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Politics and Incivility in the Online Comments: What is Beyond the Norm-Violation Approach?

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The article offers an empirical analysis of the disrespectful online comments—in total, 17,581,659—in Hungary between 2017 and 2019. Considering the name-calling and obscene and abusive phrases as communication practice, we rely on computational linguistics to investigate incivility in comments posted on online news stories and news portals' social media sites across time, platforms, and topics. The results of the dictionary-based quantitative content analysis show that incivility's frequency is steady in the examined three-year period. The topic and platform make the real difference: Politics attract more uncivil comments than business news, and less incivility is detected on Facebook than on the news sites. Contrary to popular perceptions, we find that incivility has not become significantly intensive in election campaign periods. Incivility, however, correlates to the dynamics of interaction. The comment-level analysis suggests that uncivil messages are likely to be surrounded by the same communication feature.

Keywords: computational linguistics, incivility, Hungary, user-generated content, politics, text mining

With this article, we join the academic effort to find new ways to understand online political incivility without the normative implication that incivility is harmful to the public discourse and should be eradicated.

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We respond to the call for the conceptual and methodological renewal of incivility studies (Bennett, 2011; Chen, Muddiman, Wilner, Pariser, & Stroud, 2019) by offering an empirical framework that aims to go beyond the norm-violation approach.

Incivility's complex and multifaceted nature provides an opportunity for alternative directions of incivility studies in politics. Firstly, despite the intellectual disapproval (Anderson, Brossard, Scheufele, Xenos, & Ladwig, 2014; Borah, 2013; Brooks & Geer, 2007; Jamieson, Volinsky, Weitz, & Kenski, 2017; Kenski, Filer, & Conway-Silva, 2018; Lyons & Veenstra, 2016; Papacharissi, 2004), rude language has been a part of online political interactions for a long time and shows no sign of disappearing anytime soon (Coe, Kenski, & Rains, 2014; Smith, Phillip, & King, 2010). Moreover, it appears that the harsh language of the online commentary culture is no longer a subcultural or marginal phenomenon, but is increasingly becoming mainstream (Muddiman, 2018). Nowadays, researchers are more convinced that it is impossible to remove uncivil messages from the online commentary culture (Chen, 2017; Chen et al., 2019). Therefore, incivility needs to be considered as a normal form of Internet-based political discussion, not as deviant.

Secondly, what counts as unacceptable, norm-violating, and improper expressions or gestures in politics will always be contested in the international academic field because the rude and visceral nature of discussion in politics is deeply contextual country- and culture-specific, intertwined with the political and media system that incivility appears in (Mutz, 2015; Otto, Lecheler, & Schuck, 2020; Rains, Kenski, Coe, & Harwood, 2017). Political incivility can never be a universally agreed on analytical term, and the operational definitions vary across the literature.

Thirdly, whether the researchers' perceptions of political discussion norm-violations are the same as the person who writes and reads the comments is a question. According to some studies, sociodemographic status, personality traits, and partisan group identity significantly influence what we identify as incivility and how we perceive it (Kenski et al., 2018; Muddiman, 2017; Nai & Maier, 2000; Stryker, Conway, & Danielson, 2016; Sydnor, 2019).

In this article, we argue for a revised conceptual mindset and empirical toolkit without discarding the previous models of incivility in politics. Inspired by the linguistic account of impoliteness (Culpeper, 2011), we offer a modified—nonnormative—version of the personal-level incivility concept. Our study introduces a new definition of incivility, which allows us to focus on the abusive and obscene phrases and name-calling without interpreting them as verbal acts of rule breaking. This study shifts the attention away from the concept of norm violation and proposes a practice-oriented approach to incivility. We consider incivility in the comments on political news to be acts of communicative practice.

As a methodological novelty of incivility studies, we propose a corpus linguistics' technique using big data and computer-assisted textual analysis tools to quantitatively investigate the user-generated contents of 17,581,659 politics-related comments in Hungary between 2017 and 2019. These appear in the discussion sections of news sites either on their own platform via the Disqus system or on the Facebook page of the news portals. Our study demonstrates that name-calling, obscene, and abusive language is widespread in the Hungarian online political discourses. Consistent with what other non-U.S. case studies (Brokensha & Conradie, 2017; Chan, Chow, & Fu, 2019; Lee, Liang, & Tang, 2019; Stoll, Ziegele, & Quiring,

2020; Theocharis, Barberá, Fazekas, Popa, & Parnet, 2016), we argue that despite the cultural differences, incivility is a global phenomenon. Our data, however, do not support the claim that incivility has become more intense over the examined period. Contrary to our expectation's incivility did not increase during election campaigns. The comment-level analysis also reveals that the uncivil comments are likely to be surrounded by similar rude communication features. We demonstrate that the platform makes a difference. We detected significantly more name-calling and obscene and abusive phrases in the comment sections on the news media site than on Facebook. We also found that political topics attract more incivility than business-related news articles.

Further From the Norm Violation, Toward a Practice-Oriented Approach of Online Incivility

The boundaries between acceptable and insulting—norm-violating—language in online political conversations have become murky. One might rightly ask, "On what basis does a researcher define what counts as uncivil political communication?"; "Who sets the discursive norms in the commentary platforms?"; and "What if the labeled words and expressions are not perceived uncivil by the users?" It is unclear, given the contextual and situative nature of incivility, whether it is possible to develop a general vocabulary for the norm-violating words and expressions that work across different political contexts and periods.

Scholars mostly focus on norm violations, but they disagree on which violated civility norms constitute incivility. Research emphasizes that deviance, or norm violations, can often be easier to identify than the norm itself. For this reason, deviance frequently provides a benchmark to trace norms and norm-building practices (Reno, Cialdini, & Kallgren, 1993). Distinguishing among the levels of norm violation, Muddiman (2017) identifies public- and personal-level incivility. Debate on public-level incivility is inspired by the deliberative democracy theory (Fishkin & Luskin, 2005; Gutmann & Thompson, 2004; Rawls, 1996). Papacharissi (2004) argues that incivility relates to violating norms of political and deliberative processes. Deliberative democracy emphasizes public discussion and the careful consideration of a comprehensive set of ideas (Fishkin & Luskin, 2005; Gastil, 2008). Norms can be violated in multiple ways—for instance, refusing to recognize that other views are legitimate (Uslaner, 1996), putting forward political arguments in terms of private gain rather than the common good (Rawls, 1996), or attacking individuals or groups in ways that violate the rule of inclusiveness of democratic pluralism (Rossini, 2020).

There is a big debate around public-level incivility concepts. Scholars disagree on the usefulness of this construct. The majority of the empirical investigations rely on the personal-level incivility concept, which builds on politeness theory (Ben-Porath, 2010; Mutz, 2015). Personal incivility is conceptualized as interactions in which people yell, name-call, swear, use insulting or aggressive language, and otherwise communicate impolitely (Ben-Porath, 2010; Borah, 2014; Fridkin & Kenney, 2008; Mutz, 2015; Sydnor, 2019). In their pioneering study, Sobieraj and Berry (2011), describe "outrage discourse," one of the "dramatic types" of political incivility, as the use of overgeneralizations, sensationalism, misleading or patently inaccurate information, ad hominem attacks, and partial truths about opponents (p. 19). Later, Coe and associates (2014) referred to incivility as "features of discussion that convey an unnecessarily disrespectful tone toward the discussion forum, its participants, or its topics" (p. 660). For Chen (2017), online incivility is a continuum that ranges from "impoliteness to virulent hate speech" (p. 93), from less to

more aversive forms of communication. Chen's (2017) definition combines key elements of the politeness and the deliberative theories: insulting language, name-calling, and profanity from personal-level incivility, and stereotypical, homophobic, racist, sexist, and xenophobic terms from public-level incivility. Based on Chen's (2017) results, the former ones are tolerable by people in certain cases, and the latter ones are not at all acceptable.

Recently, scholars have paid particular attention to the ambiguity of incivility (Chen et al., 2019; Rossini, 2020). Some previous research suggests that uncivil discourses likely have detrimental consequences to democracy because they may decrease the public trust (Meltzer, 2015; Thorson, Vraga, & Ekdale, 2010) and seriously jeopardize deliberation (Gervais, 2015). It is argued that online incivility is broader than just bad manners; offensive and harmful expressions are the part of the visceral action to exclude certain group of people (women, especially) from public conversations (Sobieraj, 2020). However, other studies show that incivility is sometimes beneficial for democratic political conversation (Chen et al., 2019). Using rude and harsh language may be useful for politicians and journalists because incivility may capture voter attention, raise awareness, and increase content engagement (Borah, 2014; Gervais, 2015; Mutz, 2015). The strategic use of incivility certainly has short-term benefits in political communication, as it may attract public attention (Druckman, Gubitz, Levendusky, & Lloyd, 2019). However, uncivil messages may also lead to boomerang effect: voters with low tolerance for insulting language and vitriol are likely to have a negative perception of the politicians who launch or are associated with uncivil attacks (Fridkin & Kenney, 2011, 2019; Nai & Maier, 2020).

The emotive component of incivility has also received some scholarly attention. Berry and Sobieraj (2014) argue that incivility in outgroup construction serves as emotional and expressive glue among those on the same political side. Nasty talk and profanities in politics might also be entertaining for certain types of personalities (Bortoluzzi & Semino, 2016; Sydnor, 2019). There is some evidence that reasoned debate and emotionally charged invective can coexist in online comment streams (Chen, 2017). Given that the boundaries between acceptable and unacceptable word choices are varied, and incivility is a widespread online communication practice (Coe et al., 2014; Stoll et al., 2020), there is room for contextual interpretation of incivility (Rossini, 2020).

Previous studies describe the main forms of incivility in political discussions. However, there has not been much published on the justification of the labels of uncivil words and expressions. We argue that incivility is a dynamically evolved phenomenon that is contextual and time bound. Following sociolinguistics (Halliday, 1965), the location or physical setting of communication, the topic, the speakers' social roles and intentions, and the mode of the conversation form the context of the online incivility. Given that one can never be sure whether certain words or linguistic structures are considered harsh or derogatory, we know that text-based research may incorrectly identify potentially uncivil messages. To develop our own concept, we borrow some elements from the politeness theory which defines incivility as a form of "disrespectful discourse" (Jamieson et al., 2017, p. 206) and "use verbal aggression" toward the opponents to silence, derogate or delegitimize the conflicting political views (Hmielowski, Hutchens, & Cicchirillo, 2014, p. 1201). The broad conceptualization of incivility leads us to characterize online incivility as a communication practice of a group of people who write comments on the news site's digital platforms. We are not saying that incivility is a "good" or "desirable" form of communicating by using this definition. We are suggesting that

as a widespread practice, they must be recognized as a way of expressing political views (Craig, 2006, p. 40). Incivility as a mode of communication, deploys negative expressions (see Chen, 2017; Mutz, 2007) to degrade or terrify those who communicate dissimilar political views. These messages are also intended to discredit conflicting arguments (see also Muddiman, 2018).

Our study directly links incivility to its environment, specifically to the place and time in which the conversations occur, the topic and the communicative relationship among the Web-based conversation participants. The spatial, temporal, topical, and interactional dimensions of the communicative situation are all strong predictors of abusive phrases, obscene language, and name-calling.

Previous research has investigated the affordance of communication platforms in connection with incivility. Results are contradictory in many respects. Facebook is observed as a platform for less uncivil communication than Twitter (Oz, Zheng, & Chen, 2018); however, intolerant comments are more prevalent on Facebook than they are on news websites (Rossini, 2020).

No significant platform effects have been detected by comparing social media and comments on news sites' concerning impoliteness (Chen, 2017). To contribute to addressing the dilemma of affordance, we reassess the issue of platform effect with the aid of the first research question:

RQ1: Does the frequency of uncivil messages differ significantly between the news sites' comment section and the news portal's Facebook page?

We assume that the level of incivility is lower in the case of Facebook pages of the media outlets compared with the comments on the news sites (H1). This might be due to two reasons: First, Facebook has a strict content moderation policy. Second, most users registered their real personal identity on Facebook, which possibly has a moderation effect on their choice of expression.

The topical features have received modest scholarly attention. Coe and his associates (2014) examined incivility in relation to the topic of the article. Their results indicate that "hard news" topics appear to activate greater incivility. For example, articles about the economy, politics, law and order, taxes, and foreign affairs all received roughly one uncivil comment for every four comments posted. They found less uncivil content in the so-called soft news articles about health, lifestyle, and technology. The notable exception was sports, which seemed to trigger as much incivility as "hard news" (Coe et al., 2014, p. 669). To assess whether politics as a topic evokes uncivil communication practices, we pose the following question:

RQ2: Does the frequency of uncivil messages significantly differ between political topics and nonpolitical topics?

In line with Coe and his colleagues' (2014) findings, we presuppose that the frequency of incivility is higher in politics-related comments in comparison with business, service, and industry-related comments (H2).

To study the temporal dimension, we test whether the emotionally arousing periods of political life, such as elections, increase the magnitude of online incivility.

RQ3: Does the frequency of uncivil messages significantly increase during election campaigns?

Some studies suggest a modest correlation between time and incivility (Munger, 2017 Theocharis, Barberá, Fazekas, & Popa, 2020). However, most research about the extent of uncivil interactions during times of heightened political interest and discourse, such as electoral campaigns, has been limited by the relatively short periods examined (Lee et al., 2019; Ward & McLoughlin, 2020). Presumably, closer to the election time, the users are likely to post more uncivil messages (H3). Specifically, in the weeks before and after election day, we anticipate temporary peaks of uncivil messages. The type of election is also a factor. Local elections and European Parliament (EP) elections are usually less heatedly debated at the country level. In elections where party politics play less of a role as in the case of EP and local elections, the tension is lower.

The dynamics of incivility is measured by the interactional component of the discursive situation. We aim to understand whether the users' uncivil communicative practices impact the concertation of rude messages in the comment streams. Our research question follows:

RQ4: Does the frequency of uncivil messages increase if the surrounding user-generated contents contain any elements of name-calling and obscene and abusive language?

To our best knowledge, this research is the first attempt to describe the likelihood of uncivil communication practices from the interactional viewpoint. Thus, it is difficult to provide a well-founded hypothesis. However, conventional wisdom suggests that violence is likely to breed violence. Our challenge is to confirm or reject the assumptions of the spiraling interactional effect. Therefore, we test whether abusive, obscene, and name-calling reactions trigger further incivility in online political conversations (H4).

Data and Methods

Our longitudinal data set includes a general election (April 2018), a European Parliamentary election (May 2019), and a local election (October 2019). We collected a large number of users' comments posted to articles about politics either via the Disqus system (news sites' portals) or on the Facebook page of the news outlet with a social listening software called SentiOne. The data collection contains 34 months of comments between March 2017 and the end of 2019.[3]

[3] The social listening software that we used provided data only for 34 months before the date of data collection. Such a limitation is because of technological (data storage) and legal (General Data Protection Regulation, EU 2016/679) reasons. We used the longest time period that the tool could provide, including more stressful days in elections campaigns and less arousal times between elections.

First, we selected the most popular and influential online outlets in Hungary. We selected four progovernmental sites (Origo.hu, 888.hu, PestiSracok.hu, and Mandiner.hu) and four that are critical toward the current right-wing government (Index.hu, 444.hu, HVG.hu, and 24.hu). The second step was defining those keywords, which helped us identify the politics-related articles and posts. For this, we defined 32 keywords (see Appendix A1). The keywords were very diverse, from general politics-related words (party, minister, politician, and government), through more specialized keywords, such as party names or political leaders' names. Most of the sites have two platforms to comment on their articles. All of them have a Facebook page, where they share their articles. In addition, most of them, except Index.hu, have a system on their pages called Disqus for commenting. The total number of comments in the database is 17,500,764—62% of the comments come from the forums and the rest from the Facebook sites of the news outlets.

RQ3 addresses the difference between politics-related comments and comments of business news media. To test the different levels of incivility in the two domains, we had to use a second corpus. This second corpus, which we used for control purposes, contained comments related to telecommunication companies. We collected all comments mentioning any of the big telecommunication companies in Hungary in 2019. The number of comments in this database is 80,985.

Our operational definition of incivility includes abusive phrases (Montagu, 1967; O'Sullivan & Flanagin, 2003; Rösner & Krämer, 2016), obscene language (Stroud et al., 2015), and name-calling (Chen, 2017; Sobieraj & Berry, 2011). Although, we are aware of other incivility dimensions, like aspersion and false accusations, emotional display, misrepresentative exaggeration, mockery, conflagration, and ideologically extremizing language, for the purpose of this study, we focus on the three linguistically prototypical formats of incivility in our data set (see Table 1). Abusive phrases, obscene language, and name-calling are discussed as among the most common uncivil tone measurements in previous studies (Berry & Sobieraj, 2014; Brooks & Geer, 2007; Coe et al., 2014; Disbrow & Prentice, 2009; Gervais, 2014; Hwang, Kim, & Huh, 2014; Mutz & Reeves, 2005; Thorson et al., 2010).

Table 1. Definitions and Examples of Dimensions of Incivility.

Dimension	Definition	Example from the sample
Abusive phrases	Generally, a strongly negative emotional phrase that directly or indirectly qualifies a person, a group, or other objects in whole or in part.	*Büdös bunkók a liberálisok.* The liberals are stinking yobs.
Obscene language	Four-letter words and particularly bodily practices, incl. expressions related to the digestive systems and sexual materials which are offensive and shocking in a given context.	*Orbán most tényleg beszart tőle.* Orbán shits in his pants now, really.
Name-calling	It is characterized by words and context that make the subject foolish, inept, hypocritical, deceitful, and dangerous. Typical formats are adjective and proper names, lexical blending, and nicknames, which contain proper names to refer directly to the subject.	Ferenc Gyurcsány as *Gyurcsótány*: *Gyurcsány & csótány*—Gyurcsány & cockroach

There are two major classifications of comments—unsupervised dictionary-based and supervised machine learning methods (Stoll et al., 2020). Dictionary-based classification is a simpler technique than supervised machine learning, yet still can yield results with high validity. For our analysis, we chose the dictionary-based approach (Davidson, Warmsley, Macy, & Weber, 2017) because we assumed that the target topic could be well defined by typical word usage.

There was no available incivility dictionary in Hungarian; therefore, we developed one for our purposes. In doing the lexicography, we selected debated topics from the recent political period and chose a progovernment (888.hu) and a critical site (444.hu) for the dictionary creation. First, three annotators read all the comments under the selected articles independently and coded the comments using previously established categories of incivility (Lekner, 1999; Montagu, 1967). Based on the first annotation round experiences, we updated our scheme and annotated a new group of comments. After the series of annotations, abusive phrases, obscene phrases, and name-calling categories were included in the annotation scheme. Then, we extracted all the tokens marked as uncivil in the last annotated texts and evaluated them based on the experiences of the annotation by the research team. These extracted words do not necessarily violate the discursive norms of the online conversation, but they are potentially considered as uncivil. We classified all the comments of a selected text which were not used in the dictionary creation and matched the results with a hand annotation by one of our annotators. As for the reliability, we measured the precision value (P) 0.91, the recall value (R) 0.8, and the accuracy (A) 0.9. These values were lower for the subcategories. Name-calling seemed to be the hardest to capture because of the creative potential of blending of names and negative connotations. Based on the lower accuracy level of the subtype classification, we decided to use the joint incivility category in this article. We also have to keep in mind that this dictionary-based approach certainly underestimates the real level of incivility. In the test corpus, the annotator classified 38.3% of the comments as uncivil, whereas this value was 33.8% when the text was classified by the algorithm.

Results

The overall level of incivility was 29.4% in the more than 17 million politics-related comments. This is 10% higher than what Coe and his colleagues (2014) found. Our results show that more than 5 million comments contained at least one aspect of incivility between 2017 and 2019. Table 2 summarizes the basic statistics of incivility for all the analyzed sites by platform types.

Table 2. Level of Incivility per Outlet per Platform.[4]

		Number of posts	% of incivility	Lowest monthly value	Highest monthly value
Pro	Origo.hu— Facebook	46,8705	26.7%	23.2%	30.0%
	Origo.hu—Disqus	60,704	39.7%	38.9%	42.8%
	PestiSracok.hu—Facebook	968,963	26.8%	22.9%	32.0%
	PestiSracok.hu—Disqus	349,261	38.2%	34.5%	51.2%
	Mandiner.hu—Facebook	287,719	25.7%	22.8%	31.5%
	Mandiner.hu—Disqus	59,332	30.7%	24.6%	38.6%
	888.hu—Facebook	697,847	23.6%	19.5%	26.4%
	888.hu—Disqus	3,490,923	38.8%	33.4%	43.1%
Critical	Index.hu—Facebook	1,095,801	24.4%	21.6%	28.3%
	HVG.hu—Facebook	1,233,632	24.2%	22.0%	27.5%
	HVG.hu—Disqus	2,423,384	35.4%	33.2%	37.2%
	444.hu—Facebook	962,140	25.5%	23.0%	28.1%
	444.hu—Disqus	4083358	22.9%	21.0%	24.4%
	24.hu—Facebook	822917	23.2%	20.9%	25.7%
	24.hu—Disqus	493.920	38.3%	36.3%	41.3%

Spatial (RQ1) and Topical (RQ2) Dimension

The level of incivility varied greatly between the analyzed outlets and platforms. The highest average value was 39.7% (Origo.hu—Disqus); the lowest value was 22.9% (444.hu—Disqus). The difference is more than 15 % points between the two outlets. The lowest and the highest average value both came from a forum, but incivility was overall higher in the forums than on the Facebook pages for each outlet except 444.hu ($p < .000$, $\eta^2 = 0.27$[5]). In some cases, the difference was more than 15%. Hence, we can accept the H1 hypothesis about platform effect: The incivility level on Facebook was lower compared with the same outlet's Disqus forum. However, 444.hu is an outlier, here. The explanation for this is quite clear. They started using a strict moderation policy in their forum in January 2016.[6] This moderation policy resulted in a much lower incivility level compared with other sites.

[4] Origo.hu closed its Disqus forum in April 2017. **24.hu closed its Disqus Forum in January 2019.

[5] If we calculate the effect size without 444.hu, the η^2 increase to 0.94.

[6] https://444.hu/2016/01/15/vita-van-vita-lesz-de-maskeppen (in Hungarian)

Because 30% of the overall value of incivility seems relatively high, it is important to understand whether this high value is a universal feature of the Hungarian comment culture or an attribute of politics-related comments. In H2, we assumed that amount of incivility is higher in politics-related topics compared with comments of business and service-industry-related news media outlets. To answer this question, we compared our results with a different corpus, which contains comments on telecommunication companies (see Figure 1).

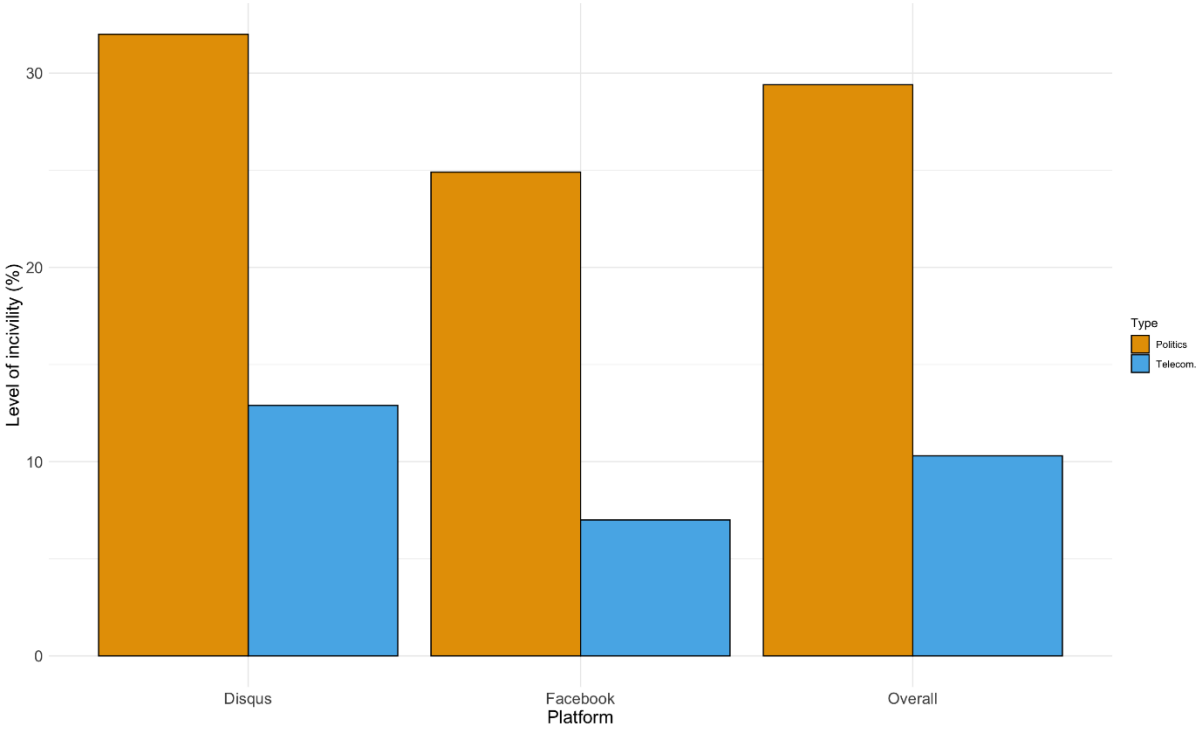

Figure 1. Average level of incivility by topics and platform.

The level of incivility was much lower in the control corpus—only 10.3% of the posts contained any kind of incivility. Name-calling is quite rare in telecommunications-related comments, but this does not explain this big difference between the two corpora. We saw a strong platform effect in the case of politics-related comments. The same holds for the control data. Seven percent of the Facebook posts and 12.9% of the forum comments contained incivility. The difference between politics- and telecommunication-related posts is significant regarding incivility, which verifies our H2 hypothesis (see Coe et al., 2014, for similar results).

Temporal (RQ3) and Interactional Dimensions (RQ4)

To examine the temporal variation of incivility, we used the comment-level data. As the platform effect is very strong, we decided to analyze the Facebook and Disqus comments separately. We fit a binomial logistic regression model to both data sets, where the incivility indicator was the dependent variable. The preliminary

analysis showed that different sites have different levels of incivility. To control this effect, we added the outlets to the model. We chose 444.hu for the contrast variable in both Facebook and Disqus data. To control for the seasonal effect, we added the months as factors (January as contrast), and to control the trend effect, we created a variable that shows the elapsed days from January 3, 2017. To help interpret the model, we divided this trend effect with the maximum value—the normalized indicator range is between 0 and 1.

For H3, we explored the possible effect of elections on the level of incivility. The general election was held on the April 8, 2018, the EP election on May 26, 2019, and the local election on October 13, 2019. We added three dummy variables to the model that cover the period of two weeks each before and after the elections (overall four weeks). For easier interpretation of the results, we also calculated the average marginal effects (see Table 3.).

Table 3. Binomial Logistic Regression Model, With Marginal Effects. Dependent Variable: Incivility Categorization in Disqus Comments,* N = *10,962,152.

	Estimate	AME	AME lower	AME upper	*p*
(Intercept)	−1.44				.00
Trend	0.08	0.02	0.01	0.02	.0
General election	−0.06	−0.01	−0.02	−0.01	.0
EP election	0.00	0.00	−0.01	0.01	.9
Local election	0.07	0.02	0.01	0.02	.00
Previous comments uncivil	0.98	0.21	0.20	0.21	.00
February	0.00	0.00	0.00	0.01	.90
March	0.00	0.00	−0.01	0.00	.65
April	0.00	0.00	0.00	0.00	1.00
May	0.00	0.00	−0.01	0.00	.91
June	−0.02	0.00	−0.01	0.00	.18
July	−0.01	0.00	−0.01	0.00	.61
August	−0.02	0.00	−0.01	0.00	.09
September	−0.04	−0.01	−0.01	0.00	.00
October	−0.04	−0.01	−0.01	0.00	.01
November	−0.04	−0.01	−0.01	0.00	.00
December	−0.01	0.00	−0.01	0.00	.61
24.hu	0.65	0.14	0.13	0.14	.00
888.hu	0.64	0.13	0.13	0.14	.00
HVG.hu	0.50	0.11	0.10	0.11	.00
Mandiner.hu	0.23	0.05	0.03	0.07	.00
PestiSracok.hu	0.63	0.13	0.13	0.14	.00
Origo.hu	0.64	0.13	0.12	0.15	.00
AIC			1142148		
Pseudo R^2 (*McFadden*)			0.09		

Note. AME: Average marginal error; AIC: Akaike information criterium.

Most of the month variables were not significant, except September, October, and November when the incivility was somewhat lower than in January. General and local election variables were also significant. However, their direction was different. Around the general elections in Hungary, the incivility ratio was lower than in other periods. This is the opposite of what we have expected. In the case of local elections, we found a positive estimate meaning that the incivility ratio was higher around this particular election. But overall, the effect size is quite modest; the average marginal effect is around 1–2% in both cases. The EP election variable was not significant.

We tested the H4—clustering of uncivil messages—using the above-discussed models. To assess the interactional dimension, we calculated the average incivility level within the previous five comments.[7]

Based on the results of the regression model, it seems there is some kind of reactionary effect here. We found that if the surrounding comments were uncivil, the following comment had a greater chance of becoming uncivil as well. The average marginal effect (AME) value is 0.21, which means the effect size is 21% if all the five previous comments were uncivil. This is not necessarily a direct reaction to a previous comment, rather a reaction to the surrounding comments. Figure A1 in the appendix presents a typical example of how incivility grows within a discussion. There are escalations and de-escalations of incivility within a discussion.

The trend variable was also significant. Therefore, we conclude that the frequency of incivility increased during the period. Taking a look at the individual dynamic of the different outlets helps us understand the cause of this rise better (see Figure A2 in the Appendix). Only 888.hu had an increasing trend. If we add the interaction effect of the trend variable and 888.hu variables, the significance level of the trend variable goes above 0.05, while the interaction term remains significant.[8] To demonstrate this effect, we calculated the marginal effects of interaction terms (see Figure 2). The predicted probability of incivility is increasing with the trend in the case of 888.hu, while in the other outlets we see stagnation. The increase in the overall level of incivility is due to only one portal, 888.hu.

[7] We tested alternative specification of this variable. We created a dummy variable if the previous comment was uncivil. And we also created another variable where we use the previous and following five comments, when calculating the incivility level. The results with both variables were identical to the result presented in the regression table.

[8] Please note that this does not hold for other interaction terms.

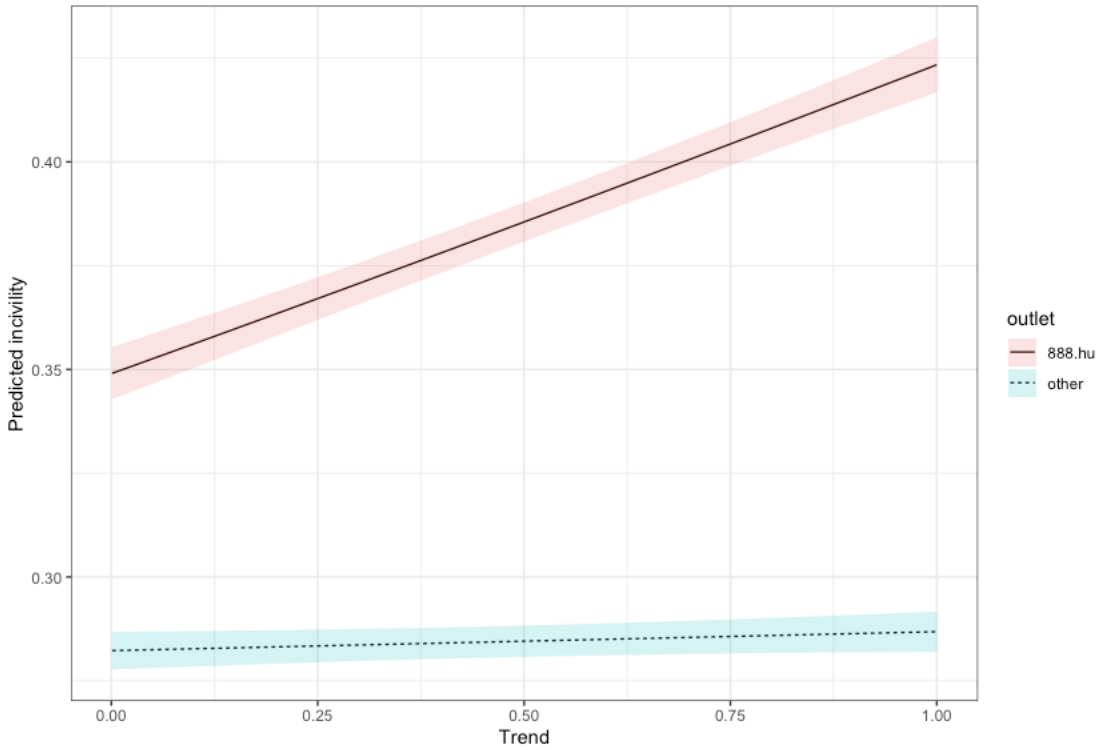

Figure 2. The interaction of 888.hu and trend variable. Average marginal effect predicted probability.

We fit the same model to the Facebook data (see Table 4.). Neither the trend (see Figure A3 in the Appendix for the trend curve of all outlets) nor the election variables were significant in this model. However, the inner dynamic of comments showed the same patterns on Facebook, as in Disqus. If the previous comments were uncivil, the following comment had a greater chance also to become uncivil. This was the only variable that had a real impact on the outcome variable.

Table 4. Binomial Logistic Regression Model, With Marginal Effects. Dependent Variable: Incivility Categorization in Facebook Comments,* N = *6,537,724.

	Estimate	AME	AME lower	AME upper	*p*
(Intercept)	−2.80				
Trend	0.00	0.00	0.00	0.00	.76
General election	0.00	0.00	0.00	0.00	.74
EP election	0.02	0.00	0.00	0.01	.21
Local election	−0.01	0.00	−0.01	0.00	.49
Previous comments uncivil	5.91	0.87	0.87	0.87	.00
February	−0.01	0.00	−0.01	0.00	.39
March	−0.02	0.00	−0.01	0.00	.26
April	−0.04	−0.01	−0.01	0.00	.01
May	−0.03	0.00	−0.01	0.00	.05
June	−0.01	0.00	−0.01	0.00	.35
July	−0.03	0.00	−0.01	0.00	.10
August	−0.04	−0.01	−0.01	0.00	.02
September	−0.01	0.00	−0.01	0.00	.62
October	−0.02	0.00	−0.01	0.00	.30
November	−0.01	0.00	−0.01	0.00	.36
December	−0.01	0.00	−0.01	0.00	.37
24.hu	−0.01	0.00	0.00	0.00	.38
888.hu	−0.01	0.00	0.00	0.00	.37
HVG.hu	−0.01	0.00	0.00	0.00	.32
Mandiner.hu	0.01	0.00	0.00	0.01	.36
PestiSracok.hu	0.00	0.00	0.00	0.00	.86
Origo.hu	−0.01	0.00	−0.01	0.00	.24
Index.hu	−0.02	0.00	−0.01	0.00	.05
AIC			819765		
Pseudo R^2 (*McFadden*)			.27		

Note. AME: Average marginal error; AIC: Akaike information criterium.

We tested in an alternative model the effect of the overall incivility level within an article. We found that the incivility level had a much lower explanatory power compared with the local incivility level indicator. The surrounding comments matter and not the average tone of all comments. The effect was much higher in the Facebook model than in the Disqus model.

Discussion

The study examines how the prototypical communication practices of online incivility evolve over time and vary across platforms, topics, and messages by focusing on users' comments on the posts of news media portals that have clearly identifiable political orientations in Hungary between 2017 and 2019. We used the big data approach to collect 17,581,659 politics- and business-related comments altogether and

computational linguistics to develop a coding scheme for three indicators of incivility, name-calling, obscene, and abusive phrases. This analysis confirms that incivility frequently occurs in users' online conversations about political issues: Approximately every third user's comments contain at least one element of incivility. Somewhat similar to the U.S. context (Coe et al., 2014), the Hungarian commentary culture can be considered cruel and rude.

This research seeks new avenues for incivility studies that go beyond the norm violation approaches by linking the pragmatic aspects of impoliteness theory with computational linguistics. Instead of considering name-calling, obscene, and abusive phrases as the context-free linguistic act of rule breaking, we analyze incivility as communicative practices in the online user-generated contents. By doing so, the study overcomes the most problematic shortcomings of the norm-violation frameworks—namely, the postulation of the existence of the commonly accepted discursive norms, the assumption of the general knowledge about the communication rules, and the presupposition of the wide consensus over the statement that uncivil messages are always harmful in politics.

The practice-oriented approach indicates that incivility depends on its environmental conditions. In the case of online discussions, these conditions are principally the place and time in which the conversations take place. Also, the topic and the interaction among the participants of the online talks are important circumstances that affect the uncivil communication practices. Our study reveals that the level of incivility in a post is influenced by three main factors: platform (place), communicative situation (topic), and surrounding comments (interactions). Contrary to the expectations, the proximity of elections (time) seems to be less influential.

The results match previous findings demonstrating that the frequency of incivility differs based on the platform of the news environment. Data suggest that the users are more exposed to incivility on the commentary platforms that operate with the Disqus system than on Facebook. This can be explained by the affordance of the platforms. Disqus allows anonymity, which might decrease self-regulation and self-awareness and, in turn, increase uninhibited talk of politics. Consistent with Santana (2014), we also observed much incivility on Facebook. Therefore, we argue that the absence of anonymity does not automatically decrease the uncivil comments. However, it reduces the frequency, as confirmed by our analysis. Acknowledging the literature of computer-mediated communication, which says that hiding behind screen names increases offensive and aggressive behavior online (Rabab'ah & Alali, 2019; Reich, 2011; Singer & Ashman, 2009), we accept that anonymity might be an influential factor in producing name-calling, obscene expressions, and swearing.

In this article, we challenge the conventional wisdom that election campaigns provoke more visceral reactions. This may be indicative of emerging editorial or social media moderation on user-generated content around election times. We know from previous studies that some news media companies want to combat incivility by introducing some kind of code of conduct or even employing staff as moderators to remove comments labelled as offensive or harmful for the discussion (Santana, 2014; Seely, 2017). However, others are reluctant to introduce any kind of censorship on users' comments.

We detected significantly less name-calling, obscene language, and swearing in users' comments posted to the news media articles about business. These findings show that incivility is not necessarily a part of the online comment culture in Hungary. However, politics appears to be an emotionally charged topic that solicits affective-type responses such as incivility. The use of rude expressions is explained by the situation. Talking about politics stimulates the use of harsh language, while in a different situation, one feels less of an urge to make inflammatory remarks in the comment streams. Previous studies suggest that politics in Hungary has a strong effect on everyday life (Kmetty & Tardos, 2017). This high emotional involvement is mirrored in politics-related comments.

The analysis highlights the importance of the comment-level analysis in incivility studies: Abusive phrases, obscene communication, and name-calling posts provoke visceral responses. In other words, rudeness begets rudeness. Sometimes, the circles of incivility break, and the conversation continues without name-calling and obscene and abusive phrases until another round of collective ranting starts. We argue that interaction is a decisive factor in changing the discursive situation of the comment flows. Therefore, we claim that the communicative relationship among the participants is a key component of the context of incivility.

The novel conceptual insights shift our attention from the normative evaluations of the Web news-readers' comments toward psycholinguistic-oriented research to study incivility. Having highlighted the nuanced, context-specific, and interactional framework of incivility, we call for empirical investigations to dig deeper into the dimensions of incivility in politics. Besides the spatial, topical, temporal, and interactional aspects, there is a pressing need to explore of the users' motivations as well. The Web-based ventilation, discovered by Martin, Coyier, VanSistine, and Schroeder (2013) is certainly one of the possible driving forces for the high manifestation of rude expressions in the comment sections of news media portals and Facebook sites. Few studies have been conducted to explore how people experience and express their frustration on a particular type of website (Fan, Zhao, Chen, & Xu, 2013; Mor, Kligler-Vilenchik, & Maoz, 2015; Song & Wu, 2018). Findings revealed some users experienced short-run benefits of online venting. Posting a rant can calm some people. At the same time, reading other people's venting can make users angry. For some people, rants have an entertainment value, which makes them more likely to return to the websites and continue reading the venting comments. Sydnor (2019) also points out that certain personalities, mostly conflict tolerant, find joy in producing and being exposed to uncivil political discussion.

Although we define incivility differently from the normative concept of incivility, we do not claim that such online communication practices never violate norms. Rudeness often accompanies criminal threats and unlawful hate speech against protected minorities; therefore, we side with scholars arguing that incivility should be distinguished from expressed prejudice against vulnerable groups (Nobata, Tetreault, Thomas, Mehdad, & Chang, 2016; Rossini, 2020). Besides, there are local norms: Community guidelines may regulate what cannot be said in a comment stream, or fellow users may discursively sanction unwelcome phrases. Even if regulations of intolerable expressions exist, what counts as acceptable and what is not varies across time, context, and personalities. People are possibly aware of this ambiguity, so they probably use and interpret the name-calling and obscene and abusive words from situation to situation.

Nonetheless, we are aware of the limitations of the dictionary-based method. The users' creativity, especially in blending, limits the utility of our analytical toolkit. First, we cannot claim that our dictionary is

complete; therefore, it is very likely that our study underestimates the diffusion of incivility in online discussions. Second, our dictionary-based method is unable to detect whether the indicator words are used or perceived as violating norms. Hence, we only claim that we found evidence of emotive expressions that are highly probable to be negative ones and are used as a communicative tool to degrade those with dissimilar political views or to discredit conflicting arguments. It is possible that a user only quotes what other users posted or mentions name-calling and obscene and abusive words to indicate their annoyance with incivility. Such bias is certainly problematic, and in the future we need to apply more complex text-mining methods, such as a neural-network-based word embedding model, to resolve this issue. Alternatively, a novel approach is needed to identify whether incivility is an emotional expression, linguistic intensification, or indicates group membership. Furthermore, our method cannot estimate the individual-level dispersion of name-calling, obscene, and abusive phrases. It requires in-depth analysis to evaluate whether few users produce the relatively high amount of incivility as literature on trolling suggests (Bishop, 2014; Bulut & Yörük, 2017) or uncivil commentary culture is widely embraced in the online political conversation.

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Appendix

A1. List of Keywords

Political Parties: Fidesz, MSZP, KDNP, LMP, Kétfarkú Kutyapárt, DK, Demokratikus Koalíció, Jobbik, Munkáspárt.

Politicians: Gyurcsány Ferenc, Orbán Viktor, Dobrev Klára, Karácsony Gergely, Tarlós István Vona Gábor, Fekete-Győr András, Szél Bernadett.

Other words: Politics, Government, Minister, Prime Minister, Parliament (with two different words in Hungarian), party, mayor, politician, European Union, head of state, undersecretary of state, ministry, demonstration, strike.

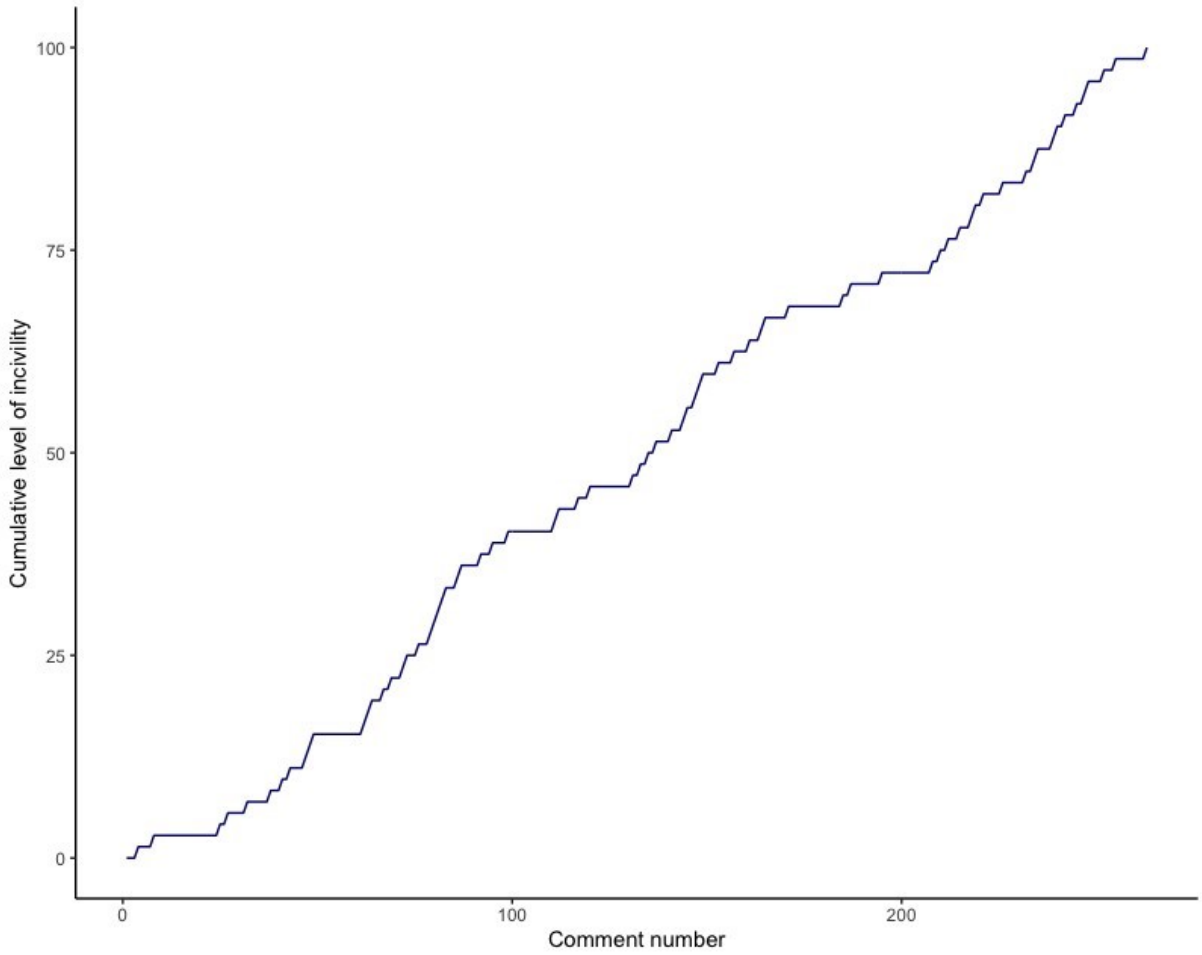

Figure A1. Cumulative growth of incivility within a comment flow (example).

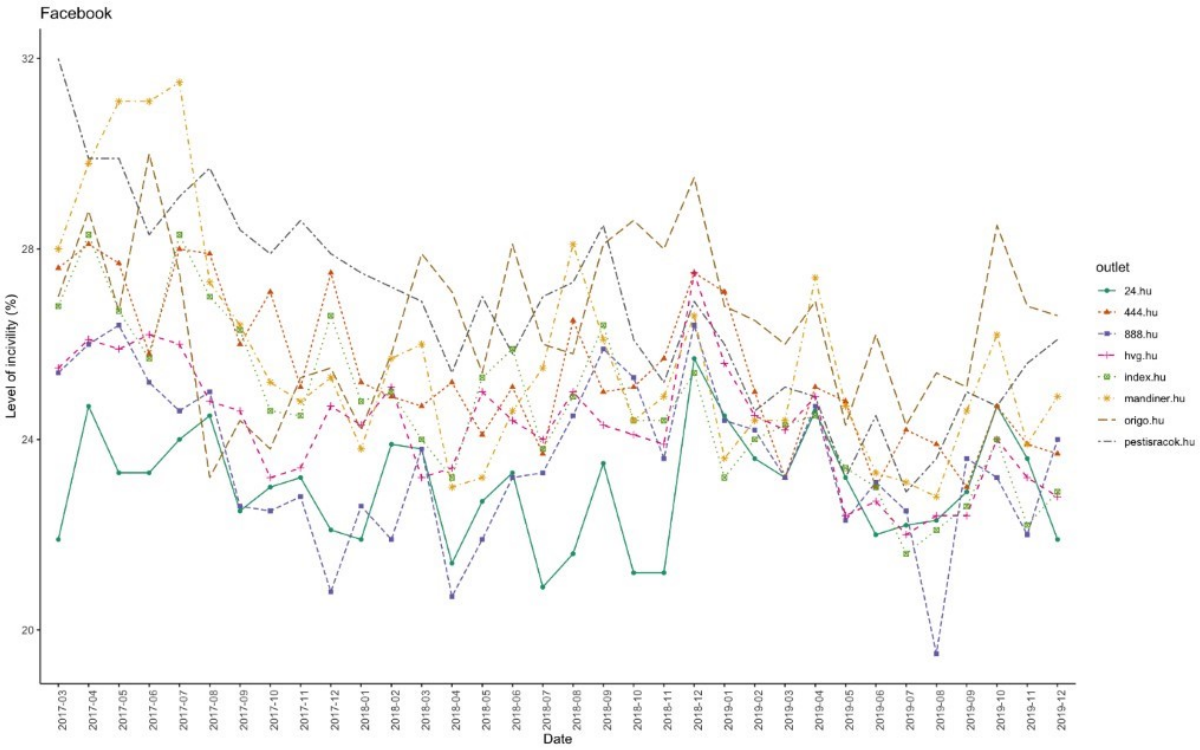

Figure A2. Monthly average level of incivility by outlets—Disqus system.

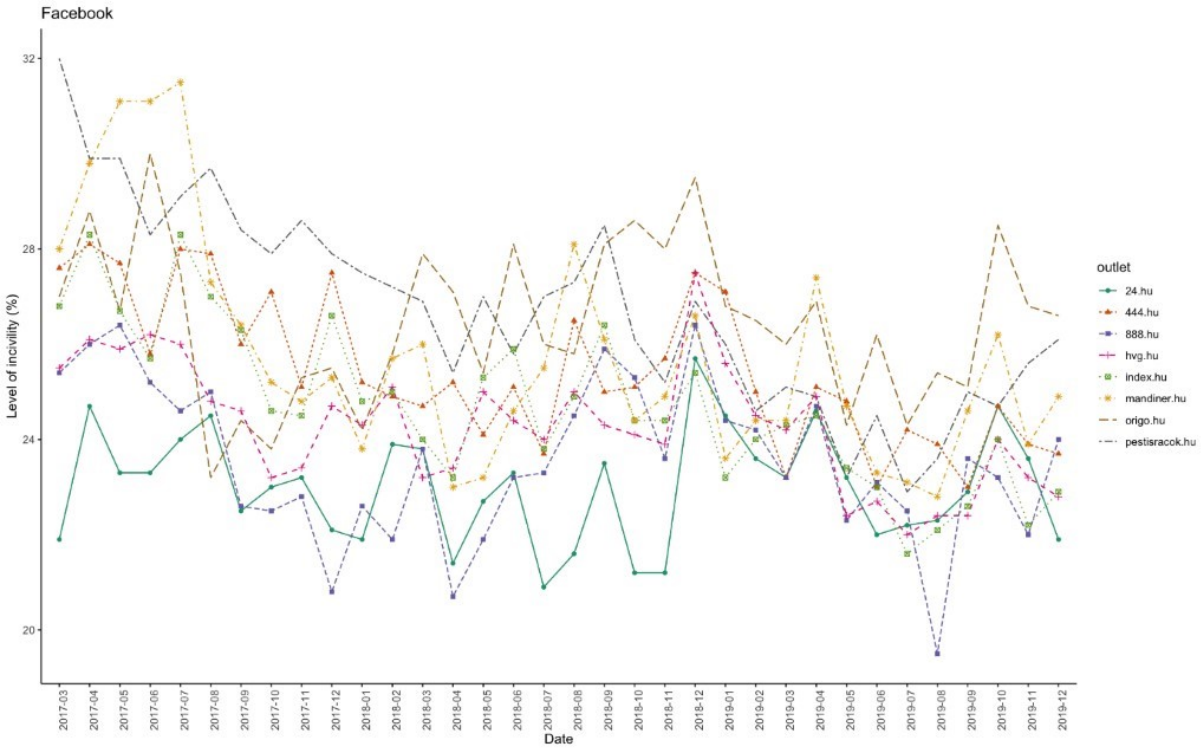

Figure A3. Monthly average level of incivility by outlets—Facebook.