Twitter, the method of the conducted questionnaire is explained in detail.

3.1 Research Design

To test the conceptual model visualized in figure 1, the research design is chosen to be an Internet-based 2x2x2 experiment with the three independent variables of anonymity, impulsivity and peer pressure. This allowed to explore possible additive or multiplicative effects of different combinations of the potential predictors. To test the different effects, eight conditions were created (Table 1).

Table 1

Experimental conditions (2x2x2 factorial design) for the hypothetical occurrence of uncivil behavior.

Experimental Condition	Anonymity	Impulsivity	Peer Pressure
1	No	No	No
2	Yes	No	No
3	No	Yes	No
4	Yes	Yes	No
5	No	No	Yes
6	Yes	No	Yes
7	No	Yes	Yes
8	Yes	Yes	Yes

3.2 Research Procedure

As a first step of the research procedure, the previously mentioned conditions were created with *Qualtrics*, which offers the possibility to randomly assign the respondents to one of the eight conditions. To identify a political issue that is credible and potentially controversial on Twitter, a pre-test was constructed. Thereby, not conclusively the controversy of certain political issues was uncovered, but also the functioning of several manipulations were discovered.

During the main study, the respondents were firstly randomly assigned to one condition. Afterwards, they were requested to attentively participate in the study. After gathering the data of 218 respondents, the composed tweets of the respondents were coded (Appendix B). To ensure the validity of the coding system, the questionnaire was tested before spreading it online. Based on the results and suggestions of the pre-test, modifications were made. To avoid the risk of invalidity, the given open-ended answers in the main study were coded by two coders.

3.3 Pre-Test

A pre-test was conducted with the aim to firstly discover whether people think that Twitter is a medium to inform oneself about political issues and secondly find a topic, which respondents perceive as controversial. To find one controversial issue and test the manipulations, two separate pre-tests with three controversial issues and with the three chosen independent variables were conducted.

To find an appropriate topic, respondents were exposed to three manipulated news published by a fictive news account (Figure 2). The first manipulated content broached the issue that numerous politicians support car-free cities in Germany. The second fictive content addressed the fact that teenagers drink excessively much alcohol and that politicians want to reduce underage drinking of spirits by exclusively selling alcoholic beverages to adults. The last controversial issue that has been manipulated concerned a potential abolishment of the German regional elections.

Fig. 2. Manipulated contents.

Two separate pre-tests were constructed to test whether the manipulations of anonymity, impulsivity and peer pressure worked as intended. Therefore, anonymity was manipulated by requesting participants to give their real name in the non-anonymous condition or by making a screen name up in the anonymous condition. As the pre-test showed that some participants in the non-anonymous condition did not give their real name, this weakness was improved in the main study by requesting all participants to give their real name and thereby creating equality. Impulsivity was manipulated by limiting the time to answer for the respondents in the impulsive condition to 30 seconds. In contrast, respondents in the non-impulsive condition were allowed to answer after 50 seconds. Because the results revealed that 30 seconds is an insufficient amount of time to scan and react to the content, the time limit was increased to 40 seconds in

the main study. Furthermore, the time limit for respondents in the non-impulsive conditions was abolished for the main study. The last manipulation concerned the independent variable of peer pressure. Respondents in the condition without peer pressure were exposed to civil answers of fictive Twitter users, while respondents in the peer pressure-condition were exposed to uncivil and harsh reactions of other Twitter users. This manipulation worked as intended.

Next to the operation of the manipulations of the independent variables, the pre-test among a total number of 38 respondents showed that political issues concerning the democratic structure of the Federal Republic of Germany and potential threats to it, are seen by the respondents as most controversial and appalling. Therefore, this political issue is chosen to work with during the main study.

3.4 Measurement Instrument

The measurement instrument consisted of socio-demographic characteristics, questions to gain insights into the respondents' Twitter usage, a manipulated Twitter-content and questions about the participants' recognition of the different manipulations (Appendix A). The measurement instrument aims at measuring eleven independent variables, which are various incivilities occurring during online political discourse. These incivilities include name-calling, aspersion, using synonyms for lying, vulgarity, hyperbole, non-cooperation and pejorative for speech (Papacharissi, 2004; Coe et al., 2014). Further incivilities are the use of all capital letters, provocative punctuation, provocation and the general occurrence of incivilities during Internet-based political debate on Twitter.

The socio-demographic variables include the age, the gender and the highest achieved education. Due to the fact that anonymity is manipulated, the respondents had to give their real name. To gain insights into the respondents' Twitter usage and search behavior on Twitter, the respondents were amongst others asked if they own a Twitter-account. Additionally, they were asked about the frequency with which they use Twitter to search for political discussions with the possibility to answer on a 5-point Likert scale ranging from *Never* to *Always*. Afterwards, respondents were asked if they are familiar with writing and commenting tweets and using hashtags and tags. These statements were rated by the respondents on a 5-point Likert scale ranging from *I totally disagree (1)* to *I totally agree (5)*.

After retrieving socio-demographic and behavioral information of the respondents, they were exposed to one randomly assigned manipulation to which they had to react to in form of a tweet. To gain information about how the respondents perceived the manipulations, specific control questions related to the independent variables were constructed.

3.5 Manipulations

Based on the results of the pre-test the most controversial content is chosen (Figure 3a). As the results from the pre-test show the content about a potential abolishment of the German regional elections was rated as most controversial.

Fig. 3a. Manipulated Twitter-content.

To test the independent variables of anonymity, impulsivity and peer pressure, eight conditions were created (Table 1). Therefore, the provocative news-content and the associated comments, published by a fictive news-account and nonexistent Twitter-users, have been manipulated. To ensure the ecological validity of the study, the content is presented in a real-life manner. This means that the design of Twitter is adopted and the text and comments were invisibly manipulated. Thereby, the typeface and other design features were transferred to the manipulated content. The belief in the realness of the discussions, including the various opinions to which the respondents were exposed to, encouraged the respondents to react in an honest manner.

Participants, who were assigned to an anonymous condition, had to give their real name at the beginning of the questionnaire, but did not come across their name after stating it. In

contrast, the participants in the non-anonymous conditions saw their name in the request to compose an answer to the content to which they were exposed to (Figure 3b).

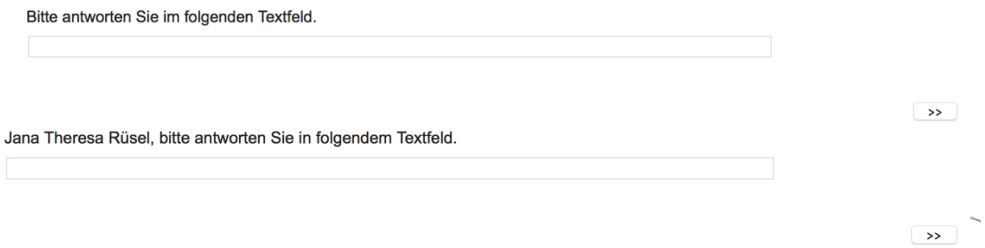

Fig. 3b. Anonymous versus non-anonymous conditions.

Impulsivity was simulated by limiting the respondents' time to scan the manipulated content and formulate an answer in the form of a tweet (Figure 3c). While respondents in the impulsive conditions had 40 seconds for scanning, understanding and composing an answer to the manipulated tweet and comments, participants in the non-impulsive conditions were not obligated to formulate an answer in a space of time. Another difference between the impulsive and non-impulsive condition is that participants in the impulsive conditions were confronted with a countdown on screen, while participants assigned to non-impulsive conditions were not exposed to a microchronometer.

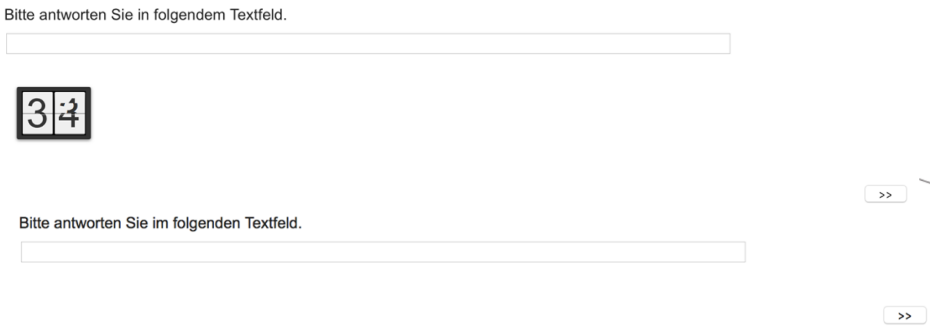

Fig. 3c. Impulsive versus non-impulsive conditions.

Finally, peer pressure was separated into conditions with and without peer pressure (Figure 3d). The respondents, who were assigned to conditions in which peer pressure was present, were exposed to exclusively uncivil and offensive reactions to the manipulated Twitter-content. This is done to simulate a majority opinion resulting in peer pressure. In contrast, respondents in the conditions without peer pressure were exposed to civil reactions to and a constructive discussion about the manipulated content.

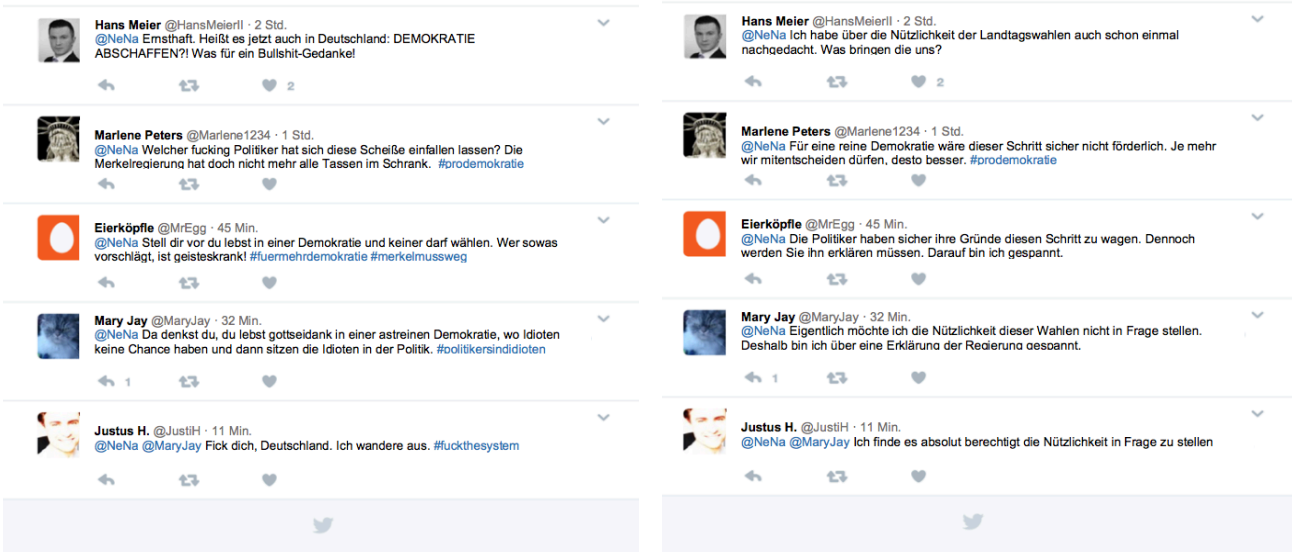

Fig. 3d. Peer pressure versus peer pressure-less condition.

3.6 Research Sample

Table 2a shows that the research sample consists of 218 respondents. These respondents are randomly sampled by spreading the questionnaire on different Facebook-pages of for example famous people, TV-shows and political parties. Furthermore, the questionnaire is spread via Twitter by using several trending hashtags and via e-mail, Furthermore, the respondents are randomly assigned to the sub-studies to ensure the generalizability and validity of the results (Barlett, Kotrlik, & Higgins, 2001). Thereby, the number of participants is evenly distributed across the sub-studies.

In this study, people, who are having the skills to interact in the online world, were targeted. Socio-demographic characteristics like gender and highest achieved education are no exclusion criterions, but are requested during the participation. Due to the fact that the questionnaire is in the German language and broaches the issue of controversial political issues that concern Germany, respondents needed to be able to communicate in German.

Table 2b shows that a total number of 218 German-speaking respondents participated in the study having an average age of M=25.78 (SD= 7.72) years. These respondents were randomly selected by distributing the questionnaire on social media platforms resulting in a gender distribution of 58.7 percent (n= 128) female respondents and 41.3 percent (n= 90) male respondents (Table 2c). Furthermore, it is possible to claim that 53.2 percent (n= 116) of the participants own a Twitter account, whereas 46.8 percent (n=102) do not possess a Twitter. Nevertheless, the majority of the respondents indicated that they are able to create and comment tweets and to use for example hashtags (Table 2d).

Table 2a

Distribution across conditions.

Condition	n	Percentage (%)
1	24	11
2	24	11
3	31	14.2
4	28	12.8
5	27	12.4
6	28	12.8
7	29	13.3
8	27	12.4
Total	218	100

Table 2b

Average age and gender of respondents.

	N	Minimum	Maximum	Mean	Standard deviation
Age	218	15	63	25.78	7.723

Table 2c

Distribution of respondents over socio-demographic characteristics.

		n	Percentage (%)
Gender			
	Male	90	41.3
	Female	128	58.7
	Total	218	100
Educational background			
	Hauptschulabschluss	1	.5
	Realschulabschluss	8	3.7
	Fachgebundene Hochschulreife	5	2.3
	Allgemeine Hochschulreife	78	35.8
	Bachelor	80	36.7
	Master	30	13.8
	Staatsexamen	4	1.8
	Ausbildung	6	2.8
	Other educational background	6	2.8
	Total	218	100

Table 2d

Insights into Twitter usage.

		n	Percentage (%)
Possession of Twitter account			
	Yes	116	53.2
	No	102	46.8
	Total	218	100
Ability to create and comment on Twitter			
	Never	91	41.7
	Rarely	50	22.9
	Sometimes	40	18.3
	Frequently	28	12.8
	Always	9	4.1
	Total	218	100
Ability to tag users and use hashtags			
	Agree	111	50.9
	Somewhat agree	67	30.7
	Neither agree, nor disagree	14	6.4
	Somewhat disagree	12	5.5
	Disagree	14	6.4
	Total	218	100
Usage for political discourse			
	Agree	91	41.7
	Somewhat agree	50	22.9
	Neither agree, nor disagree	40	18.3
	Somewhat disagree	28	12.8
	Disagree	9	4.1
	Total	218	100

3.7 Randomization Tests

As the results about the characteristics of the research sample have shown that there are associations between the variables. Therefore, chi-square tests of independence were performed to examine the relation between being assigned to a condition and gender, educational background, having a Twitter account, informing oneself about political issues via Twitter, the skills to create content on Twitter and the skills to use hashtags and tags on Twitter.

The relation between the assigned condition and having a Twitter account ($\chi^2(7)= 19.61$, $p<.01$), the skills to create content ($\chi^2(1,28)=61.37$, $p<.001$) and the skills to use hashtags and tags ($\chi^2(1,28)= 43.46$, $p<.05$) were significant. This means that these variables are not independent from each other. For this reason, these three variables are taken into consideration in the GLM analyses as covariates.

The relations between the assigned condition and gender ($\chi^2(1,7)=2.37$, $p=.94$), the educational background ($\chi^2(1,56)=60.86$, $p=.31$) and using Twitter to search for political news (χ^2 $(1,28)=34.66$, $p=.18$) were not significant. This means that these variables are independent

from each other. For this reason, these three variables are not taken into consideration in the GLM analyses as covariates.

3.8 Manipulation Check

To test the successfulness of the manipulations in the use of the Twitter content, several ANOVAs were performed (Appendix C). The first tested whether respondents in all conditions rated the content to which they were exposed to as equally controversial and shocking. Furthermore, it was tested whether they recognized the tweets under the manipulated content and whether the respondents would rate those tweets as uncivil. The following ANOVAs were performed to ensure that the manipulations of anonymity, impulsivity and peer pressure worked out. Therefore, the respondents were confronted with several statements, which they had to rate on a 5-point Likert scale ranging from *I totally disagree (1)* to *I totally agree (5)*. To reveal whether the three manipulations worked out, specific questions related to the independent variables are constructed. To test anonymity, respondents were confronted with the statement *I felt anonymous*. This is combined with statements as *I had enough time to read the text and the comments* and *I reacted impulsively to the contents* to measure the impulsivity. To see whether the respondents felt peer pressure, they had to rate statements like *I felt peer pressure* and *I perceived the reactions of the other Twitter users as uncivil*.

The ANOVA to check whether the manipulations regarding anonymity worked out, revealed that there is a significant difference between the groups concerning the perception about being anonymous ($F(7,210)=4.57$, $p<.05$). A post hoc test (Tukey) revealed that respondents in anonymous condition felt slightly anonymous (Condition 2: M=2.83, SD=1.4; Condition 4: M=2.89, SD=1.55; Condition 6: M=3.25, SD=1.27, Condition 8: M=2.93, SD=1.47), while people assigned to the non-anonymous condition indicated that they felt neutral with a slight tendency to feel identifiable (Condition 1: M=2.92, SD=1.5; Condition 3: M= 3.77, SD=1.12; Condition 5: M=3.67, SD=1.24; Condition 7: M=3.69; SD=1.27).

As determined by a one-way ANOVA ($F(7,210)=12.2$, $p<.001$), there is statistically significant evidence that there is a difference between the groups concerning the perception that the respondents had enough time to answer the questionnaire. A Tukey post hoc revealed that primarily the answers given by respondents assigned to the impulsivity-conditions claimed statistically significant that they had not enough time time (Condition 3: M=3.06, SD=1.48; Condition 4: M=3.86, SD=1.27; Condition 7: M=3.48, SD=1.5; Condition 8: M=3.59, SD=1.42) and reacted slightly impulsive (Condition 3: M=2.61, SD=1.39; Condition 4: M=2.93, SD=1.46; Condition 7: M=2.97, SD=1.15; Condition 8: M=2.30, SD=1.17), while

respondents who were assigned to the non-impulsive condition indicated that they had enough time (Condition 1: M=1.92, SD=1.25; Condition 2: M=2, SD=1.18; Condition 5: M=1.89, SD=1.22; Condition 6: M=1.86, SD=1.04) and that they reflected their statement before posting it (Condition 1: M=1.87, SD=1.08; Condition 2: M=2.13, SD=1.19; Condition 5: M=2.59, SD=1.31; Condition 6: M=2.36, SD=1.19).

To test whether respondents recognized the incivilities in the peer pressure conditions and whether those incivilities influenced them, another ANOVA was performed. As the ANOVA for incivility of others determined, there is statistically significant evidence that the perception regarding the incivility of the other comments differ ($F(7,210)=13.86$, $p<.001$). A Tukey post hoc revealed that in the peer pressure conditions, people perceive the others as more uncivil as the respondents in the conditions without peer pressure (Condition 5: M= 2.26, SD=.94; Condition 6: M= 2.36, SD= 1.22; Condition 7: M= 2.34, SD=1.2; Condition 8: M=2.07, SD=.83 and Condition 1: M= 3.5, SD= .98; Condition 2: M= 3.67, SD= 1.01; Condition 3: M=3.58, SD=.92; Condition 4: M=3.61, SD=.83). As the ANOVAs for influence of others and perceived peer pressure revealed, there were no significant differences among the groups. The respondents generally did not think that the reactions of others influenced the way they fulfilled the task (Condition 1: M=3.54, SD=1.41; Condition 2: M=3.75, SD=1.26; Condition 3: M=3.9, SD=1.11; Condition 4: M=3.71, SD=1.05; Condition 5: M=3.44, SD=1.4; Condition 6: M=3.14, SD=1.41; Condition 7: M=3.79, SD=1.05; Condition 8: M=3.19, SD=1.36). In addition, they indicated that they overall did not feel any peer pressure (Condition 1: M=4.08, SD=1.18 Condition 2: M=4.25, SD=1.07; Condition 3: M=3.97, SD=1.14; Condition 4: M=4.04, SD=1.04; Condition 5: M=3.7, SD=1.27; Condition 6: M=3.79, SD=1.2; Condition 7: M=3.79; SD=1.18; Condition 8: M=3.89, SD=1.12).

3.9 Analyses

An interrater reliability analysis using the cohen's kappa statistic is conducted to determine the consistency among two independent raters. Therefore, 28 randomly selected answers of the respondent are coded based on codes indicating incivility. The interrater reliability is found to be $\kappa=.866$ ($p<.001$). According to Landis and Koch (1977), this shows an almost perfect agreement among the two independent raters.

4. RESULTS

After gaining insights into the method of the Internet-based questionnaire, various analyses were conducted. Besides descriptive statistics, a general linear model with *possession of a Twitter-account*, *skills to create content on Twitter* and *skills to use tags and hashtags* as covariates is performed.

4.1 Descriptive Analysis of Incivilities

To analyze the tweets composed by the respondents in the light of potential incivilities, all tweets were read. This is an important step during the process of finding an answer to the previously stated research question.

According to first descriptive analyses, it is possible to conclude that 43.12% (n=94) of the 218 composed comments contained different forms of incivility. Some created comments contained more than one incivility resulting in a total amount of 125 detected incivilities (Table 3). As the descriptive analysis showed, all incivilities being characterized as dependent variable were used at least once by the respondents of the questionnaire. Table 4 shows illustrative tweets that are composed under the influence of anonymity, impulsivity and peer pressure.

Table 3

Total number of incivilities per condition and type of incivility.

	C1	C2	C3	C4	C5	C6	C7	C8	Incivilities (n)
Name-calling	-	1	1	1	1	6	5	1	16
Aspersion	-	-	-	-	-	1	-	-	1
Lying	3	-	1	1	4	5	3	-	17
Vulgarity	-	1	5	2	4	5	1	3	21
Pejorative for speech	-	-	1	2	-	-	-	-	3
Hyperbole	1	-	-	1	1	-	-	2	5
Non-cooperation	2	1	3	2	3	2	4	1	18
Capitals	-	-	2	-	1	-	1	-	4
Provocative punctuation	-	2	2	3	1	4	-	1	13
Provocation	3	1	3	4	3	4	2	7	27
Incivilities (n)	9	6	18	16	18	27	16	15	125

Table 4

Illustrative contents created in anonymous, impulsive and peer pressure-conditions (with condition).

	Anonymity	Impulsivity	Peer Pressure
Name-calling	@NeNa fordern können sie. Kriegen werden sie nicht. #vollpfostenpolitik #vollpfostenjournalismus (6)	@NeNa Landespolitik ist nicht gleich Bundespolitik ihr Amateurdiktatoren (3)	Ich lache lauter als ich sollte. Was ist das den für eine Kack-Idee und wer denkt sich so eine Scheiße aus? #idiotenamstart (5)
Aspersion			Deutschlands Demokratie is eine Illusion. Daher macht es keinen Unterschied, wie oder wo gewählt wird. (5)
Using synonyms for lying	Ihr habt euch im Datum vertan – es ist doch nicht der 1. #aprilapril (6)	Das klingt nach einem interessanten Aprilscherz (3)	@NeNa Deutschland ist laut Grundgesetz ein föderalistischer Bundesstaat. So ein Gesetz kann nicht verabschiedet werden #FakeNews #KnowYourGG (5)
Vulgarity	@NeNa Das sollte keine fucking Frage sein, die wir uns stellen müssen. (2)	Ähm, was ne Scheiße. (3)	#dankemerkel partiziationAmArsch (5)
Hyperbole	@NeNa Was 1 Schwachsinn #politikläuft #trump4ever (4)	Ja, her mit der Anarchie. Dieses Modell sollten wir doch längst mal versucht haben. (7)	
Non-cooperation	;-) (4)	??? (3)	Aggressiv (6)
Pejorative for speech	@NeNa So ein dummer Quatsch. (4)	@NeNa hallo, geht's noch? (3)	
Writing in capitals		Landtagswahlen sollten weichen. KEINER BRAUCHT DIE! (3)	Das ist wirklich KEINE GUTE IDEE! Wer denkt sich sowas aus!? (5)
Provocative Punctuation	Völliger Quatsch! Wer soll dann bestimmen, we in der Landesregierung sitzt!? Oder gibt es die dann auch nicht mehr!? (2)	Soll das Satire sein…?!? (3)	
Provocation	Für sowas würde Erdogan, der Diktator, applaudieren!!! Scheiß auf die, die das eingereicht haben (6)	Das ist doch totaler dreck! #dankemerkel #tschuess (4)	@NeNA Föderalismus und Demokratie sind ja so 2017, let's go back to 1933. (5)

4.2 Quantitative Analysis – General Linear Model

Analyses of variance with anonymity (low or high), impulsivity (low or high) and peer pressure (low or high) as independent variables, the possession of a Twitter-account, skills to create content on Twitter and the skills to use tags and hashtags as covariates and the general use of incivilities, name-calling, aspersion, synonymy for lying, vulgarity, pejorative (for) speech,

hyperbole, non-cooperation, use of capitals, provocative punctuation and provocation as dependent variables were conducted to research the effects of the independent variables (Appendix D).

4.2.1 General Frequency of Incivilities

Interestingly, the ANOVA with the dependent variable of frequency of incivilities revealed a main effect for peer pressure ($F(1,207)=6.7$, $p<.01$, $\eta^2_{partial}=.03$), indicating that people being exposed to uncivil content containing peer pressure significantly use more incivilities ($M=.46$, $SD=.69$ versus $M=.68$, $SD=.76$). A main effect for anonymity ($F<1$, *ns*) and impulsivity ($F<1$, ns) was not found. Next to the main effect for peer pressure, an interaction effect between impulsivity and peer pressure ($F(1,207)=7.53$, $p<0.01$, $\eta^2_{partial}=.04$) was found, indicating that the combination of being exposed to peer pressure and reacting impulsively to political issues on Twitter significantly predicts the use of incivilities (Figure 4). Thus, Twitter users being exposed to high peer pressure and reacting impulsively at the same time tended to use more incivilities than people who are exposed to low peer pressure and who had enough time to elaborate their answer.

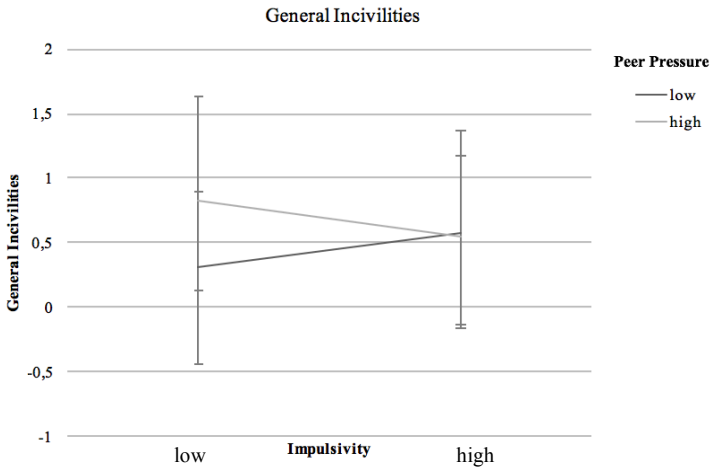

Fig. 4. Occurrence of incivilities (±SE) as a function of impulsivity and peer pressure.

An effect for the interactions between anonymity and impulsivity ($F<1$, *ns*), anonymity and peer pressure $F(1,207)=1.32$, $p=.25$, $\eta^2_{partial}=.01$) and anonymity, impulsivity and peer pressure ($F<1$, *ns*) did not reach significance.

4.2.2 Name-Calling

An ANOVA with the incivility of name-calling as dependent variables revealed a main effect of peer pressure ($F(1,207)=6.39$, $p<.05$, $\eta^2_{partial}=.03$), indicating that peer pressure is a significant predictor of name-calling. The more peer pressure users experience, the more the users make use of name-calling ($M=.03$, $SD=.17$ versus $M=.12$, $SD=.38$). Interestingly, an interaction effect between anonymity and impulsivity was found ($F(1,207)=4.95$, $p<.05$, $\eta^2_{partial}=.03$) showing that the combination of being anonymous and reacting impulsively to political contents predicts the occurrence of name-calling significantly (Figure 5).

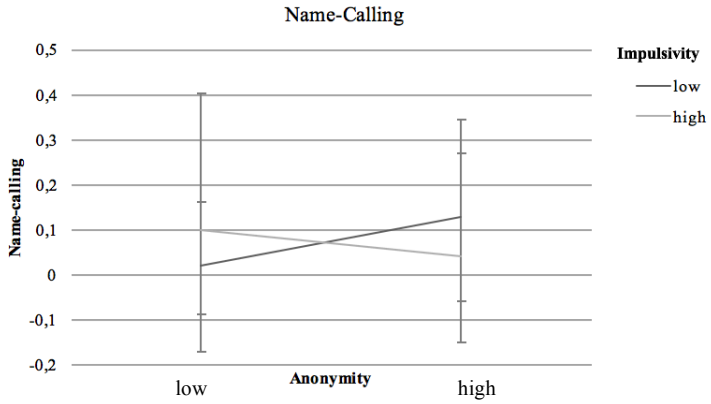

Fig. 5. Name-calling (±SE) as a function of anonymity and impulsivity.

Additionally, it was found that the main effects of anonymity ($F<1$, *ns*), and impulsivity ($F<1$, *ns*) were not significant, neither were the remaining interaction effects (anonymity X peer pressure: $F<1$, *ns*; impulsivity X peer pressure: $F<1$, *ns*; anonymity X impulsivity X peer pressure: $F(1,207)=2.45$, $p=.12$, $\eta^2_{partial}=.01$).

4.2.3 Aspersion

Against the expectations, an ANOVA with the aspersion found neither a significant main effect (anonymity: $F<1$, *ns*; impulsivity: $F(1.207)=1.2$, $p=.28$, $\eta^2_{partial}=.01$; peer pressure: $F<1$, *ns*), nor an interaction effect (all $F<1$, *ns*).

4.2.4 Synonyms for Lying

A main effect of impulsivity was detected by an ANOVA ($F(1,207)=4.46$, $p=.05$, $\eta^2_{partial}=.02$) showing that impulsivity tend to significantly predict that people use synonyms for lying. Interestingly, users who are asked to react not impulsively ($M=.12$, $SD=.32$) and thus had no time pressure tend to make more use of synonyms for lying than users who are assigned to the impulsive conditions ($M=.04$, $SD=.21$).

Furthermore, the ANOVAs with anonymity ($F(1,207)=1.34$, $p=.25$, $\eta^2_{partial}=.01$) and peer pressure ($F(1,207)=1.91$, $p=.17$, $\eta^2_{partial}=.17$) did not reach significance. The ANOVA also detected a marginal interaction effect between anonymity, impulsivity and peer pressure ($F(1,207)=3.5$, $p=.06$, $\eta^2_{partial}=.02$) and no additional significant interaction effects (anonymity X impulsivity: $F<1$, *ns*; anonymity X peer pressure: $F<1$, *ns*; impulsivity X peer pressure: $F<1$, *ns*).

4.2.5 Vulgarity

A interaction effect between impulsivity and peer pressure ($F(1,210)=6.06$, $p<.05$, $\eta^2_{partial}=.03$) was revealed by an ANOVA with the incivility of vulgarity indicating that the combination of impulsivity and peer pressure is a significant predictor for vulgar statements during Internet-based political discourse (Figure 6). Thus, when Twitter users are exposed to high impulsivity and high peer pressure, they tend to compose tweets containing more vulgarity. In comparison, Twitter users being exposed to low peer pressure and being allowed to elaborate their tweets before publishing used less vulgarity in their tweets.

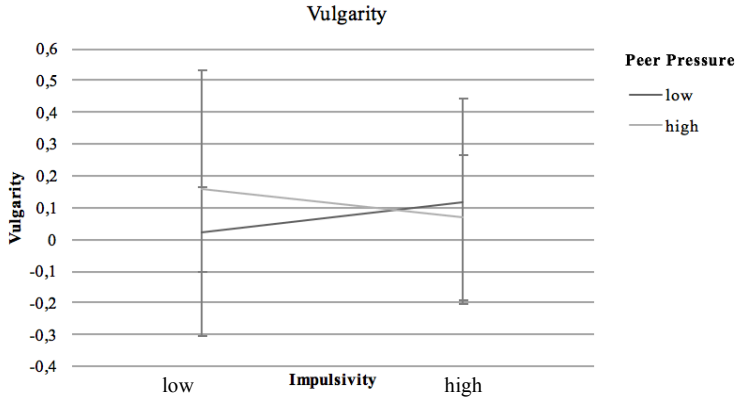

Fig. 6. Vulgarity (±SE) as a function of impulsivity and peer pressure.

The interaction effects between anonymity and impulsivity ($F<1$, *ns*), anonymity and peer pressure ($F<1$, *ns*) and anonymity, impulsivity and peer pressure ($F(1,207)=1.55$, $p=.22$, $\eta^2_{partial}=.01$) were not significant. Additionally, no significant main effect was found (anonymity: $F<1$, *ns*; impulsivity: $F<1$, *ns*; peer pressure: $F(1,207)=2.39$, $p=.22$, $\eta^2_{partial}=.01$).

4.2.6 Pejorative (for) Speech

For pejorative (for) speech neither a significant main nor a significant interaction effect was found. An ANOVA with pejorative (for) speech found a marginal significant main effect of impulsivity ($F(1,207)=3.06$, $p=.08$, $\eta^2_{partial}=.02$) indicating that Twitter users use more

pejorative (for) speech when they react impulsively to content to which they are exposed to (M=.0, SD=.0 versus M=.03, SD=.16). Additionally, an interaction effect between impulsivity and peer pressure (F(1,207)=2.7, p=.09, $\eta^2_{partial}$=.01) reached marginal significance. Furthermore, neither an additional significant main effect (anonymity: F<1, *ns*; peer pressure: F(1,210)=2.7, p=.1, $\eta^2_{partial}$=.01), nor an interaction effect (anonymity X impulsivity: F<1, *ns*; anonymity X peer pressure: F<1, *ns*; anonymity X impulsivity X peer pressure: F<1, *ns*) was found.

4.2.7 Hyperbole

An ANOVA with the incivility of hyperbole as dependent variables revealed an interaction effect between anonymity and impulsivity (F(1,207)=5.11, p<.05, $\eta^2_{partial}$=.02), indicating that the combination of anonymity and impulsivity is a significant predictor of hyperbole during online political discourse (Figure 7). This means that when users are simultaneously anonymous and impulsive, they tend to use more hyperbole in their tweets.

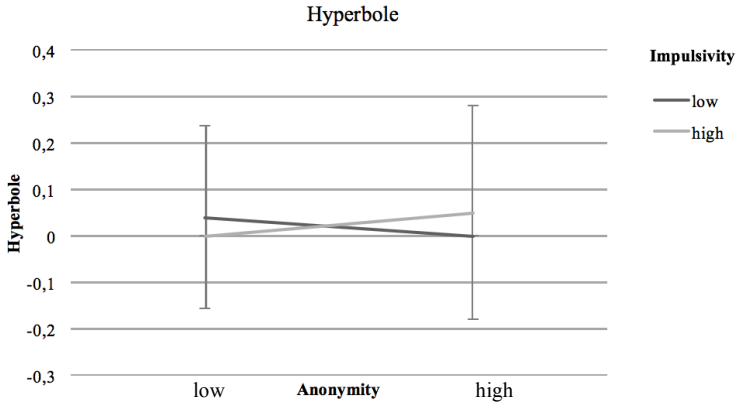

Fig. 7. Hyperbole (±SE) as a function of anonymity and impulsivity.

Additionally, it was found that neither remaining interaction effects (anonymity X peer pressure: F<1, *ns*; impulsivity X peer pressure: F<1, *ns*; anonymity X impulsivity X peer pressure: F<1, *ns*), nor the main effects (anonymity: F1<1, *ns*; impulsivity: F<1, *ns*; peer pressure: F<1, *ns*) reached significance.

4.2.8 Non-cooperation

Against the expectations, an ANOVA with non-cooperation found neither a significant main effect (anonymity: F(1,207)=1.25, p=.26, $\eta^2_{partial}$=.01; impulsivity: F<1, *ns*; peer pressure: F<1, *ns*), nor an interaction effect (anonymity X impulsivity: F<1, *ns*; anonymity X peer pressure: F<1, *ns*; impulsivity X peer pressure: F<1, *ns*; anonymity X impulsivity X peer pressure: F<1, *ns*).

4.2.9 Use of All Capital Letters

The ANOVA with the dependent variable of use of capitals revealed neither a main effect (anonymity: $F(1,207)=1.64$, $p=.2$, $\eta^2_{partial}=.02$; impulsivity: $F<1$, *ns*; peer pressure: $F<1$, *ns*), nor an interaction effect (anonymity X impulsivity: $F<1$, *ns*; anonymity X peer pressure: $F<1$, *ns*; impulsivity X peer pressure: $F<1$, *ns*; anonymity X impulsivity X peer pressure: $F<1$, *ns*).

4.2.10 Provocative Punctuation

The ANOVA with the dependent variable of provocative punctuation found no significant main or interaction effects. Instead, a marginal significant main effect for anonymity ($F(1,207)=3.3$, $p=.07$, $\eta^2_{partial}=.02$) was found. The marginal significant main effect indicates surprisingly that users with low anonymity react more often with provocative punctuation than users being highly anonymous ($M=.03$, $SD=.16$ versus $M=.09$, $SD=.32$). Furthermore, an interaction effect between impulsivity and peer pressure ($F(1,207)=2.79$, $p=.1$, $\eta^2_{partial}=.01$) reached marginal significance. Furthermore, neither another main effect (impulsivity: $F<1$, *ns*; peer pressure: $F<1$, *ns*), nor an additional interaction effect (anonymity X impulsivity: $F<1$, *ns*; anonymity X peer pressure: $F<1$, *ns*; anonymity X impulsivity X peer pressure: $F<1$, *ns*).

4.2.11 Provocation

Against the expectations, an ANOVA with the dependent variable of non-cooperation found neither a significant main effect (anonymity: $F(1,207)=1.19$, $p=.28$, $\eta^2_{partial}=.01$; impulsivity: $F<1$, *ns*; peer pressure: $F<1$, *ns*), nor a significant interaction effect (anonymity X impulsivity: $F(1,207)=2.39$, $p=.12$, $\eta^2_{partial}=.01$; anonymity X peer pressure: $F(1,207)=2.1$, $p=.15$, $\eta^2_{partial}=.01$; impulsivity X peer pressure: $F<1$, *ns*; anonymity X impulsivity X peer pressure: $F<1$, *ns*).

5. DISCUSSION

Finally, it is possible to conclude that Twitter is a social medium on which uncivil behavior during Internet-based political discourse frequently occurs. This assertion is proven by the results of the study indicating that 94 of 218 comments (43.12%) contained at least one incivility. Frequently, respondents decided to use more than one form of incivility, which resulted in a total amount of 125 incivilities. This finding is supported by earlier research of Coe et al. (2014), which revealed that 55.5% of the comments in discussions about online articles included at least one form of incivility. Secondly, it is observed that the use of incivilities was not limited to a small number of commenters but rather was distributed across a large number of commenters and conditions. Thirdly, it is possible to conclude that provocation is the incivility that was used the most, followed by the use of vulgarity and non-cooperation. Aspersion, pejorative (for) speech and writing in all capital letters were less present in the current study.

The general linear model analysis with the possession of a Twitter-account, the skills to create content on Twitter and the skills to use hashtags and tags as covariates, gave interesting insights into potential determinants of different incivilities. After discussing the results, it is possible to answer the research question **"***Which determinants encourage (a) uncivil behavior, (b) name-calling, (c) aspersion, (d) synonyms for lying, (e) vulgarity, (f) pejorative (for) speech, (g) hyperbole, (h) non-cooperation, (i) all capital letters, (j) provocative punctuation, and (k) provocation on Twitter during online political discourse?"*.

While the general occurrence of incivilities is significantly predicted by peer pressure (H3a) and the interaction between impulsivity and peer pressure, peer pressure (H3b) and the interaction between anonymity and impulsivity predict name-calling significantly. Additionally, a significant main effect of impulsivity (H2d) on synonyms for lying is found. Vulgarity is significantly predicted by the interaction between impulsivity and peer pressure. Furthermore, the ANOVA with the incivility of hyperbole as dependent variable uncovered an interaction effect between anonymity and impulsivity.

Next to the significant effects, a number of marginal significant effects are found. Firstly, the analyses revealed a marginal significant main effect of impulsivity (H2f) on pejorative (for) speech and secondly, a marginal significant main effect of anonymity (H1j) on the use of provocative punctuation is found. The interaction effect between impulsivity and peer pressure on pejorative (for) speech thus reached marginal significance. The interaction between impulsivity and peer pressure on the use of provocative punctuation also reached marginal significance. Additionally, a marginal significant interaction effect between

anonymity, impulsivity and peer pressure. The effects of the tested main and interaction effects on aspersion, non-cooperation, the use of all capital letters and provocation did not reach significance.

The significant main effect of impulsivity on synonyms for lying and the marginal significant main effect of anonymity on provocative punctuation are striking, because they refute the expected hypotheses. The main effect of impulsivity on synonyms for lying indicates that respondents who did not have to react impulsively used more incivilities than respondents who reacted impulsively. A potential explanation for this finding could be that Twitter-users, who had enough time to elaborate the received information, think more about potential consequences of abolishing the German regional elections. Conclusively, they challenge the trustworthiness of the article and express synonyms for lying. In the case of anonymity as marginal significant predictor of the use of provocative punctuation, the findings show that respondents being not anonymous provoke more by using punctuation than anonymous respondents. This could be explained by the nature of the incivility. Although provocative punctuation is categorized as uncivil behavior, the respondents do not experience it as uncivil. This may be because they use it frequently in order to underline and emphasize their statements. This means that Internet users do not perceive it as uncivil and therefore did not feel ashamed to use it.

In the beginning of the questionnaire to which the respondents were exposed to, descriptive data were requested. These questions revealed amongst others that the respondents who were exposed to content containing peer pressure indicated that they did not feel a pressure to conform to the prevalent behavior. Simultaneously, the respondents indicated that they were aware of the uncivil behavior of the fellow commenters. The results of the current study refute the assertion of the respondents that other Twitter users did not have an effect on their behavior, because peer pressure was uncovered as important predictor of different forms of incivilities. The research revealed that the general occurrence of incivilities, name-calling and vulgarity are significantly predicted by peer pressure or the interaction between impulsivity and peer pressure, whereas the interaction between impulsivity and peer pressure are marginal significant predictors of the occurrence of pejorative (for) speech and the use of provocative punctuation on Twitter.

When combining the results of the descriptive statistics and the general linear model, it is proven that the effect of peer pressure is undoubtable subconscious. This can be explained in the nature of humans as humans try to segregate themselves from people with an opposing opinion and surround themselves with like-minded people (Davis, 1999; Brundidge, 2006).

Surrounding oneself with like-minded peers prevents divergences and facilitates a harmonious togetherness. Additionally, it is proven that people, who are confronted with a majority opinion that opposes the personal view, tend to conform to the majority opinion and behavior in order to avoid social sanctions of peers (Bendor & Swistak, 2001; Papacharissi, 2004). This is reinforced on the Internet by the so-called *filter bubble*. Algorithms on social media prevent that users with opposing opinions and contents are longer confronted with each other (Pariser, 2011). The social media are thus divided into sub-groups of people with equal opinions and do not manage to confront people with opposing views and beliefs (Weisberg, 2011).

This means that social media users are steadily more confronted with fellow social media users and contents they agree with than with users and contents that challenge the own views and beliefs (Pariser, 2011). A result of the development is that social media users are increasingly isolated in their own informational bubble and conclusively start to believe that the personally held opinions are all that exists. This closes them off to discussions about alternative view points, beliefs and information and thereby decelerates progress as progress is in particular the result of discussions of conversational partners with different opinions coming to one agreement (Pariser, 2011). By closing oneself off to discussions, humans do not only decelerate progress, they also forget how to defend the own point of view, which results in the fact that they change their mind and behavior subconsciously to avoid uncomfortable situations (Bendor & Swistak, 2001; Papacharissi, 2004).

5.1 Theoretical and Practical Implications

The current study provides both theoretical and practical implications. Firstly, it contributes to existing literature in several ways. It does not only support the results of earlier researches (Jamieson, 1997; Papacharissi, 2004; Coe et al., 2014), but it also extends the existing body of research by not only investigating the frequency and the kind of incivilities, but also takes anonymity, impulsivity and peer pressure as independent variables and the possession of a Twitter-account, the skills to compose a tweet and the skills to use tags and hashtags as covariates into consideration. The independent variables, being encouraged by Twitter, affect the users' utilization of the different forms of incivilities.

Another theoretical implication is that the current research developed authentic and efficient ways on how to manipulate the independent variables. Thereby, anonymity is manipulated by displaying the respondents' full name, impulsivity is simulated by creating time pressure and peer pressure is created by exposing the respondents to entirely negative contents. These findings also contribute to the relatively small body of research in the field of uncivil

behavior during online political discourse on Twitter and social media in general.

Next to the theoretical implications that are retrieved from the results of the current study, the findings also provide practical implications. A general conclusion of the analyses is that anonymity, impulsivity and peer pressure somehow trigger different forms of incivility. Indispensable practical implications based on the findings are that anonymous and impulsive reactions as well as reactions that are composed under peer pressure need to be avoided in order to reduce the amount of incivilities on Twitter. This can be achieved in several ways.

At the moment, Twitter encourages its users to be anonymous by allowing them to sign up with a screen name. As earlier mentioned, this helps people firstly to act uncivil in the online world and secondly to avert the responsibility for such uncivil online behavior (Davis, 1999; Christopherson, 2007). Twitter could therefore firstly introduce the obligation to sign up to Twitter with the real name and forbid to use Twitter with a screen name. Facebook, the largest social medium, introduced this obligation in order to avoid hate speech and other unwanted behavior (Umfrage: 60 Prozent der Deutschen für Klarnamen-Pflicht im Internet, 2016). People who do not fulfill this obligation are blocked and cannot use Facebook until they sign up with their real name. As the majority of the Germans declared themselves in favor of such an obligation on social media, the implementation of a duty to sign up to Twitter with the real name seems to be unproblematic. This would reduce the occurrence of name-calling, but also the use of hyperbole and provocative punctuation.

Furthermore, Twitter encourages their users to act impulsively during discussions by limiting tweets to 140 characters. Therefore, the users frequently do not elaborate their tweets and potentially publish it without much forethought (Evenden, 1999; Ott, 2017). To solve the problem of impulsivity on Twitter, the social medium should encourage its users to not react impulsively to political content to which they are exposed to. This can be achieved by making the users aware of the fact that many reactions are written impulsively and without forethought. Afterwards, the users could be supported to react less impulsively by slowing down the process of composing a tweet.

Fig. 8. Visualization of potential “publish”-button

A realizable solution approach could be a note that appears before the tweet is finally published (Figure 8). This note should indicate that when the composed tweet is published by the Twitter user, it is public and visible to any other Internet user. When agreeing with it, the Twitter user can click the "publish"-button. This potential solution would help to slow down Twitter by encouraging its users to elaborate their tweets. Conclusively, this method would force the users to reconsider the use choice of words and thereby would avert that serious incivilities are published on Twitter. Another solution approach could be to abolish the character-limitation for tweets to allow Twitter users to elaborate and explain their opinions and beliefs. Such steps would help to slow down by encouraging Twitter users to elaborate their tweets. It would prevent especially synonyms for lying and pejorative (for) speech, but also name-calling, hyperbole, vulgarity and the general occurrence of incivilities.

Next to the fact that Twitter is currently encouraging anonymity and impulsivity, Twitter does not actively engage in avoiding peer pressure. The *Netzwerkdurchsetzungsgesetz* obliged the operators of social media to delete and report contents containing hate crime within 24 hours (Bundesministerium für Justiz und Verbraucherschutz, 2017). If the social media default the obligation, they are punished with administrative fines. Although journalists see this law as an impairment of the freedom of opinion, Twitter should engage consistently in deleting political contents that contain incivilities (Krempl, 2017). During the process of deleting contents, it is of particular importance to not delete political tweets and comments that are objective criticisms, but comments that contain any type of incivility as peers are unaware of the fact that these incivilities affect themselves subconsciously. Furthermore, Twitter should lessen their algorithms to avoid that people live in a personalized ideological *filter bubble*. When Internet users are accidentally exposed to contents opposing their personal point of view, they tend to conform to the majority opinion and adapt to the predominant behavior (Pariser, 2011). Therefore, peer pressure conditions created by an atmosphere filled with hatred can be avoided by deleting contents containing hate crime and by not conclusively confronting like-minded people with each other, but by encouraging diverse discourse. This would reduce the general occurrence of incivilities and name-calling, but also the use of vulgarity, pejorative for speech and provocative punctuation.

5.2 Limitations

Because of the fact that the study is limited to the use methods and gathered data, important limitations are elaborated. Overall, it is possible to conclude that the chosen manipulations and methods worked as previously anticipated.

Due to the fact that respondents in the impulsive condition felt the need to react impulsively and the respondents in the non-impulsive condition indicated that they elaborated their answer before posting it, the manipulation of impulsivity worked out. Additionally, it is possible to conclude that the manipulation of peer pressure also worked out. Although the respondents claimed that they were not influenced by the peers, the findings show that the peer pressure-contents triggered the respondents to use incivilities subconsciously.

In contrast to the the manipulations of impulsivity and peer pressure, the manipulation of anonymity partly worked out. Although the differences concerning the perceived anonymity between the anonymous and non-anonymous conditions seem to be modest, a significant difference is detected. Nonetheless, the study intended to make a strict distinction between anonymous and non-anonymous conditions. This did not work out satisfactory and is therefore a limitation of the present study. An inherently functioning manipulation of anonymity would have potentially produced more significant instead of marginal significant results.

Seemingly, there are two main limitations concerning demographics of the respondents. Firstly, a limitation of the current research is found in the gender distribution. As reported in the methods section, only 41.3% of the participating respondents are male, while 58,7% are female. Although the number of male respondent is large enough, the proportion of males and females is not balanced in this study. The second limitation regarding the used data is that only 53.2% of the respondents owns a Twitter-account. This argument is mostly refuted by the fact that this is taken into consideration by incorporating the possession of a Twitter-account as covariate in the general linear model.

5.3 Future Research

This study is limited to the gathered and used data. Due to the large sample size, which is reached by random sampling, it is possible to generalize the findings to the German population. Nevertheless, future research should attempt to address the previously stated limitations and consider other potential predictors of incivilities.

Future research should therefore strive to improve the manipulation of anonymity. The respondents in the current research all felt moderately anonymous, which was not intended. An improvement could be that only respondents in the non-anonymous conditions have to enter their name, while respondents in the non-anonymous condition are asked to enter anonymous screen names. This is expected to reinforce the perceived anonymity of the respondents in the anonymous conditions. Additionally, future research should address the main effects of impulsivity on synonyms for lying and of anonymity on the use of provocative punctuation in

order to find scientifically valid explanations for the unexpected findings.

Furthermore, it could be interesting to research the amount of uncivil behavior directed at non-political topics and interpersonal disputes. The current study revealed that controversial political issues in combination with anonymity, impulsivity and peer pressure triggered different incivilities. Future research could therefore investigate whether these independent variables also encourage anti-social behavior during interpersonal discourse on Twitter. Based on the findings of the current study, it is expected that anonymity, impulsivity and peer pressure, which are simultaneously three characteristic features of Twitter, also operate as predictors of various incivilities.

Additionally, future research should not only focus on political and non-political discourse on Twitter, but also on other social media like Facebook to make comparisons among social media regarding the amount and nature of incivilities. Facebook users have the duty to display their real name and they are not confronted with a limitation of characters (Umfrage: 60 Prozent der Deutschen für Klarnamen-Pflicht im Internet (2016). Therefore, it is expected that the results for these two predictors will differ. Anonymity and impulsivity are therefore expected to not be significant predictors of various incivilities. Through emergence of the *filter bubble* and the fact that people tend to conform to the majority opinions in discussions, it is expected that peer pressure is still an important determinant of incivilities on Facebook.

6. CONCLUSION

With the increasing power of the Internet and social media, an increasing number of discussions about any kind of issues take place in the online world. Researchers, journalists and politicians recognized that the body of uncivil behavior on social media grows. Earlier research revealed that name-calling, aspersion, synonyms for lying, pejorative (for) speech, hyperbole and non-cooperation are potential incivilities that occur during online political discourse on Twitter. Writing in capitals, the use of provocative punctuation and provocation in general are added to the existing list.

The findings of the current research reveal not only that 43.12% of the composed tweets contain at least one incivility, but also that different forms of incivilities are predicted by various combinations of anonymity, impulsivity and peer pressure. Uncivil behavior in general (H3a) and the use of name-calling (H3b) is significantly predicted by peer pressure. The occurrence of synonyms for lying (H2d) is significantly predicted by impulsivity. Additionally, marginal significant main effects are found. Pejorative (for) speech (H2f) is marginal significantly predicted by impulsivity and anonymity is a marginal significant predictor of the use of provocative punctuation (H1j).

Next to the (marginal) significant main effects, numerous interaction effects are found. Four significant interaction effects are found. While the general occurrence of incivilities is significantly predicted by the interaction between impulsivity and peer pressure, name-calling is significantly predicted by the interaction between anonymity and impulsivity. The interaction between impulsivity and peer pressure is a significant predictor of the use of vulgarity. Furthermore, hyperbole is significantly predicted by the interaction between anonymity and impulsivity. The interaction effects between impulsivity and peer pressure on pejorative (for) speech and the use of provocative punctuation also reached marginal significance. Furthermore, a marginal significant interaction effect between anonymity, impulsivity and peer pressure on synonyms for lying is found.

The results indicate that Twitter should change their policies regarding the anonymity and impulsivity of the users. This can be done by for example forbidding users to sign up with a screen name and by slowing down the process of composing and publishing tweets. Additionally, Twitter should engage in removing peer pressure by complying to the *Netzwerkdurchsetzungsgesetz*, which encourages social media platforms to remove uncivil comments within 24 hours from the platform. These actions could be a first step into the direction of bringing civility back to online political discourse on Twitter.

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APPENDIX A – MAIN STUDY (QUESTIONNAIRE)

Table

Schema of which questions are asked per condition.

	C1	C2	C 3	C 4	C5	C6	C7	C8
Introduction	√	√	√	√	√	√	√	√
Informed Consent	√	√	√	√	√	√	√	√
Q1	√	√	√	√	√	√	√	√
Q2	√	√	√	√	√	√	√	√
Q3	√	√	√	√	√	√	√	√
Q4	√	√	√	√	√	√	√	√
Q5	√	√	√	√	√	√	√	√
Q6	√	√	√	√	√	√	√	√
Q7	√	√	√	√	√	√	√	√
Q8	√	√	√	√	√	√	√	√
Q9	√	√	√	√	√	√	√	√
Q10	√	√	√	√	√	√	√	√
Q11	√	√	√	√	√	√	√	√
Q12	√	√	√	√	√	√	√	√
Q13	√	√	√	√	√	√	√	√
Q14	√	√	√	√	√	√	√	√
Q15	√	√			√	√		
Q16	√	√	√	√	√	√	√	√
Q17	√	√	√	√	√	√	√	√
Q18			√	√			√	√

Table

Questions and potential answers.

Label	Question	Potential answers
Introduction	Liebe/r Respondent/in, In meiner Masterthese an der University of Twente (NL) beschäftige ich mit politischen Inhalten auf Twitter. Um von der Thematik ein umfassendes Bild zu bekommen, brauchse ich Ihre Hilfe. In der folgenden Umfrage werden erst allgemeine Fragen gestellt. Danach wird Ihnen ein Tweet präsentiert, auf den Sie (mit 140 Zeichen) reagieren sollen. Bitte befolgen Sie dabei die Aufgabenstellung. Die gesammelten Daten werden selbstverständlich anonymisiert und nicht an Dritte weitergegeben. Falls während oder nach der Studie Fragen aufkommen, können Sie mich über j.t.rusel@student.utwente.nl kontaktieren. Vielen Dank für Ihre Teilnahme!	-

Informed Consent	Hiermit erkläre ich, dass ich mich ausreichend auf die Studie vorbereitet fühle- Ich stimme ich zu, dass ich an der Stduie aus freien Stücken teilnehme und, dass ich mir das Recht vorbehalte die Studie jederzeit abbrechen zu können. Falls meine Testergebnisse für wissenschaftliche Publikationen benutzt oder anderweitig publiziert werden, werden diese anonymisiert. Meine persönlichen Daten werden anonym verarbeitet und nicht an Dritte weitergegeben. Wenn ich weitere Informationen über die Studie bekommen möchte, kontaktiere ich Jana Rüsel (j.t.rusel@student.utwente.nl). Ich habe die Einführung und die Informationen zu der Studie gelesen und ich akzeptiere diese.	Ich stimme zu.
Q1	Wie alt sind Sie?	1.1 [freies Eingabefeld]
Q2	Welches Geschlecht haben Sie?	2.1 Männlich 2.2 Weiblich
Q3	Was ist Ihr höchster erreichter Abschluss?	3.1 Hauptschulabschluss 3.2 Realschulabschlluss 3.3 Fachgebundene Hochschulreife 3.4 Allgemeine 3.5 Hochschulreife 3.6 Bachelor 3.7 Master 3.8 Staatsexamen 3.9 Ausbildung 3.10 Ich habe einen anderen Abschluss.
Q4	Wie ist ihr voller Name?	4.1 [freies Eingabefeld]
Q5	Haben Sie einen Twitter-Account?	5.1 Ja 5.2 Nein
Q6	Benutzen Sie Twitter um nach politischen Inhalten und Diskussionen zu suchen?	6.1 Niemals 6.2 Selten 6.3 Manchmal 6.4 Oft 6.5 Immer

Q7	Ich weiß wie das Erstellen und Kommentieren auf Twitter funktioniert.	7.1 Stimme voll zu. 7.2 Stimme eher zu. 7.3 Weder noch. 7.4 Ich stimme eher nicht zu. 7.5 Ich stimme überhaupt nicht zu.
Q8	Ich weiß wie man andere User auf Twitter verlinkt und wie Hashtags funktionieren.	8.1 Stimme voll zu. 8.2 Stimme eher zu. 8.3 Weder noch. 8.4 Ich stimme eher nicht zu. 8.5 Ich stimme überhaupt nicht zu.
Q9	Das Thema des Artikel fand dich kontrovers.	9.1 Stimme voll zu. 9.2 Stimme eher zu. 9.3 Weder noch. 9.4 Ich stimme eher nicht zu. 9.5 Ich stimme überhaupt nicht zu.
Q10	Mich hat das Thema des Artikels empört.	10.1 Stimme voll zu. 10.2 Stimme eher zu. 10.3 Weder noch. 10.4 Ich stimme eher nicht zu. 10.5 Ich stimme überhaupt nicht zu.
Q11	Ich habe die Reaktionen von den anderen Twitter-Usern gelesen.	11.1 Ja 11.2 Nein
Q12	Ich habe die Reaktionen von den anderen Twitter-Usern als unhöflich wahrgenommen.	12.1 Stimme voll zu. 12.2 Stimme eher zu. 12.3 Weder noch. 12.4 Ich stimme eher nicht zu. 12.5 Ich stimme überhaupt nicht zu.
Q13	Ich habe mich anonym gefühlt.	13.1 Stimme voll zu. 13.2 Stimme eher zu. 13.3 Weder noch. 13.4 Ich stimme eher nicht zu. 13.5 Ich stimme überhaupt nicht zu.
Q14	Ich habe mir genug Zeit genommen, um den Inhalt und die Kommentare zu lesen.	14.1 Stimme voll zu. 14.2 Stimme eher zu. 14.3 Weder noch. 14.4 Ich stimme eher nicht zu. 14.5 Ich stimme überhaupt nicht zu.

Q15	Ich habe im Voraus gut über meine Antwort nachgedacht.	15.1 Stimme voll zu. 15.2 Stimme eher zu. 15.3 Weder noch. 15.4 Ich stimme eher nicht zu. 15.5 Ich stimme überhaupt nicht zu.
Q16	Die Meinung der anderen Kommentatoren hat mich beeinflusst	16.1 Stimme voll zu. 16.2 Stimme eher zu. 16.3 Weder noch. 16.4 Ich stimme eher nicht zu. 16.5 Ich stimme überhaupt nicht zu.
Q17	Ich habe mich von den Meinungen der Anderen unter Druck gesetzt gefühlt.	17.1 Stimme voll zu. 17.2 Stimme eher zu. 17.3 Weder noch. 17.4 Ich stimme eher nicht zu. 17.5 Ich stimme überhaupt nicht zu.
Q18	Ich habe impulsiv reagiert.	18.1 Stimme voll zu. 18.2 Stimme eher zu. 18.3 Weder noch. 18.4 Ich stimme eher nicht zu. 18.5 Ich stimme überhaupt nicht zu.

APPENDIX B – CODE SCHEMA

Table

Code schema with incivilities borrowed from prior measures (Jamieson, 1997; Papacharissi, 2004; Coe et al., 2014).

Form of Incivility	Definition	Example
Name-calling	Mean or insulting words that are targeted to a single human or a group of people. Name-calling is meant to humiliate that other person in a political campaign or an argument.	"The Chancellor is dumb insufficient informed about anything."
Aspersion	Mean or insulting words that target at plans, ideas, policies or behaviors of others.	"Our system is inherently corrupt."
Lying	Claiming that someone's plan, idea or policy is dishonest/unfair	Claim that news, which are published are "fake news"
Vulgarity	Using improper of profane language for a professional discourse	"I hope his voters kick his ass during the next elections."
Pejorative (for) Speech	Disparaging judgments about a person's way of communication or an idea	"I am sick of the kind he speaks."
Hyperbole	The use of an exaggeration that is intentional and obvious	"Parts of the German population are suffering from extreme poverty."
Non-cooperation	Ignoring the conversational partner by not reacting to the statement	

Table

Newly created incivilities.

Form of Incivility	Definition	Example
Writing in capitals	Writing whole sentences in capitals	"THIS CANCHELLOR IS MAKING ME SICK WITH ALL HER DECISIONS."
Use of provocative punctuation	Using question marks and exclamation points directly after each other in order to emphasize statement	"Seriously?! Is that what they want to do!?"
Provocation	Action or speech that causes someone to be angry intended to get an uncivil answer.	"Erdogan, the dictator would love to live in Germany now."

APPENDIX C – MANIPULATION CHECK (ONE-WAY ANOVA)

Table
Descriptive statistics of questions per condition.

	Condition 1 Mean (SD)	Condition 2 Mean (SD)	Condition 3 Mean (SD)	Condition 4 Mean (SD)	Condition 5 Mean (SD)	Condition 6 Mean (SD)	Condition 7 Mean (SD)	Condition 8 Mean (SD)
Controversy	1.96 (1.369)	1.78 (.902)	1.73 (1.048)	2.19 (1.331)	1.93 (1.035)	1.89 (1.133)	1.9 (.939)	1.63 (.967)
Indignation	2.4 (1.19)	2.35 (1.191)	2.07 (1.143)	2.37 (1.245)	2.07 (1.174)	2.43 (1.289)	2.24 (1.215)	2.07 (1.207)
Recognition of other answers	1.04 (.2)	1 (.0)	1.07 (.254)	1.15 (.362)	1.15 (.362)	1.04 (.189)	1.1 (.31)	1.15 (.362)
Incivility of others	3.44 (1.003)	3.74 (.964)	3.6 (.932)	3.63 (.839)	2.26 (.944)	2.36 (1.224)	2.34 (1.203)	2.07 (.829)
Anonymity	2.84 (1.519)	2.91 (1.379)	3.8 (1.216)	2.89 (1.577)	3.67 (1.24)	3.25 (1.266)	3.69 (1.168)	2.93 (1.466)
Enough Time	1.92 (1.222)	2 (1.206)	3.07 (1.507)	3.89 (1.281)	1.89 (1.219)	1.86 (1.044)	3.48 (1.503)	3.59 (1.421)
Forethought	1.92 (1.077)	2.09 (1.203)	-	-	2.59 (1.309)	2.36 (1.193)	-	-
Impulsivity	-	-	2.6 (1.404)	2.93 (1.492)	-	-	2.97 (1.149)	2.30 (1.171)
Influence of others	3.6 (1.414)	3.7 (1.259)	3.93 (1.112)	3.74 (1.059)	3.44 (1.396)	3.14 (1.407)	3.79 (1.048)	3.19 (1.36)
Peer pressure	4.12 (1.166)	4.22 (1.085)	4 (1.145)	4.07 (1.035)	3.7 (1.265)	3.79 (1.197)	3.79 (1.177)	3.89 (1.121)

All items are measured on a 5-point Likert scale ranging from “I totally agree” (1) to “I totally disagree” (5).

Table

One-way ANOVA for controversy.

	Sum of Squares	df	Mean of Squares	F
Between the groups	5.57	7	.8	.66
Within the groups	254.57	210	1.21	
Total	260.13	217		

***. p<.001
**. p<.01
*. p<.05

Table

Comparison of means (controversy) of different conditions (Tukey-test).

		Mean difference	SEB
Condition 1			
	Condition 2	.17	.32
	Condition 3	.18	.3
	Condition 4	-.26	.3
	Condition 5	.03	.31
	Condition 6	.65	.31
	Condition 7	.62	.3
	Condition 8	.33	.31
Condition 2			
	Condition 1	-.17	.32
	Condition 3	.02	.3
	Condition 4	-.42	.31
	Condition 5	-.13	.31
	Condition 6	-.1	.31
	Condition 7	-.11	.3
	Condition 8	.16	.31
Condition 3			
	Condition 1	-.18	.3
	Condition 2	-.02	.3
	Condition 4	-.44	.29
	Condition 5	-.15	.29
	Condition 6	-.12	.29
	Condition 7	-.12	.28
	Condition 8	.15	.29
Condition 4			
	Condition 1	.26	.31
	Condition 2	.42	.31
	Condition 3	.44	.29
	Condition 5	.29	.3
	Condition 6	.32	.29
	Condition 7	.32	.29
	Condition 8	.59	.3
Condition 5			
	Condition 1	-.03	.31
	Condition 2	.13	.31
	Condition 3	.15	.29
	Condition 4	-.29	.3
	Condition 6	.03	.3
	Condition 7	.03	.29
	Condition 8	.3	.3
Condition 6			
	Condition 1	-.07	.31
	Condition 2	.1	.31
	Condition 3	.12	.29
	Condition 4	-.32	.29
	Condition 5	-.03	.3
	Condition 7	-.01	.29
	Condition 8	.26	.3

Condition 7			
	Condition 1	-.6	.3
	Condition 2	.11	.3
	Condition 3	.12	.28
	Condition 4	-.32	.29
	Condition 5	-.03	.29
	Condition 6	.01	.29
	Condition 8	.27	.29
Condition 8			
	Condition 1	-.33	.31
	Condition 2	-.16	.31
	Condition 3	-.15	.29
	Condition 4	-.59	.3
	Condition 5	-.3	.3
	Condition 6	-.26	.3
	Condition 7	-27	.29

***. p<.001
**. p<.01
*. p<.05

Table

One-way ANOVA for indignation.

	Sum of Squares	df	Mean of Squares	F
Between the groups	4.61	7	.66	.46
Within the groups	304.51	210	1.45	
Total	309.12	217		

***. p<.001
**. p<.01
*. p<.05

Table

Comparison of means (indignation) of different conditions (Tukey-test).

		Mean difference	SEB
Condition 1			
	Condition 2	.0	.35
	Condition 3	.28	.33
	Condition 4	-.2	.34
	Condition 5	.3	.34
	Condition 6	-.05	.34
	Condition 7	.13	.33
	Condition 8	.3	.34
Condition 2			
	Condition 1	.0	35
	Condition 3	.28	.33
	Condition 4	-.2	.34
	Condition 5	.3	.34
	Condition 6	-.05	.34
	Condition 7	.13	.33
	Condition 8	.3	.34
Condition 3			
	Condition 1	-.28	.33
	Condition 2	-.28	.33
	Condition 4	-.3	.31
	Condition 5	.02	.32
	Condition 6	-.33	.32
	Condition 7	-.15	.32
	Condition 8	.02	.32

Condition 4			
	Condition 1	.2	.34
	Condition 2	.2	.34
	Condition 3	.3	.31
	Condition 5	.31	.33
	Condition 6	-.04	.32
	Condition 7	.15	.32
	Condition 8	.32	.33
Condition 5			
	Condition 1	-.3	.34
	Condition 2	-.3	.34
	Condition 3	-.02	.32
	Condition 4	-.32	.33
	Condition 6	-.35	.33
	Condition 7	-.17	.32
	Condition 8	.0	.33
Condition 6			
	Condition 1	.05	.34
	Condition 2	.05	.34
	Condition 3	.33	.31
	Condition 4	.04	.32
	Condition 5	.35	.33
	Condition 7	.19	.32
	Condition 8	.35	.33
Condition 7			
	Condition 1	-.13	.33
	Condition 2	-.13	.33
	Condition 3	.15	.32
	Condition 4	-.15	.32
	Condition 5	.17	.32
	Condition 6	.19	.32
	Condition 8	.17	.32
Condition 8			
	Condition 1	-.3	.34
	Condition 2	-.3	.34
	Condition 3	-.2	.32
	Condition 4	-.32	.33
	Condition 5	.0	.33
	Condition 6	.35	.33
	Condition 7	-.17	.32

***. p<.001
**. p<.01
*. p<.05

Table

One-way ANOVA for recognition of others.

	Sum of Squares	df	Mean of Squares	F
Between the groups	.95	7	.14	1.2
Within the groups	23.63	210	.11	
Total	24.57	217		

***. p<.001
**. p<.01
*. p<.05

Table

Comparison of means (recognition of others) of different conditions (Tukey-test).

		Mean difference	SEB
Condition 1			
	Condition 2	.04	.1
	Condition 3	-.09	.09
	Condition 4	-.17	.09
	Condition 5	-.11	.09
	Condition 6	.01	.09
	Condition 7	-.06	.09
	Condition 8	-.11	.09
Condition 2			
	Condition 1	-.04	.1
	Condition 3	-.13	.09
	Condition 4	-.21	.09
	Condition 5	-.15	.09
	Condition 6	-.04	.09
	Condition 7	-.1	.09
	Condition 8	-.15	.09
Condition 3			
	Condition 1	.09	.09
	Condition 2	.13	.09
	Condition 4	-.09	.09
	Condition 5	-.02	.09
	Condition 6	.09	.09
	Condition 7	.03	.09
	Condition 8	-.02	.09
Condition 4			
	Condition 1	.17	.09
	Condition 2	.21	.09
	Condition 3	.09	.09
	Condition 5	.07	.09
	Condition 6	.18	.09
	Condition 7	.11	.09
	Condition 8	.07	.09
Condition 5			
	Condition 1	.11	.09
	Condition 2	.15	.09
	Condition 3	.02	.09
	Condition 4	-.07	.09
	Condition 6	.11	.09
	Condition 7	.05	.09
	Condition 8	.0	.09
Condition 6			
	Condition 1	-.006	.09
	Condition 2	.04	.09
	Condition 3	-.093	.09
	Condition 4	-.18	.09
	Condition 5	-.11	.09
	Condition 7	-.07	.09
	Condition 8	-11	.09
Condition 7			
	Condition 1	.06	.09

	Condition 2	.1	.09
	Condition 3	-.03	.09
	Condition 4	-.11	.09
	Condition 5	-.05	.09
	Condition 6	.07	.09
	Condition 8	-.05	.09
Condition 8			
	Condition 1	.11	.09
	Condition 2	.15	.09
	Condition 3	.02	.09
	Condition 4	-.07	.09
	Condition 5	.0	.09
	Condition 6	.11	.09
	Condition 7	.05	.09

***. p<.001
**. p<.01
*. p<.05

Table

One-way ANOVA for incivility of others.

	Sum of Squares	df	Mean of Squares	F
Between the groups	97.77	7	13.97	13.86***
Within the groups	211.58	210	1.01	
Total	309.34	217		

***. p<.001
**. p<.01
*. p<.05

Table

Comparison of means (incivility of others) of different conditions (Tukey-test).

		Mean difference	SEB
Condition 1			
	Condition 2	-.17	.3
	Condition 3	-.08	.27
	Condition 4	-.11	.28
	Condition 5	1.24***	.28
	Condition 6	1.14**	.28
	Condition 7	1.16***	.28
	Condition 8	1.43***	.28
Condition 2			
	Condition 1	.17	.29
	Condition 3	.09	.27
	Condition 4	.06	.28
	Condition 5	1.41***	.28
	Condition 6	1.31***	.28
	Condition 7	1.32***	.28
	Condition 8	1.6***	.28
Condition 3			
	Condition 1	.08	.27
	Condition 2	-.09	.27
	Condition 4	-.03	.26
	Condition 5	1.32***	.26
	Condition 6	1.22***	.26
	Condition 7	1.24***	.26
	Condition 8	1.51***	.26
Condition 4			
	Condition 1	.11	.28
	Condition 2	-.6	.28
	Condition 3	.03	.26
	Condition 5	1.35***	.27
	Condition 6	1.25***	.27
	Condition 7	1.26***	.27
	Condition 8	1.53***	.27

Condition 5			
	Condition 1	-1.24***	.28
	Condition 2	-1.41***	.28
	Condition 3	-1.32***	.26
	Condition 4	-1.35***	.27
	Condition 6	-.1	.27
	Condition 7	-.09	.27
	Condition 8	.19	.27
Condition 6			
	Condition 1	-.1.14**	.28
	Condition 2	-1.31***	.28
	Condition 3	-.1.22***	.26
	Condition 4	-1.3***	.27
	Condition 5	.1	.27
	Condition 7	.01	.27
	Condition 8	.29	.27
Condition 7			
	Condition 1	-1.16***	.28
	Condition 2	-1.32***	.28
	Condition 3	-1.24***	.26
	Condition 4	-1.26***	.27
	Condition 5	.09	.27
	Condition 6	-.01	.27
	Condition 8	.27	.27
Condition 8			
	Condition 1	-1.42***	.28
	Condition 2	-1.59***	.28
	Condition 3	-1.51***	.26
	Condition 4	-1.53***	.27
	Condition 5	-.19	.27
	Condition 6	-.28	.27
	Condition 7	-.27	.27

***. p<.001
**. p<.01
*. p<.05

Table

One-way ANOVA for honest opinion.

	Sum of Squares	df	Mean of Squares	F
Between the groups	31.92	7	4.56	3.95***
Within the groups	242.19	210	1.15	
Total	274.12	217		

***. p<.001
**. p<.01
*. p<.05

Table

Comparison of means (honest opinion) of different conditions (Tukey-test).

		Mean difference	SEB
Condition 1			
	Condition 2	-.04	.31
	Condition 3	-.63	.29
	Condition 4	-.48	.3
	Condition 5	-.22	.3
	Condition 6	.002	.3
	Condition 7	-1.18*	.3
	Condition 8	-.37	.3

Condition 2			
	Condition 1	.04	.31
	Condition 3	-.59	.29
	Condition 4	-.44	.3
	Condition 5	-.18	.3
	Condition 6	.06	.3
	Condition 7	-1.14*	.3
	Condition 8	-.32	.3
Condition 3			
	Condition 1	.63	.29
	Condition 2	.58	.29
	Condition 4	.14	.28
	Condition 5	.41	.28
	Condition 6	.64	.28
	Condition 7	-.55	.28
	Condition 8	.26	.28
Condition 4			
	Condition 1	.48	.3
	Condition 2	.44	.3
	Condition 3	-.14	.28
	Condition 5	.27	.29
	Condition 6	.5	.29
	Condition 7	-.7	.29
	Condition 8	.12	.29
Condition 5			
	Condition 1	.22	.3
	Condition 2	.18	.3
	Condition 3	-.41	.28
	Condition 4	-.27	.29
	Condition 6	.24	.29
	Condition 7	-.96	.29
	Condition 8	-.15	.29
Condition 6			
	Condition 1	-.02	.3
	Condition 2	-.06	.3
	Condition 3	-.64	.28
	Condition 4	-.5	.29
	Condition 5	-.24	.29
	Condition 7	-1.2***	.29
	Condition 8	-.38	.29
Condition 7			
	Condition 1	1.18**	.3
	Condition 2	1.14*	.3
	Condition 3	.55	.28
	Condition 4	.7	.29
	Condition 5	.96*	.29
	Condition 6	1.2***	.29
	Condition 8	.81	.29
Condition 8			
	Condition 1	.37	.3
	Condition 2	.32	.3
	Condition 3	-.26	.28
	Condition 4	-.17	.29
	Condition 5	.15	.29
	Condition 6	.39	.29
	Condition 7	-.81	.29

***. p<.001
**. p<.01
*. p<.05

Table

One-way ANOVA for comfortableness.

	Sum of Squares	df	Mean of Squares	F
Between the groups	22.49	7	3.21	2.64*
Within the groups	255.79	210	1.22	
Total	278.28	217		

***. p<.001
**. p<.01
*. p<.05

Table

Comparison of means (comfortableness) of different conditions (Tukey-test).

		Mean difference	SEB
Condition 1			
	Condition 2	-.21	.32
	Condition 3	-.68	.3
	Condition 4	-.21	.31
	Condition 5	-.41	.31
	Condition 6	-.57	.31
	Condition 7	-.97*	.31
	Condition 8	.0	.31
Condition 2			
	Condition 1	.21	.32
	Condition 3	-.47	.3
	Condition 4	-.01	.31
	Condition 5	-.2	.31
	Condition 6	-.36	.31
	Condition 7	-.76	.31
	Condition 8	-21	.31
Condition 3			
	Condition 1	.68	.3
	Condition 2	.47	.3
	Condition 4	.46	.29
	Condition 5	.27	.29
	Condition 6	.11	.29
	Condition 7	-.29	.29
	Condition 8	.68	.29
Condition 4			
	Condition 1	.21	.31
	Condition 2	.01	.31
	Condition 3	-.46	.29
	Condition 5	-.19	.3
	Condition 6	-.36	.3
	Condition 7	-.75	.29
	Condition 8	.21	.23
Condition 5			
	Condition 1	.41	.31
	Condition 2	.2	.31
	Condition 3	-.27	.29
	Condition 4	.19	.3
	Condition 6	-.16	.3
	Condition 7	-.56	.3
	Condition 8	.41	.3
Condition 6			
	Condition 1	.57	.31
	Condition 2	.36	.31
	Condition 3	-11	.29
	Condition 4	.36	.3
	Condition 5	.16	.3
	Condition 7	-.39	.29
	Condition 8	.57	.3

Condition 7			
	Condition 1	.97*	.31
	Condition 2	.76	.31
	Condition 3	.29	.29
	Condition 4	.75	.29
	Condition 5	.56	.3
	Condition 6	.39	.29
	Condition 8	.97*	.3
Condition 8			
	Condition 1	.0	.31
	Condition 2	-.21	.31
	Condition 3	-.68	.29
	Condition 4	-.21	.3
	Condition 5	-.41	.3
	Condition 6	-.57	.3
	Condition 7	-.97*	.3

***. p<.001
**. p<.01
*. p<.05

Table

One-way ANOVA for anonymity.

	Sum of Squares	df	Mean of Squares	F
Between the groups	32	7	4.57	2.55*
Within the groups	376.57	210	1.79	
Total	408.57	217		

***. p<.001
**. p<.01
*. p<.05

Table

Comparison of means (anonymity) of different conditions (Tukey-test).

		Mean difference	SEB
Condition 1			
	Condition 2	.08	.39
	Condition 3	-.86	.36
	Condition 4	.02	.37
	Condition 5	-.75	.38
	Condition 6	-.33	.37
	Condition 7	-.77	.37
	Condition 8	-.01	.38
Condition 2			
	Condition 1	-.08	.39
	Condition 3	-.94	.36
	Condition 4	-.06	.37
	Condition 5	-.83	.38
	Condition 6	-.42	.37
	Condition 7	-.86	.37
	Condition 8	-.09	.38
Condition 3			
	Condition 1	.86	.36
	Condition 2	.94	.36
	Condition 4	.88	.35
	Condition 5	.11	.35
	Condition 6	.52	.35
	Condition 7	.09	.35
	Condition 8	.85	.35

Condition 4			
	Condition 1	-.02	.37
	Condition 2	.06	.37
	Condition 3	-.88	.35
	Condition 5	-.77	.36
	Condition 6	-.36	.36
	Condition 7	-.8	.36
	Condition 8	-.03	.36
Condition 5			
	Condition 1	.75	.38
	Condition 2	.83	.38
	Condition 3	-.11	.35
	Condition 4	.77	.36
	Condition 6	.42	.36
	Condition 7	-.02	.36
	Condition 8	.74	.36
Condition 6			
	Condition 1	.33	.37
	Condition 2	.42	.37
	Condition 3	-.52	.35
	Condition 4	.36	.36
	Condition 5	-.42	.36
	Condition 7	-.44	.36
	Condition 8	.32	.36
Condition 7			
	Condition 1	.77	.37
	Condition 2	.86	.37
	Condition 3	-.86	.35
	Condition 4	.8	.36
	Condition 5	.02	.36
	Condition 6	.44	.36
	Condition 8	.76	.36
Condition 8			
	Condition 1	.01	.38
	Condition 2	.09	.38
	Condition 3	-.84	.35
	Condition 4	.03	.36
	Condition 5	-.74	.36
	Condition 6	-.32	.36
	Condition 7	-.76	.36

***. p<.001
**. p<.01
*. p<.05

Table

One-way ANOVA for enough time.

	Sum of Squares	df	Mean of Squares	F
Between the groups	144.63	7	20.66	12.02***
Within the groups	360.99	210	1.72	
Total	505.62	217		

***. p<.001
**. p<.01
*. p<.05

Table

Comparison of means (enough time) of different conditions (Tukey-test).

		Mean difference	SEB
Condition 1			
	Condition 2	-.08	.38
	Condition 3	-1.15*	.36
	Condition 4	-1.94***	.37
	Condition 5	.03	.37
	Condition 6	.06	.37
	Condition 7	-1.57***	.36
	Condition 8	-1.68***	.37
Condition 2			
	Condition 1	.08	.38
	Condition 3	-1.07	.36
	Condition 4	-1.857***	.37
	Condition 5	.11	.37
	Condition 6	.14	.37
	Condition 7	-1.48**	.36
	Condition 8	-1.59***	.37
Condition 3			
	Condition 1	1.15*	.36
	Condition 2	1.06	.36
	Condition 4	-.79	.34
	Condition 5	1.18*	.35
	Condition 6	1.21*	.34
	Condition 7	-.42	.34
	Condition 8	-.53	.35
Condition 4			
	Condition 1	1.94***	.37
	Condition 2	1.86***	.37
	Condition 3	.79	.34
	Condition 5	1.97***	.35
	Condition 6	2***	.35
	Condition 7	.37	.35
	Condition 8	.27	.35
Condition 5			
	Condition 1	-.028	.37
	Condition 2	-.11	.37
	Condition 3	-1.18*	.35
	Condition 4	-1.97***	.35
	Condition 6	-.3	.35
	Condition 7	-1.59***	.35
	Condition 8	-1.7***	.36
Condition 6			
	Condition 1	-.06	.37
	Condition 2	-.14	.37
	Condition 3	-1.21*	.34
	Condition 4	-2***	.35
	Condition 5	-.3	.35
	Condition 7	-1.63***	.35
	Condition 8	-1.74***	.35

Condition 7			
	Condition 1	1.57***	.36
	Condition 2	1.48**	.36
	Condition 3	.42	.34
	Condition 4	-.37	.35
	Condition 5	1.59***	.35
	Condition 6	1.63***	.35
	Condition 8	-.11	.35
Condition 8			
	Condition 1	1.68***	.37
	Condition 2	1.59***	.37
	Condition 3	.53	.35
	Condition 4	-.27	.35
	Condition 5	1.7***	.36
	Condition 6	1.74	.35
	Condition 7	.11	.35

***. p<.001
**. p<.01
*. p<.05

Table

One-way ANOVA for forethought.

	Sum of Squares	df	Mean of Squares	F
Between the groups	7.24	3	2.41	1.68
Within the groups	142.2	99	1.44	
Total	149.44	102		

***. p<.001
**. p<.01
*. p<.05

Tukey-test was not possible.

Table

One-way ANOVA for impulsivity.

	Sum of Squares	df	Mean of Squares	F
Between the groups	8.14	3	2.71	1.6
Within the groups	187.81	111	1.7	
Total	195.95	114		

***. p<.001
**. p<.01
*. p<.05

Tukey-test was not possible.

Table

One-way ANOVA for influence of others.

	Sum of Squares	df	Mean of Squares	F
Between the groups	15.79	7	2.26	1.43
Within the groups	331.81	210	1.58	
Total	282.22	217		

***. p<.001
**. p<.01
*. p<.05

Table

Comparison of means (influence of others) of different conditions (Tukey-test).

		Mean difference	SEB
Condition 1			
	Condition 2	-.21	.36
	Condition 3	-.36	.34
	Condition 4	-.17	.35
	Condition 5	.1	.35
	Condition 6	.4	.35
	Condition 7	-.25	.35
	Condition 8	.36	.35
Condition 2			
	Condition 1	.21	.36
	Condition 3	-.15	.34
	Condition 4	.04	.35
	Condition 5	.31	.35
	Condition 6	.61	.35
	Condition 7	-.04	.35
	Condition 8	.57	.35
Condition 3			
	Condition 1	.36	.34
	Condition 2	.15	.34
	Condition 4	.19	.33
	Condition 5	.46	.33
	Condition 6	.76	.33
	Condition 7	.11	.33
	Condition 8	.72	.33
Condition 4			
	Condition 1	.17	.35
	Condition 2	-.04	.35
	Condition 3	-.19	.33
	Condition 5	.27	.34
	Condition 6	.57	.34
	Condition 7	-.08	.33
	Condition 8	.53	.34
Condition 5			
	Condition 1	-.1	.35
	Condition 2	-.31	.35
	Condition 3	-.46	.33
	Condition 4	-.27	.34
	Condition 6	.3	.34
	Condition 7	-.35	.34
	Condition 8	.26	.34
Condition 6			
	Condition 1	-.4	.35
	Condition 2	-.61	.35
	Condition 3	-.76	.33
	Condition 4	-.57	.34
	Condition 5	-.3	.34
	Condition 7	-.65	.33
	Condition 8	-.04	.34
Condition 7			
	Condition 1	.25	.35
	Condition 2	.04	.35
	Condition 3	-.11	.33
	Condition 4	.08	.33
	Condition 5	.35	.34
	Condition 6	.65	.33
	Condition 8	.61	.34
Condition 8			
	Condition 1	-.36	.35
	Condition 2	-.57	.35
	Condition 3	-72	.33
	Condition 4	-.53	.34
	Condition 5	-.26	.34
	Condition 6	.04	.34
	Condition 7	-61	.34

***. p<.001
**. p<.01
*. p<.05

Table

One-way ANOVA for peer pressure.

	Sum of Squares	df	Mean of Squares	F
Between the groups	5.93	7	.85	.64
Within the groups	278.04	210	1.32	
Total	283.97	217		

***. p<.001
**. p<.01
*. p<.05

Table

Comparison of means (peer pressure) of different conditions (Tukey-test).

		Mean difference	SEB
Condition 1			
	Condition 2	-.17	.33
	Condition 3	.12	.31
	Condition 4	.05	.32
	Condition 5	.38	.32
	Condition 6	.3	.32
	Condition 7	.29	.32
	Condition 8	.19	.32
Condition 2			
	Condition 1	.17	.33
	Condition 3	.28	.31
	Condition 4	.21	.32
	Condition 5	.55	.32
	Condition 6	.46	.32
	Condition 7	.46	.32
	Condition 8	.36	.32
Condition 3			
	Condition 1	-.12	.32
	Condition 2	-.28	.32
	Condition 4	-.07	.3
	Condition 5	.26	.3
	Condition 6	.18	.3
	Condition 7	.18	.3
	Condition 8	.08	.3
Condition 4			
	Condition 1	-.05	-.05
	Condition 2	-.21	-.21
	Condition 3	.07	.07
	Condition 5	.33	.33
	Condition 6	.25	.25
	Condition 7	.24	.43
	Condition 8	.15	.15
Condition 5			
	Condition 1	-.38	.32
	Condition 2	-.55	.32
	Condition 3	-.26	.3
	Condition 4	-.33	.31
	Condition 6	-.08	.31
	Condition 7	-.09	.31
	Condition 8	-.19	.31

Condition 6			
	Condition 1	-.3	.32
	Condition 2	-.46	.32
	Condition 3	-.18	.3
	Condition 4	-.25	.31
	Condition 5	.08	.31
	Condition 7	-.01	.31
	Condition 8	-.1	.31
Condition 7			
	Condition 1	-.29	.32
	Condition 2	-.46	.32
	Condition 3	-.18	.3
	Condition 4	-.24	.31
	Condition 5	-.09	.31
	Condition 6	-.01	.31
	Condition 8	-.1	.31
Condition 8			
	Condition 1	-.19	.32
	Condition 2	-.36	.32
	Condition 3	-.08	.3
	Condition 4	-.15	.31
	Condition 5	.19	.31
	Condition 6	.1	.31
	Condition 7	.1	.31

***. p<.001
**. p<.01
*. p<.05

APPENDIX D – COMPLETE RESULTS OF GENERAL LINEAR MODEL

Table

GLM of name-calling.

	Sum of Squares	df	Mean Square	F	$\eta^2_{partial}$
Possession of Twitter account	.02	1	.02	.23	.0
Creation of Tweets	.12	1	.12	1.44	.01
Hashtags and Tags	.0	1	.0	.0	.0
Anonymity	.02	1	.02	.18	.0
Impulsivity	.0	1	.0	.01	.0
Peer Pressure	.53	1	.53	6.39*	.03
Anonymity*Impulsivity	.5	1	.5	6.06*	.03
Anonymity*Peer Pressure	.0	1	.0	.0	.0
Impulsivity*Peer Pressure	.03	1	.03	.35	.0
Anonymity*Impulsivity*Peer Pressure	.2	1	.2	2.45	.01

***. p<.001.
**. p<.01.
*. p<.05.

Error df: 207, Total df: 218
Mean Square Error: .08

Table

GLM of aspersion.

	Sum of Squares	df	Mean Square	F	$\eta^2_{partial}$
Possession of Twitter account	.01	1	.01	1.13	.01
Creation of Tweets	.0	1	.0	.01	.0
Hashtags and Tags	.0	1	.0	.31	.0
Anonymity	.0	1	.0	.83	.0
Impulsivity	.01	1	.01	1.2	.01
Peer Pressure	.0	1	.0	.77	.0
Anonymity*Impulsivity	.0	1	.0	.86	.0
Anonymity*Peer Pressure	.0	1	.0	.94	.01
Impulsivity*Peer Pressure	.0	1	.0	.76	.0
Anonymity*Impulsivity*Peer Pressure	.0	1	.0	.92	.0

***. p<.001.
**. p<.01.
*. p<.05.

Error df: 207, Total df: 218
MSE: .01

Table

GLM of synonyms for lying.

	Sum of Squares	df	Mean Square	F	$\eta^2_{partial}$
Possession of Twitter account	.02	1	.02	.23	.0
Creation of Tweets	.08	1	.08	1.16	.01
Hashtags and Tags	.1	1	.1	1.37	.01
Anonymity	.1	1	.1	1.34	.01
Impulsivity	.32	1	.32	4.46*	.02
Peer Pressure	.14	1	.14	1.91	.01
Anonymity*Impulsivity	.0	1	.0	.0	.0
Anonymity*Peer Pressure	.01	1	.01	.1	.0
Impulsivity*Peer Pressure	.07	1	.07	1.03	.01
Anonymity*Impulsivity*Peer Pressure	.25	1	.25	3.5	.02

***. p<.001.
**. p<.01.
*. p<.05.

Error df: 207, Total df: 218
MSE: .07

Table

GLM of vulgarity.

	Sum of Squares	df	Mean Square	F	$\eta^2_{partial}$
Possession of Twitter account	.0	1	.0	.0	.0
Creation of Tweets	.26	1	.26	3.01	.01
Hashtags and Tags	.11	1	.11	1.23	.0
Anonymity	.0	1	.0	.01	.0
Impulsivity	.0	1	.0	.05	.0
Peer Pressure	.21	1	.21	2.39	.01
Anonymity*Impulsivity	.04	1	.04	.46	.0
Anonymity*Peer Pressure	.09	1	.09	.99	.01
Impulsivity*Peer Pressure	.52	1	.52	6.06*	.03
Anonymity*Impulsivity*Peer Pressure	.13	1	.13	1.55)	.01

***. p<.001.
**. p<.01.
*. p<.05.

Error df: 207, Total df: 218
MSE: .09

Table

GLM of pejorative (for) speech.

	Sum of Squares	df	Mean Square	F	$\eta^2_{partial}$
Possession of Twitter account	.0	1	.0	.17	.0
Creation of Tweets	.02	1	.02	1.22	.01
Hashtags and Tags	.01	1	.01	1.05	.01
Anonymity	.0	1	.0	.16	.0
Impulsivity	.04	1	.04	3.06	.02
Peer Pressure	.03	1	.03	2.16	.01
Anonymity*Impulsivity	.01	1	.01	.36	.0
Anonymity*Peer Pressure	.01	1	.01	.37	.0
Impulsivity*Peer Pressure	.04	1	.04	2.79	.01
Anonymity*Impulsivity*Peer Pressure	.01	1	.01	.34	.0

***. p<.001.
**. p<.01.
*. p<.05.

Error df: 207, Total df: 218
MSE: .01

Table

GLM of hyperbole.

	Sum of Squares	df	Mean Square	F	$\eta^2_{partial}$
Possession of Twitter account	.06	1	.06	2.72	.01
Creation of Tweets	.0	1	.0	.14	.0
Hashtags and Tags	.04	1	.04	1.94	.01
Anonymity	.0	1	.0	.1	.0
Impulsivity	.0	1	.0	.0	.0
Peer Pressure	.0	1	.0	.15	.0
Anonymity*Impulsivity	.11	1	.11	5.11*	.02
Anonymity*Peer Pressure	.01	1	.01	.29	.0
Impulsivity*Peer Pressure	.01	1	.01	.4	.0
Anonymity*Impulsivity*Peer Pressure	.01	1	.01	.24	.0

***. p<.001.
**. p<.01.
*. p<.05.

Error df: 207, Total df: 218
MSE: .02

Table

GLM of non-cooperation.

	Sum of Squares	df	Mean Square	F	$\eta^2_{partial}$
Possession of Twitter account	.1	1	.1	1.24	.01
Creation of Tweets	.08	1	.08	1	.01
Hashtags and Tags	.06	1	.06	.79	.01
Anonymity	.1	1	.1	1.25	.01
Impulsivity	.0	1	.0	.02	.0
Peer Pressure	.01	1	.01	.14	.0
Anonymity*Impulsivity	.01	1	.01	.12	.0
Anonymity*Peer Pressure	.02	1	.02	.25	.0
Impulsivity*Peer Pressure	.01	1	.01	.14	.0
Anonymity*Impulsivity*Peer Pressure	.02	1	.02	.26	.0

***. p<.001.
**. p<.01.
*. p<.05.

Error df: 207, Total df: 218
MSE: .08

Table

GLM of use of all capital letters.

	Sum of Squares	df	Mean Square	F	$\eta^2_{partial}$
Possession of Twitter account	.02	1	.02	1.44	.01
Creation of Tweets	.14	1	.14	8.48**	.04
Hashtags and Tags	.25	1	.25	14.68***	.07
Anonymity	.03	1	.03	1.64	.02
Impulsivity	.0	1	.0	.1	.0
Peer Pressure	.0	1	.0	.03	.0
Anonymity*Impulsivity	.02	1	.02	.96	.01
Anonymity*Peer Pressure	.0	1	.0	.02	.0
Impulsivity*Peer Pressure	.01	1	.01	.76	.0
Anonymity*Impulsivity*Peer Pressure	.02	1	.02	.89	.0

***. p<.001.
**. p<.01.
*. p<.05.

Error df: 207, Total df: 218
MSE: .02

Table

GLM of provocative punctuation.

	Sum of Squares	df	Mean Square	F	$\eta^2_{partial}$
Possession of Twitter account	.0	1	.0	.05	.0
Creation of Tweets	.02	1	.02	.29	.0
Hashtags and Tags	.0	1	.0	.0	.0
Anonymity	.22	1	.22	3.3	.02
Impulsivity	.01	1	.01	.17	.0
Peer Pressure	.0	1	.0	.03	.0
Anonymity*Impulsivity	.05	1	.05	.71	.0
Anonymity*Peer Pressure	.0	1	.0	.02	.0
Impulsivity*Peer Pressure	.19	1	.19	2.79	.01
Anonymity*Impulsivity*Peer Pressure	.0	1	.0	.02	.0

***. p<.001.
**. p<.01.
*. p<.05.

Error df: 207, Total df: 218
MSE: .07

Table

GLM of provocation.

	Sum of Squares	df	Mean Square	F	$\eta^2_{partial}$
Possession of Twitter account	.06	1	.06	.55	.0
Creation of Tweets	.01	1	.01	.09	.0
Hashtags and Tags	.25	1	.25	2.31	.01
Anonymity	.13	1	.13	1.19	.01
Impulsivity	.03	1	.03	.27	.0
Peer Pressure	.09	1	.09	.82	.0
Anonymity*Impulsivity	.26	1	.26	2.39	.01
Anonymity*Peer Pressure	.23	1	.23	2.1	.01
Impulsivity*Peer Pressure	.0	1	.0	.01	.0
Anonymity*Impulsivity*Peer Pressure	.01	1	.01	.04	.0

***. p<.001.
**. p<.01.
*. p<.05.

Error df: 207, Total df: 218
MSE: .11

Table

GLM of general number of incivilities.

	Sum of Squares	df	Mean Square	F	$\eta^2_{partial}$
Possession of Twitter account	.03	1	.03	.07	.0
Creation of Tweets	.02	1	.02	.04	.0
Hashtags and Tags	1.9	1	1.9	3.78*	.02
Anonymity	.12	1	.12	.24	.0
Impulsivity	.06	1	.06	.11	.0
Peer Pressure	3.36	1	3.36	6.7**	.03
Anonymity*Impulsivity	.23	1	.23	.47	.0
Anonymity*Peer Pressure	.66	1	.66	1.32	.01
Impulsivity*Peer Pressure	3.78	1	3.78	7.53**	.04
Anonymity*Impulsivity*Peer Pressure	.4	1	.4	.8	.0

***. p<.001.
**. p<.01.
*. p<.05.

Error df: 207, Total df: 218
MSE: .5