Hate-Speech in the Romanian Online Media

Lecturer **Radu M. MEZA, PhD**

Babeș-Bolyai University, Cluj-Napoca, Romania
E-mail: meza@fspac.ro

Abstract: *This article investigates hate-speech in three of the most important online spaces for public expression: user comments on Facebook Pages, blogs and online news outlets. The co-occurrence of terms referencing frequent targets of hate-speech with elements of violent or offensive language was analyzed in order to detect instances of hate-speech in a sample of over 2.6 million comments published in Romanian in the first six months of 2015. Results indicate a relatively low occurrence of hate-speech - below 1% in the analyzed sample, but also several well-defined contexts and timeframes associated with high occurrence of hate-speech, suggesting possibilities for further in-depth work focusing especially on these particular contexts.*

Keywords*: hate-speech, comments, Facebook, blogs, online news.*

Acknowledgement: This study was funded by PATRIR (Peace Action, Training and Research Institute of Romania) as part of the Switch OFF/ONline Hate Speech project financed through the SEE grants 2009-2014 within the NGO Fund.

I. An Introduction to Online Hate-Speech

In the international and European socio-political context, with economic migrants, refugees and increasing extremism and xenophobia on the public agenda, hate-speech is becoming an increasingly important topic. Where the fundamental human right to freedom of speech and expression collides with the increasing

need for tolerance and mutual respect demanded by life in racially, ethnically, and religiously diverse, multi-cultural societies, hate-speech becomes and important preoccupation for researchers, law-makers, civil society and stake-holders in public mediated communication, irrespective of the communication medium.

The subtopic of online hate-speech is particularly new and important, recently opening up debates on jurisdiction, responsibility, prevention or intervention mechanisms that would not limit individual users' right to free speech.

This research explores new methodologies for automatically identifying and classifying online hate-speech, both on popular social network sites like Facebook, and on web content management system driven dynamic websites like blogs or online news sites. The online medium is generally less regulated and often perceived as a space where there are few or no imposed external limitations. In many contexts - on forums or discussion groups, blogs or their respective comments sections, participants in the act of computer mediated communication may be anonymous or pseudonymous, thus entailing a lower degree of responsibility of the emitter over the message. Digital messages are non-volatile in most cases and public or semi-public asynchronous computer mediated communication environments such as threaded conversations may sustain discussions over indefinite periods of time between a potentially unlimited number of participants or readers. Furthermore, even if the platforms that host these communicational contexts become de facto public spaces, they are still owned by private companies, a fact which raises numerous issues related to intervention, liability and jurisdiction.

From the researcher's point of view, the messages published in such contexts may constitute a resource for the study of the sources, discursive patterns and dynamics of online hate-speech. Such analyses may provide solutions for the management of hate-speech at the level of civil society, government, private companies or public communicators and associated media content managers.

II. Computer Mediated Communication and Online Comments

As the central topic of this article is online discourse, the author will refer mostly to the theoretical framework defined for the study of computer mediated communication, followed by a brief overview of computational linguistics and co-occurrence analysis to ground our methodological approach.

There are two main types of computer mediated communication, as defined in the context of scientific literature on both human computer interaction and computer supported cooperative work (Dix *et al*. 2004):

- Synchronous: users must be online at the same time to communicate;
- Asynchronous: users may not be online at the same time in order to communicate.

The study of computer mediated communication looks at interactivity in one-to-one and many-to-many communication in contexts created on the Internet by the use of different technologies, tools or platforms: e-mail, chat, Bulletin Board Systems, Multi User Dungeons, Internet Relay Chat, Instant Messaging, Web forums and discussion groups or other spaces for online interaction like the more recent social media.

The main focus of this article is the most common type of asynchronous many-to-many computer mediated communication - comments published in threaded conversations attached to news articles, blog posts or Facebook posts.

The thread structure first appeared in Bulletin Board Systems, followed by Web forums and discussion groups, eventually becoming the most frequent feedback mechanism for blogging, media sharing and online social network systems. The characteristics of this structure and its evolution to contemporary social media are described in (Meza 2015).

Most blogs or online publications are usually created using Web content management systems such as Wordpress, Joomla, Drupal or Typo3. Users usually post comments in a section under each article. Depending on how this aspect is managed by the site administrators, comments will be sent for approval or published immediately. Some sites use automated filtering systems (based ok keyword detection) or rating systems that allow other readers to down-vote or mark/report a certain comment as being inappropriate, offending, fake etc.

More recently, a great number of Web content management systems have integrated authentication through Google or Facebook accounts, sometimes even excluding the possibility of publishing comments anonymously or pseudonymously altogether. This generally means that users will have to use their real identity (or at least the one they use on Facebook or Google services - which is tied to their network of contacts/friends) when publishing comments in these spaces for public debate, a fact that may lead to commenters being more responsible and more visibility for the article as some social commenting systems allow automatic sharing on Facebook or Google+. Still, there are many online contexts where keeping hate-speech under control requires constant effort (Cohen-Almagor 2011), automated techniques being unable to handle large-scale, multilingual contexts or forms of hate-speech which employ complex stereotypes, connotation or irony.

III. Analyzing Co-occurrences in Online Comments

From a methodological standpoint, detecting violent, obscene or hate speech is a problem for both media researchers and also content managers or digital platform owners. Natural language processing is a complex task and there is a scarcity of tools available for most languages. The issue of detecting the meaning of

sequences of terms is still challenging as users (anonymous or not) often use linguistic codes that may go undetected through traditional approaches like word filtering (Hughey & Daniels 2013). Also, there is the risk of blocking legitimate comments that may just reference vulnerable groups or discussing related issues, without containing hate-speech or being politically incorrect.

In the absence of well developed, easy to use tools for researchers in the social sciences studying comments in Romanian, analyzing syntax, detecting negatives or interrogatives, irony or sarcasm is out of the question. Cristea and Forăscu (2006) produced an interesting overview of tools for natural language processing used globally and more specifically for the Romanian language, but many platforms or tools which have recently become widespread cannot be adapted successfully for use in analyzing texts in Romanian.

Considering the above and given large enough data sets of short texts (such as comments posted online), the author of the study proposes using co-occurrence analysis to indicate points of interest that may be further explored in-depth through non-automated methods.

This type of analysis is widespread in communication and information sciences, especially in library science, but also in machine translation or natural language processing. Some of the most recent efforts in computational linguistics applied to hate-speech use machine learning techniques similar to sentiment analysis in correlation with techniques for detecting terms used online to reference racial, ethnic or religious groups (Gitari *et al*. 2015).

IV. Literature Review

Although there are no analyses to date of hate-speech in Romanian online comments, this article mainly draws from two recent previous contributions: an overview of the issue of hate-speech in Romania (Angi *et al*. 2014) and a report on the specific issues brought up by hate-speech in online media (Gagliardone *et al*. 2015).

The *Manual on hate speech* published by the European Council includes a discussion over the scope of the concept itself and highlights the following definition included in a Council of Europe's Committee of Ministers' Recommendation:

> "the term «hate speech» shall be understood as covering all forms of expression which spread, incite, promote or justify racial hatred, xenophobia, antisemitism or other forms of hatred based on intolerance, including: intolerance expressed by aggressive nationalism and ethnocentrism, discrimination and hostility against minorities, migrants and people of immigrant origin."(Weber 2009).

The study coordinated by Gabriel Bădescu and Daniela Angi lists multiple definitions for hate-speech, used in different contexts and the four points of interest

of studying hate speech from a communication sciences perspective (Angi *et al*. 2014):

- Content (what is being said);
- Emitters (who is communicating);
- Targets (who is the message about);
- Context (including when the act takes place).

Considering the above, the author reviewed the results of previous research on hate speech in order to identify the main targets of hate speech in the contemporary Romanian society. According to an interview with Ioana Avădani, the Director of the Centre for Independent Journalism, ethnic groups such as the Roma, Jews and Hungarians and sexual minorities such as members of the LGBTQ community are frecquent targets of hate speech. The same source mentions a nascent tendency towards a value gap between religious believers and secularists that may result in hate speech directed against atheists (Angi *et al.* 2014, p 41.).

These frequent targets (and the most frequent alternative terms used for referring to them) were used to construct the coding instrument, also adding terms referring to another important historical ethnic minority in Transylvania - the Transylvanian Saxons. In terms of content, the present analysis of online hate-speech employs a series of codes that identify negative terms frequently associated with members of the target groups and also terms which designate negative characteristics or behaviors, calls to (violent, forceful or negative) action as well as offensive / swear words.

According to (Gagliardone *et al*. 2015) hate-speech online is different from hate-speech in traditional media in several key aspects. Prevention and intervention measures elaborated for traditional media are often inefficient or inapplicable and stake-holders must differentiate between incidental instances and systematic campaigning, between articles or posts with little or no visibility and those which become viral.

V. Research Design

The goal of this research is to identify and classify instances of hate-speech in Romanian language comments to online media (posts and articles) published in the first six months of 2015.

The author's objectives are to identify references to minority groups in comments published on Facebook pages, blogs and online news media, to discern between the use of neutral and derogative terms in those references and to analyze the co-occurrence of references to minority groups with violent or offensive language.

V.1. Research Questions

RQ1: What minority groups are frequently referenced in comments on popular Facebook pages, blogs and online news media?
RQ2: What terms are used to reference groups identified as frequent targets of hate-speech?
RQ3: What kind of violent or offensive language is being used in comments?
RQ4: How often do terms referencing targets of hate-speech co-occur with offensive/violent language in online comments?

VI. Method

Content analysis is the main method used to answer the research questions above. The author chose to analyze large datasets of comments using automated coding by key term detection in online comments. The main disadvantages of this method are its vulnerability to alternative spelling or misspelling of words, the lack of software tools for natural language processing for the Romanian language - like POS (part-of-speech) tagging, well defined stop words lists and the general sensibility of text analysis tools to the use of special characters or characters with diacritical marks from different character sets.

Given the exploratory nature of this research, the author chose to sift through a larger quantity of data, following occurrences of (neutral or derogative) references to target groups and the use of violent or offensive language in the context of each comment.

VI.1. Sample

The sample is comprised of all comments published on 25 Facebook pages, 10 blogs and the news sections of 5 major online news outlets between January 1 2015 and June 30 2015.

VI.1.1. Facebook pages

Facebook pages with large numbers of fans were chosen from different fields: entertainment, media, and politics. Several pages with fewer fans were also included due to particular interest for the topic of hate speech (public figures belonging or associated with minority ethnic / racial groups or representatives of nationalist political groups). The alphabetical list of Facebook pages below also includes the page's rank in the nation-wide according to the Facebrands index accessed on September 1st 2015. The most popular page (belonging to performing artist Inna) was not included due to the fact that most of its posts are in English and its audience is international.

1. **Alex Velea** (1.729.528 fans, ranked 21) – musical artist, sometimes associated with the Roma ethnic group by online sources;
2. **Andi Moisescu** (1.294.682 fans, ranked 39) media personality;
3. **Andra** (2.573.123 fans, ranked 7) – musical artist, sometimes associated with the Roma ethnic group by online sources (mostly by discussion groups or sensationalist news);
4. **Antonia** (2.918.787 fans, ranked 6) – musical artist, whose relationship with Alex Velea was extensively covered by tabloid news;
5. **Bogdan Diaconu** (139.558 fans, ranked 10 in the Politics category) – politician, Member of Parliament, president of Partidul România Unită (political party);
6. **Cabral** (304.718 fans, ranked 378) – former sportsman, media personality, of Romanian and Congolese origin.
7. **Cătălin Măruță** (1.539.210 fans, ranked 31) – media personality, whose relationship/marriage with musical artist Andra is frequently featured in tabloids.
8. **CONNECT-R OFFICIAL** (2.475.790 fans, ranked 8) – musical artist of Roma origin, famous for a public appearance in 2010 wearing a T-shirt with the inscription "SUNT ȚIGAN" („I AM GYPSY") and for statements regarding stereotyping linked to the terms "țigan" and "rom";
9. **Corneliu Vadim Tudor** (108.195 fans, ranked 14 in the Politics category) – politician, founder and leader of Partidul România Mare (political party), poet, former member of the Romanian and European Parliaments;
10. **DoZa de Haș** (777.794 fans, ranked 109) – videoblogger;
11. **Eduard CRBL** (1.175.437 fans, ranked 50) – musical artist.
12. **Elena Udrea** (313.062 fans, ranked 4 in the Politics category) – proeminent female politician, member of Parliament, former ministry;
13. **Gabriela Firea** (356.716 fans, ranked 313) – proeminent female politician, former journalist, member of Parliament;
14. **Klaus Iohannis** (1.638.598 fans, ranked 24 overall and ranked 1 in the Politics category) – politician of Transylvanian Saxon origin, President of Romania.
15. **Mihaela Rădulescu Schwartzenberg** (276.176 fans, ranked 421) – media personality, known for her marriages with Bogdan Rădulescu, Ștefan Bănică Junior and Elan Schwartzenberg (converted to Judaism in 2004).
16. **Mircea Badea chiar el** (302.599 fans, ranked 381) – media personality, known satirical rants.
17. **Puya Scandalos Music** (540.270 fans, ranked 181) –hip-hop/rap musical artist, associated with La Familia musical group.
18. **Remus Cernea** (130.485 fans, ranked 11 in the Politics category) – politician, known for activism against discrimination, member of Parliament, proponent and supporter of legislation regarding the funding of religious cults and same-sex marriage;

19. **Simona Halep** (1.234.520 fans, ranked 42) – sportswoman, tennis player whose popularity recently surged as a result of reaching top positions in WTA ranking;
20. **Sorin Ovidiu Vântu** (95.288 fans) – businessman (media owner), known and sentenced for an investment fund scandal, recently very active in social media through Facebook video posts;
21. **Teo Trandafir** (1.632. 909 fans, ranked 25) – media personality, known for the popularity of her Facebook posts;
22. **Tony Poptămaș** (1.291.595 fans, ranked 40) – musical artist living abroad, known for a recent surge in popularity due to his Facebook posts;
23. **Traian Băsescu** (348.814 fans, ranked 318 overall and 3 in the Politics category) – politician, former President of Romania.
24. **Victor Ponta** (764.659 fans, ranked 111 overall and 2 in the Politics category) – politician, former Prime-Minister of Romania;
25. **ZMENTA.ro** (881.116 fans, ranked 84) – videoblogger.

VI.1.2. Blogs

Ten of the most popular blogs in Romania were selected according to the results of several rankings published in early 2015 (the ZeList blog top published on June 30 2015 and the top published by refresh.ro in March 2015), but also including blogs whose authors come from different regions of Romania. Some of the blogs have niche topics (cooking or technology), some are published by journalists or celebrities, while others are published by authors with little to no exposure in the traditional media. The list is alphabetical:

1. adihadean.ro (**Adi Hădean**) [ranked 6 by Zelist] – cooking;
2. arhiblog.ro (**Cetin Ametcea**) [voluntarily excluded by ZeList, ranked 10 by refresh.ro];
3. ciutacu.ro (**Victor Ciutacu**) [ranked 3 by ZeList] – journalist: Jurnalul Național and Antena2;
4. cristianchinabirta.ro (**Cristian China Birta**) [ranked 19 by top refresh.ro, ranked 1 Biz Magazine in a top of bloggers preferred by agencies in 2014];
5. manafu.ro (**Cristian Manafu**) [ranked 2 by ZeList] – former business journalist, focuses on technology;
6. piticigratis.com (**Radu Alexandru**) [ranked 11 by ZeList] – comedian, writes a satirical blog in the "fratire" subgenre - frequently featuring politically incorrect writing from a male point of view, approaching topics like alcohol or sex;
7. tolo.ro (**Cătălin Tolontan**) [ranked 8 by ZeList] – journalist: Gazeta Sporturilor/gsp.ro;
8. tudorchirila.blogspot.ro (**Tudor Chirilă**) [ranked 1 by ZeList] – musical artist, actor;

9. tvdece.ro (Florica/**Alina Dragoș** și Zicu/**Răzvan Dragoș**) [ranked 34 by ZeList];
10. zoso.ro (**Vali Petcu**) [voluntarily excluded by ZeList, ranked 3 by refresh.ro].

VI.1.3. Online news outlets

The five online news outlets selected for this research are the top ranking sites - excluding news aggregators or sites associated with TV channels, according to official data by the Romanian Transmedia Audit Bureau's Study of Audience and Internet Traffic (BRAT/SATI) data on the number of unique visitors for September 2015:

1. adevarul.ro (**Adevărul**) [6 million unique visitors]
2. evz.ro (**Evenimentul Zilei**) [3 million unique visitors]
3. gandul.info (**Gândul**) [4,2 million unique visitors]
4. hotnews.ro (**HotNews**) [2,2 million unique visitors]
5. jurnalul.ro (**Jurnalul Național**) [1,5 million unique visitors]

VI.2. Data collection

Facebook posts and comments data were collected using the Facebook Open Graph API interrogation through the free open source tool Facepager (Keyling and Jünger 2015), by first extracting all posts created in the first six months of 2015, then extracting the associated comment thread.

The variables extracted for each post were: the Facebook page name, type of post (photo, link, video or status), the message, the number of shares, the number of likes and the number of likes, the publishing date and time. For each subordinated comment in each post's thread the author, the message and the publishing date and time were collected. For complexity reasons, only the first level comments were collected for each thread.

Collecting data from Web Content Management Systems such as the ones used by most blogs and news websites, the author employed Web scraping tools (i.e. Helium Scraper and Import.io). The Web scraping was done by defining identifying patterns and defining extraction templates based on the structure of the dynamically generated article pages and by automating the navigation process through the archive pages for the six months timeframe. For each blog and online news outlet, data was gathered for all blog posts and news articles published between January 1 2015 and June 30 2015.

The variable extracted for each article from the 10 blogs and 5 news websites were: title of the article, author, publishing date and number of comments. For each article, each comment in the comment thread was extracted, with author and publishing date information (where possible).

There were certain limitations due to the substantial differences between the 15 websites analyzed, pop-up advertisements and commenting systems particulari-

ties. Due to these limitations (in terms of data extraction, clean-up and processing capabilities) some of the data were not collected or excluded in the preparation phase. For articles published by Gândul which uses two types of commenting systems, only the first 10 comments were extracted from each thread and comments published through Facebook integration were not collected at all. Out of the total articles found in the archives of Gândul and HotNews for the first six months of 2015, the articles in sections of less interest for this research such as ”revista presei” , ”horoscop”, „magazin”, ”international”, ”meteo” sau ”it-c”were excluded from the final analysis. Out of a total of 18140 articles published by gandul.info, comments were extracted for 8462 articles and out of the total 18373 articles published by hotnews.ro, comments were extracted for 7518. From evz.ro (a news website which has a comment rating and abuse reporting system), the comments were extracted for 11647 articles. From jurnalul.ro, comments were extracted for 8343 articles, and from adevarul.ro for 9818 articles. Automated navigation on website pages, and implicitly automated data collection, is often made difficult by pop-ups or other dynamic elements, so the author worked under the assumption that the total number of comments posted on the websites of the news websites is larger, but the analyzed sample is large enough to be relevant.

In the case of blogs, some of the comments collected were trackbacks or spam, and in some instances, the blogging systems had rating functionalities that would determine some unpopular comments to be hidden (particularly possible occurrences of hate-speech).

Table 1. An overview of the number of articles collected for each blog:

Blogs and online news outlets

BLOG	No. of articles (Jan-Jun 2015)
adihadean.ro (**Adi Hădean**)	20
arhiblog.ro (**Cetin Ametcea**)	510
ciutacu.ro (**Victor Ciutacu**)	42
cristianchinabirta.ro (**Cristian China Birta**)	938
manafu.ro (**Cristian Manafu**)	130
piticigratis.com (**Radu Alexandru**)	35
tolo.ro (**Cătălin Tolontan**)	120
tudorchirila.blogspot.ro (**Tudor Chirilă**)	6
tvdece.ro (**Alina Dragoș** și**Răzvan Dragoș**)	317
zoso.ro (**Vali Petcu**)	900
ONLINE NEWS WEBSITE	
adevarul.ro	9818
evz.ro	11647
gandul.info	8462
hotnews.ro	7518
jurnalul.ro	8343

VI.3. Coding rules

For data analysis, we used a series of codes for the detection of key terms in the approximately total 2.6 million comments analyzed, provisioning for common alternate spellings – with or without diacritical marks, lower case, upper case or sentence case.

VI.3.1. References to target groups

The author chose to code key terms which refer to the frequent target groups as identified above. Some groups were coded using several separate terms. Terms such as ”bozgori”, ”jidani”, ”poponari” have negative connotations (referring to Hungarians, Jews and homosexuals) in all contexts and are implicitly independent instances of hate-speech when used. The use of the term ”țigan” requires a slightly different consideration, as although it frequently has a negative connotation, it is still widely used colloquially to reference the Roma ethnics - sometimes without negative connotation. Some members of the Roma ethnic group even openly state that they prefer the term over “Roma”, making considerable effort for it to be accepted and dissociated from widespread negative stereotypes. Furthermore, in some cases (for example some of the comments posted on the page of musical artist CONNECT-R), some fans use the term in a positive slogan, supporting the artist’s efforts fighting against negative stereotyping: ”mândru că sunt țigan!”(“proud to be gypsy”).

The following codes were used:

- Rromi / Romi (and all variations) - Roma group;
- Țigani (and all variations) - Roma group;
- Unguri / Maghiari (and all variations) - Hungarians;
- Bozgori (and all variations) - Hungarians;
- Evrei (and all variations) - Jews;
- Jidani (and all variations) - Jews;
- Sași (and all variations) - Transylvanian Saxons;
- Nemți (and all variations) - Germans/Transylvanian Saxons;
- Germani (and all variations) - Germans/Transylvanian Saxons;
- Atei / Necredincioși / Necreștini (and all variations) - Atheists;
- LGBT (homosexuali, lesbiene, transsexuali etc. and all variations) - LGBT.

VI.3.2. Violent or offensive language:

Detections of key terms referring to negative characteristics, negative behaviors, violent actions or swear words were coded as follows (grouped by semantic family):

VI.3.2.1. Negative characteristics, imprecations, invectives:

- Lene (leneș) - Lazyness
- Prostie (prost, tâmpit, dobitoc, ignorant) - Stupidity
- Debilitate (cretin, idiot, retardat, debil, handicapat) - Debility
- Nebunie (nebun, isteric) - Insanity
- Hoție (hoț, furt) - Thievery
- Cerșetorie (cerșetor, cerșit, cerșetorie) - Begging
- Șmecherie (șmecher) - Smart, sometimes with a negative connotation
- Mafie (mafiot) - Mafia
- Igienă (împuțit, nespălat) - Poor hygene
- Crimă (criminal, ucigaș) - Murder
- Viol (violator) - Rape

VI.3.2.2. Call to violent action:

[să/să-i/trebuie omor(âți)/împușca(ți)/spânzur(ați)/dușI/băga(ți)/închi(și)/bătu(ți)] – kill, shoot, hang, beat, taken, locked-up etc.

VI.3.2.3. Explicit language:

Explicit terms used in common insults, swear words, colloquial or slang terms for genitals and bodily functions.

VII. Analysis

Seeing as the data collection procedure and the variables differ between comments posted on Facebook pages and comments posted in Web content management systems used by blogs or online news outlets, the analysis was divided in three main sections – Facebook Pages, Blogs and Online News Sites.

VII.1. Facebook Pages

The distribution by type and Facebook page of the over 2.5 million comments (2.525.927) extracted from the 25 sources included in the sample shows that most comments appear in threads for photo posts, followed by links, status messages and videos – Fig. 1. It is not surprising, as a Facebook pages photo posts are the most frequent and they are also made considerably more visible by the platforms News Feed algorithms.

Figure 2 show the average length of comments on Facebook per page. Comments posted in threads on pages of political figures tend to be longer. Still, comments are still short enough for a method like co-occurrence analysis to be relevant. The average length varies greatly (between 38 characters and 190 characters).

Using term detection over the entire dataset of comments, 25.408 comments were identified as referencing at least one frequent target of hate-speech in Roma-

nia. The search found more frequent occurrences of ”Țigani” (7281) than ”Romi” (1447). ”Unguri/Maghiari” (3365) was used more frequently than the derogative ”Bozgori” (826) in referencing Hungarians. Jews were referenced in 606 comments by ”evrei” and in 202 comments by the derogative ”jidani”. Terms referencing sexual minorities were identified in 1562 comments and terms referencing atheists in 449 comments. There were significant occurrences of terms referencing Germans or Transylvanian Saxons: ”Germani” – 5268, ”Nemți” – 2070 and ”Sași” – 959.

The occurrences of references (neutral or derogative) to groups who are targets of hate-speech in the Romanian cultural context are below 1% of the total number of comments. Most occurrences of terms referencing the Roma group and the Hungarian group by either neutral or derogative terms were identified in comments posted on the page of nationalist party leader Bogdan Diaconu. Most references to Germans and Jews were identified in the comments posted to Romanian President Klaus Iohannis' page. Most references to LGBT and atheists were identified in comments posted to Remus Cernea's page.

The comments containing negative terms, violent or offensive language were also coded, resulting in a total of 50.578 – approximately 2% of the total comments.

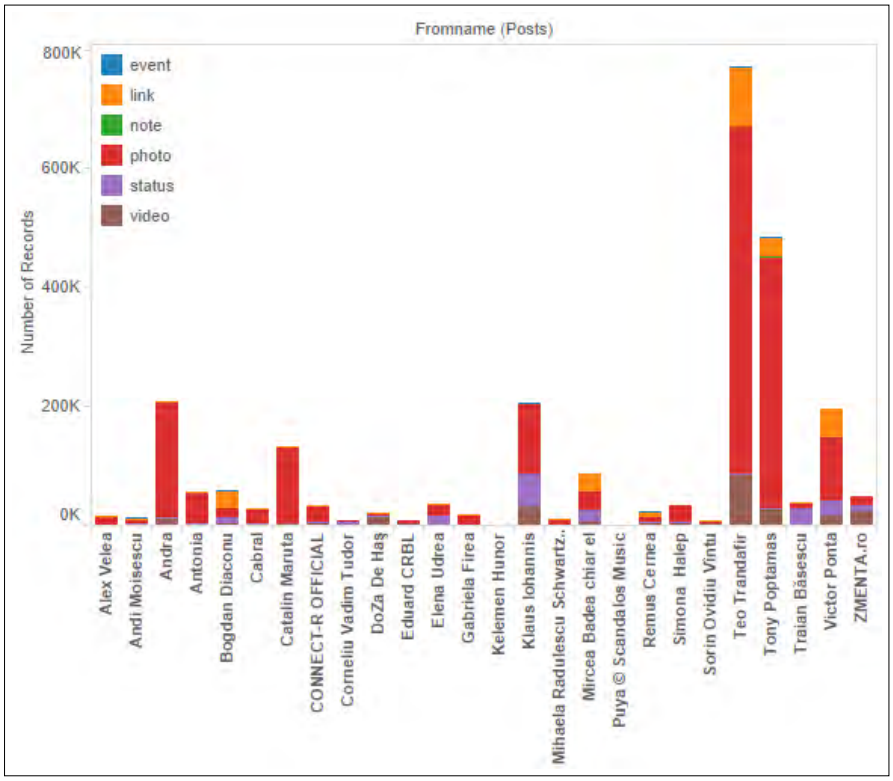

Figure 1. The number of comments per page and type of post

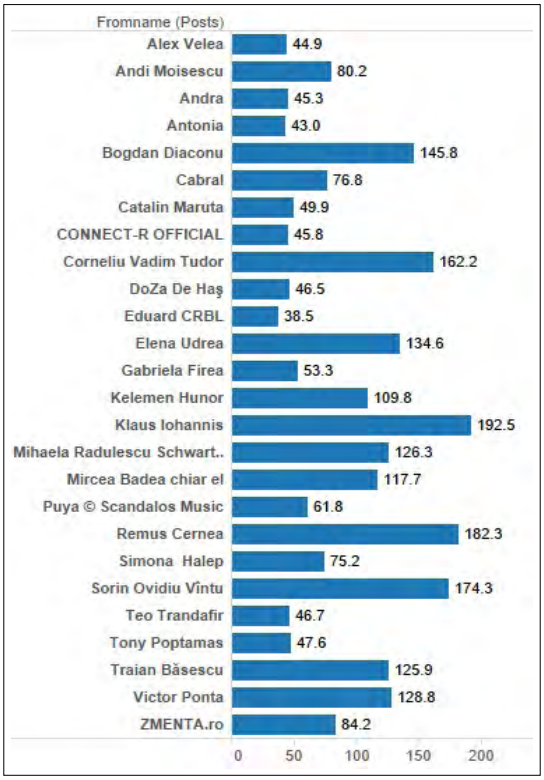

Figure 2. Average length of comments (number of characters with spaces)

Using co-occurrence analysis, approximately 2.500 comments were identified as containing both references to groups frequently targeted by hate-speech and negative, violent or offensive language – approximately 0,1% of the data set.

Table 2. Co-occurrence analysis of terms referencing target groups and negative attributes

Reference	*Stupidity*	*Debility*	*Insanity*	*Thievery*	*Mafia*	*Crime*	*Hygene*	*Begging*
Țigani	*271*	*61*	*28*	*83*	*38*	*38*	*53*	*78*
Germani	*219*	*45*	*15*	*51*	*67*	*50*	*6*	*7*
Unguri	*144*	*39*	*14*	*21*	*28*	*30*	*11*	*4*
Nemți	*127*	*31*	*8*	*27*	*16*	*13*	*8*	*2*
Gay/Lesbian	*91*	*28*	*15*	*5*	*1*	*17*	*2*	*5*
Romi	*56*	*21*	*3*	*6*	*4*	*8*	*3*	*3*
Sași	*39*	*17*	*8*	*10*	*12*	*8*	*3*	*1*
Bozgori	*25*	*13*	*1*	*2*	*2*	*1*	*36*	*0*
Evrei	*38*	*2*	*9*	*2*	*7*	*20*	*3*	*0*
Atei	*38*	*4*	*5*	*1*	*0*	*1*	*0*	*0*
Țigani, unguri	*14*	*4*	*1*	*3*	*3*	*5*	*0*	*0*
Jidani	*11*	*3*	*1*	*0*	*3*	*4*	*2*	*0*

Table 2 shows the most frequent co-occurrences in Facebook comments, outlining possible stereotyping used in connection with each group.

A more in-depth analysis of the data shows that there are spikes in the frequency of co-occurrence of terms referencing groups with elements of violent language. For example, on Bogdan Diaconu's page there is an increase in co-occurrence related to the Hungarian and Roma groups in early March 2015 and late April 2015 respectively. On Klaus Iohannis' page, there is a considerable spike related to the Roma and Jewish groups in January 2015, possibly connected to posts recording the President's attendance to Holocaust commemoration events.

VII.2. Blogs

For the 10 blogs in the sample a total of 70646 comments were collected and analyzed. In some cases, these also include trackbacks and spam. Most comments were collected from two blogs which have very active communities – arhiblog and zoso. While the average length of the comments is comparable (roughly between 115 and 180 characters), one can easily notice that comments posted on blogs are on average lengthier.

Although one can notice a considerably higher frequency of violent or offensive language - 6%, three times as high as on Facebook, references to groups who are targets of hate speech were identified in 1,3% of the comments, and their co-occurrence was detected in 0,14% of the comments. The most referenced group were the Roma through the term "țigan/i" and the most frequent co-occurrences were with swear words and explicit language, followed by terms from the semantic field of stupidity and debility.

VII.3. Online news

The total number of comments collected from online news websites is close to the size of the sample collected from blogs. Out of the total 81.389 comments collected, most were published on gandul.info, hotnews.ro and adevarul.ro, but generally the sample is more evenly distributed over the 5 sources. The average length of comments is also similar to blogs, ranging from 117 characters on hotnews.ro to 177 on jurnalul.ro.

The analysis found references to the target groups in 2.3% of the comments and elements of violent language in 8.3% of the comments. Again, a relatively small number of comments contain co-occurrences of terms referencing target groups with elements of violent or offensive language: 0.28%. However this percentage is double the percentage found for blogs and almost three times the percentage found for Facebook comments.

Compared with Facebook comments and blog comments, there is a significantly larger frequency of terms belonging to the semantic field of "mafia". Again, the most referenced group is the Roma group and the most used term is "țigan/i".

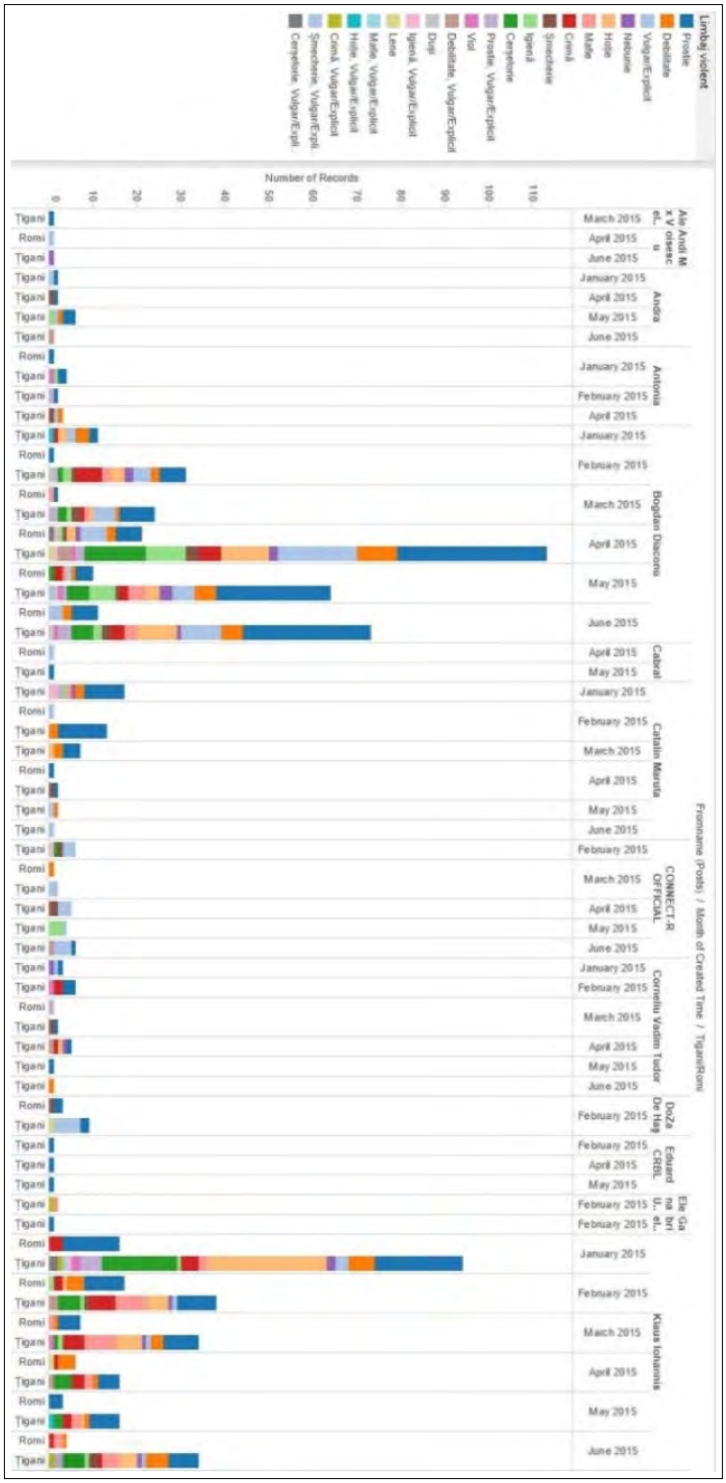

Figure 3. References to "țigani" and"romi" in co-occurrence with violent language (N=1092)

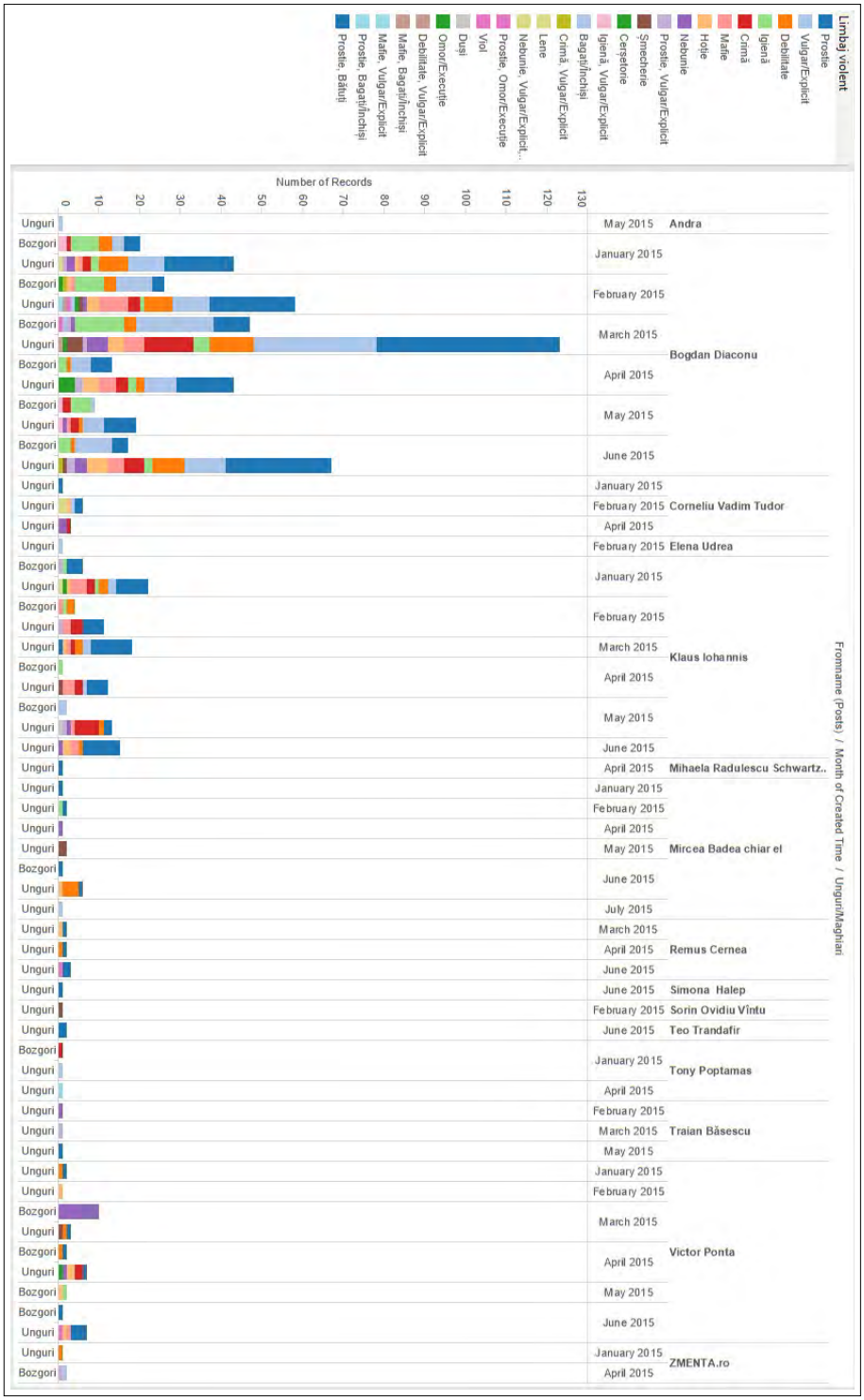

Figure 4. References to Hungarians("maghiari"/"unguri") and"bozgori" in co-occurrence with violent language (N=671)

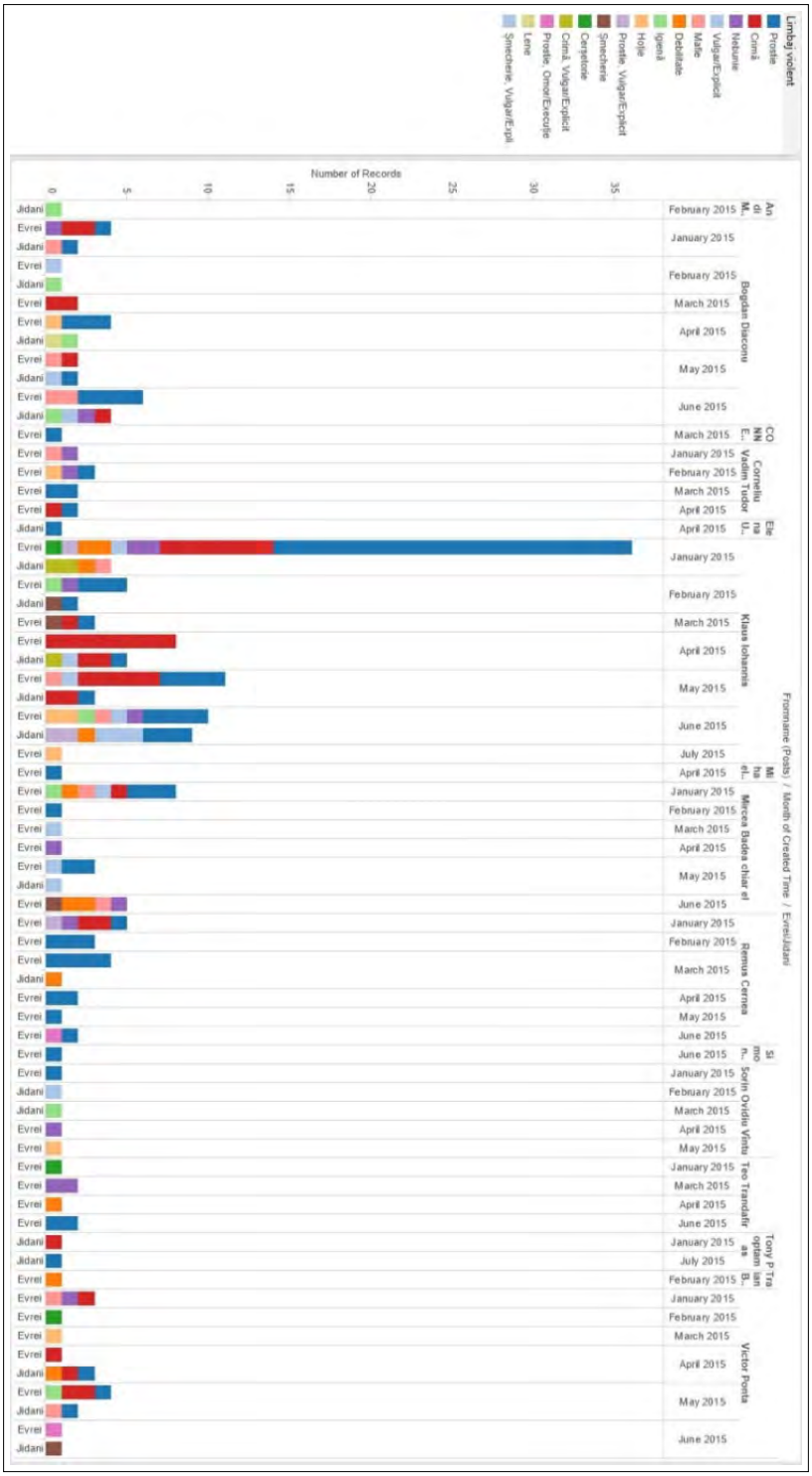

Figure 5. References to Jews ("evrei" or"jidani)" in co-occurrence with violent language (N=210)

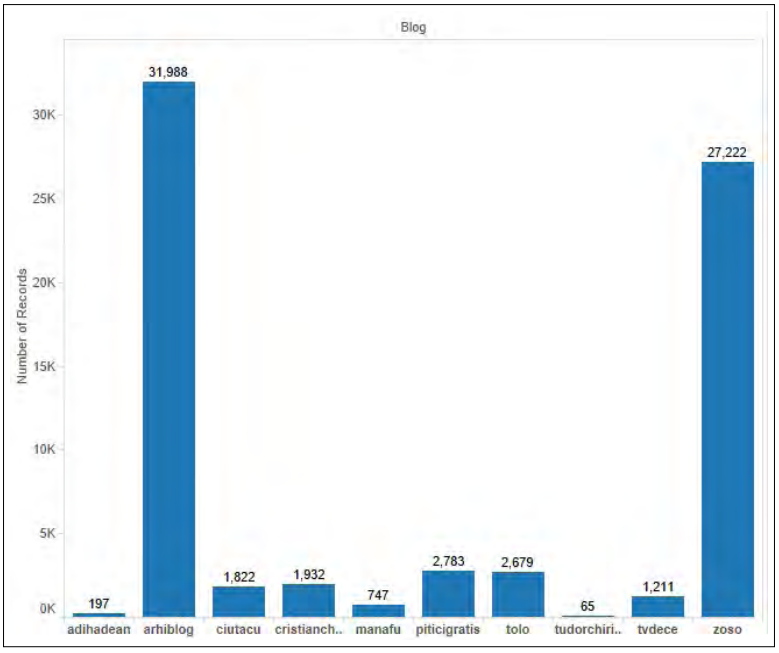

Figure 6. Number of comments by blog (N=70646)

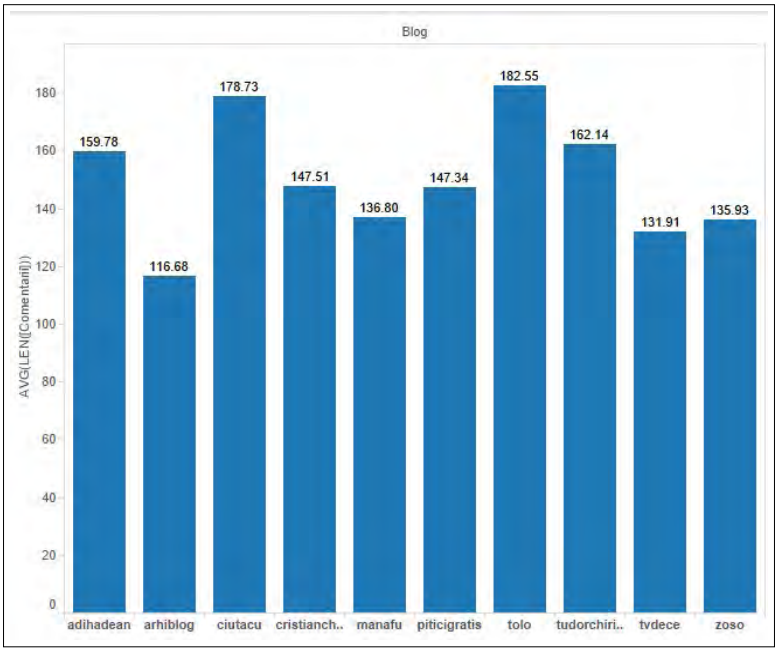

Figure 7. Average length of comments by blog (in number of characters with spaces)

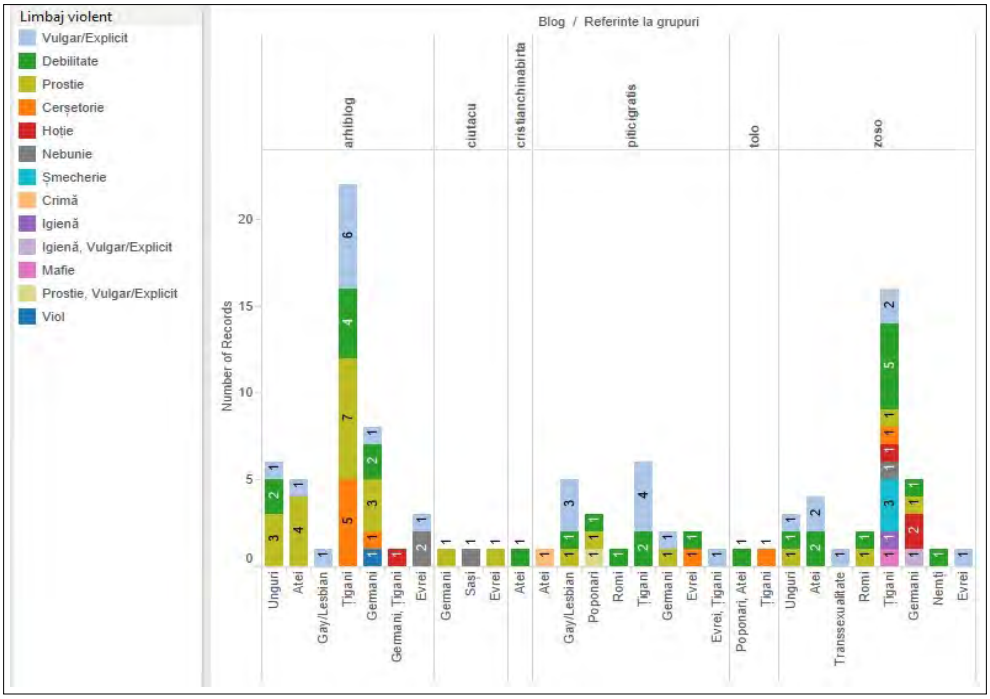

Figure 8. References to target groups in co-occurrence with violent language on blogs (N=106)

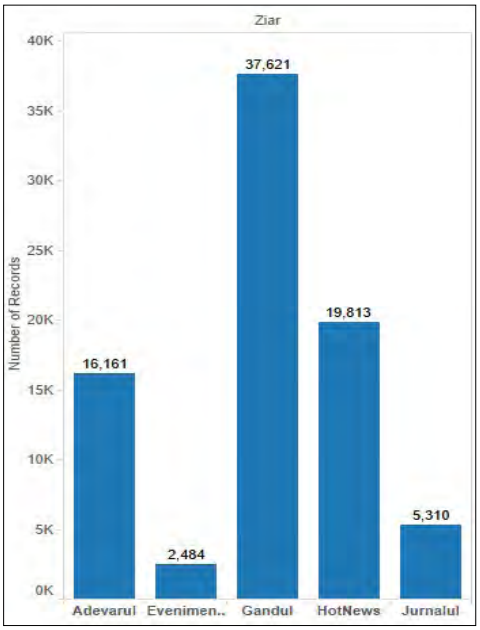

Figure 9. Number of comments per publication (N=81389)

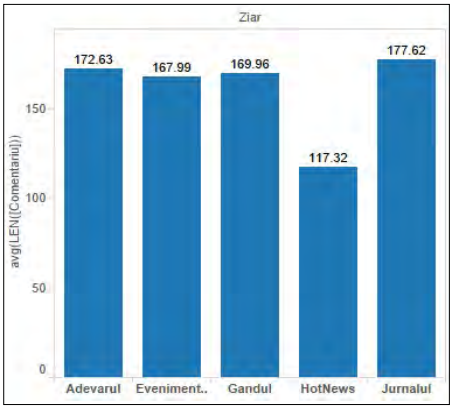

Figure 10. Average length of comments (in characters with spaces)

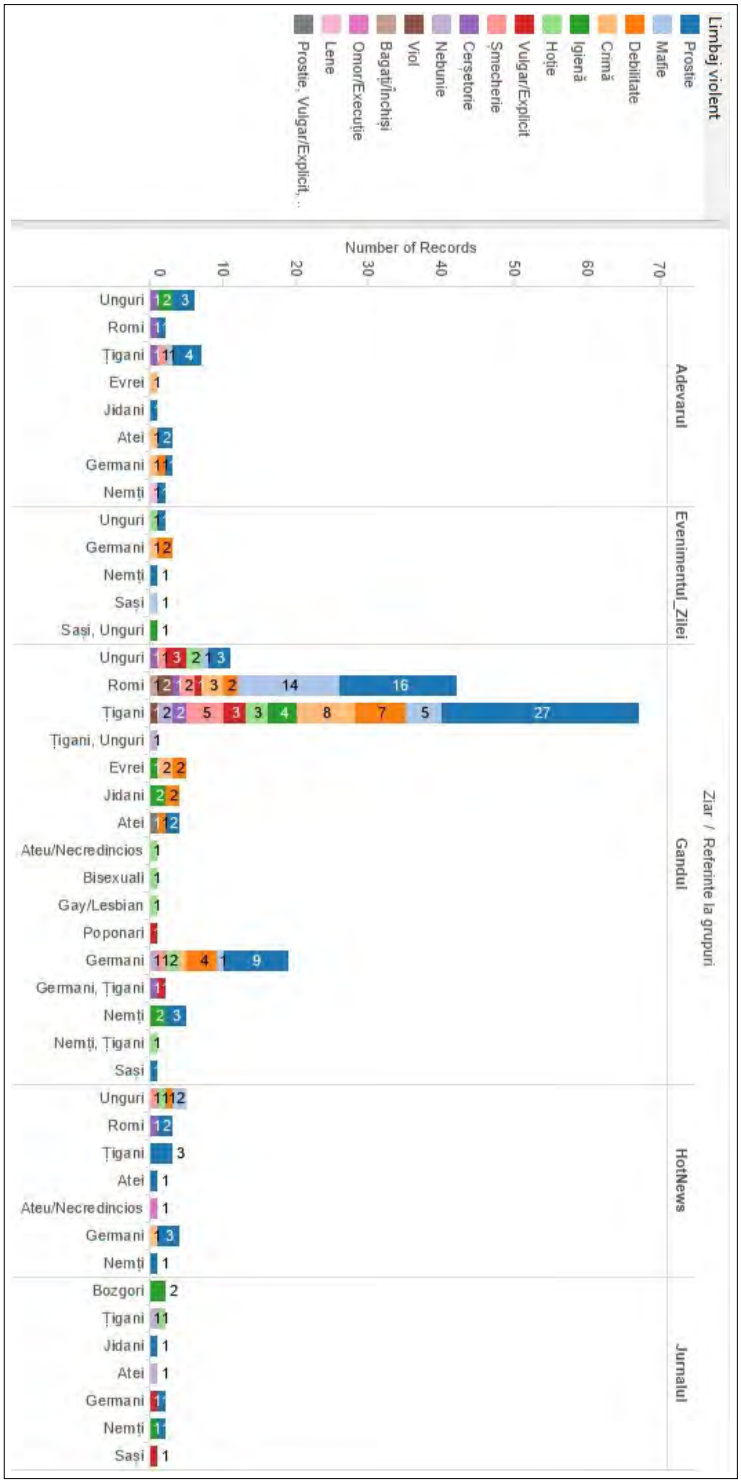

Figure 11. The co-occurence of terms referencing target groups with violent language (N=228)

VIII. Results

The most frequently referenced target group in online comments is the Roma group, mostly through the term(s) "țigan/i". There were also significant numbers of references to Hungarians, Jews and members of the LGBT community, some of them through use of the derogative terms "bozgori", "jidani" or "poponari", cases in which these can be considered hate-speech by themselves.

Violent or offensive language was encountered in varying degrees in comments posted on Facebook (2%), on blogs (6.3%) or on news websites (8.3%). The most frequent negative, violent or offensive terms detected were those in the semantic areas of "stupidity" and "debility". A higher frequency of obscene explicit language was detected in comments posted on blogs or online news outlets.

The frequency of co-occurrences of terms referencing targets of hate-speech with violent and offensive language is below 1% in the 2.6 million comments which were analyzed – 0,1% in Facebook comments, 0.14% on blogs and 0.28% on online news websites. Still, it is worth noting, that more in-depth analysis may allow precise pin-pointing of contexts in which these co-occurrences surge.

IX. Conclusion

This research opens up new methodological pathways in researching online hate-speech in Romania. The analysis methods may be replicated and extended to cover more time and more contexts for online computer mediated communication. The author considers discussion groups, Web forums or Facebook groups popular among teenagers such as *Toți Pentru Unu* (tpu.ro) or Junimea to be of particular interest. Also Facebook pages belonging to other public figures, political parties or civil society groups might be of interest to future researchers.

Interrogating the Facebook API is a relatively straight-forward an less error-prone method than Web scraping should the results of this study need be replicated or extended in the future. However, researching both Facebook and discussion groups like TPU may offer valuable information on use of language and freedom of expression in pseudonymous and anonymous contexts.

The limitations of co-occurrence analysis in detecting online hate-speech point towards a need for more in-depth analyses using qualitative or discourse analysis methods for certain contexts where spikes or surges were detected in the frequency of co-occurrence of terms referencing target groups with elements of violent or offensive language.

References

1. Andi, D. *et al.*, (2014). Discursul instigator la ură în România, Retrieved from http://www.fdsc.ro/library/files/studiul_diu_integral.pdf, accessed on September 24, 2015.

2. Cohen-Almagor, R., (2011). Fighting hate and bigotry on the Internet. Policy & Internet. Retrieved from http://onlinelibrary.wiley.com/doi/10.2202/1944-2866.1059/abstract.
3. Cristea, D. & Forăscu, C., (2006). Linguistic resources and technologies for Romanian language. Computer Science Journal of Moldova. Retrieved from http://www.researchgate.net/profile/Dan_Cristea/publication/220491920_Linguistic_Resources_and_Technologies_for_Romanian_Language/links/0deec53c37b04b1ea9000000.pdf.
4. Dix, A. *et al.*, (2004). Human-Computer Interaction. Retrieved from http://www.amazon.com/Human-Computer-Interaction-3rd-Alan-Dix/dp/0130461091.
5. Gagliardone, I. *et al.*, (2015). Countering online hate speech - UNESCO series on internet freedom, Paris. Retrieved from http://unesdoc.unesco.org/images/0023/002332/233231e.pdf.
6. Gitari, N. *et al.*, (2015). A Lexicon-based Approach for Hate Speech Detection. Retrieved from http://www.sersc.org/journals/IJMUE/vol10_no4_2015/21.pdf.
7. Hughey, M. & Daniels, J., (2013). Racist comments at online news sites: a methodological dilemma for discourse analysis. Media, Culture & Society. Retrieved from http://mcs.sagepub.com/content/35/3/332.short.
8. Keyling, T., & J. Jünger. "Facepager. (2015) An application for generic data retrieval through APIs.".
9. Meza, R., (2015). Structura și dinamica sistemelor online de networking social de succes, Cluj-Napoca: Presa Universitară Clujeană.
10. Weber, A., (2009). Manual on Hate Speech, Strasbourg: Council of Europe Publishing.