ARE WOMEN WELCOME ON FACEBOOK?
A STUDY OF FACEBOOK PROFILES
OF ITALIAN FEMALE AND MALE PUBLIC FIGURES

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Social networking websites have become an important channel of communication for millions of people in the last decade. Despite offering several opportunities, they also provide a platform for hostile communication. While women report being targets of online aggressiveness, research on whether they actually are targeted more than men is scant. In the present study, we found that Facebook profiles of Italian female (vs. male) public figures were targeted by responses characterized by a more hostile language.

Key words: Hostile communication; Online aggressiveness; Gender online harassment; Female public figures; Male public figures.

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Social networking websites have become an important channel of communication for millions of people in the last decade. Twitter now has more than 250 million active users, and Facebook has attained an extraordinary level of diffusion with over two billion active monthly users worldwide (Pew Research Center, 2018). While these communication technologies offer vast opportunities to establish new personal and professional relationships, unfortunately, they also provide a platform for hostile communication. Several authors argue that some intrinsic characteristics of the Internet and social media facilitate a general toxic disinhibition effect (Heirman & Walrave, 2008; McKenna & Bargh, 2000; Suler, 2004).

In face-to-face communication, people continuously send nonverbal cues to communication partners about their feelings which can activate in the partner an empathic response and reduce aggression during conflicts. Differently, in conflicting online interactions this regulating feedback cannot occur because the digital screen covers people’s bodily emotions with the escalation of attack against the target (McKenna & Bargh, 2000; Smith et al., 2008). Moreover, the perceived lack of laws regulating online behavior is a further factor that can push people into considering their aggressive behavior online as dissociated from their offline behavior and more acceptable than it is (Suler, 2004). Although recognizing a specificity of the online environment, some other authors emphasize the presence of a continuum between online and offline manifestations of aggressive behavior (Ging & Siapera, 2018; Mantilla, 2005) with online harassment often taking the form of discriminatory practices towards minorities.
WOMEN AS A TARGET OF ONLINE HARASSMENT

Research has shown that online harassment is disproportionately targeted at girls (Pew Research Center, 2014). Of the 3,787 (mostly American) people who reported harassment incidents from 2000 to 2012 to the nonprofit organization Working to Halt Online Abuse, 72.5% were female. Seventy-six percent of Australian women under age 30 report having been harassed online (Norton by Symantec, 2016). The European Union’s Fundamental Rights Agency (2014), as part of its broader research regarding violence against women, has found that girls aged 18 to 29 are most likely to become targets of online harassment. A study by VOX (2015), an Italian human rights monitoring group of Twitter use, determined that, among a sample of 1,800,000 tweets published from January to August 2014, 61% contained insults and offenses against women.

Several scholars (Jane, 2014; Penny, 2014; Richardson-Self, 2018) have contended that the primary purpose of hateful online language directed toward girls and women is to intimidate and control them. Throughout history, public space has been considered as a male domain with women being expected to stay in the domestic and private sphere. Despite the revolutionary achievements attained regarding civil and social rights over the last centuries, this gendered perception of the public sphere continues to have consequences not only in offline but also in the online experiences of women (Vickery, 2008). Indeed, when women cross the symbolic divide between the private and public realm, they still encounter contestation and condemnation (Jenkins & Wolfgang, 2018). This negative treatment is in line with research showing that when individuals deviate from their gender stereotypical expectations, they face social and economic penalties (i.e., backlash; Moss-Racusin, Phelan, & Rudman, 2010; Rudman & Phelan, 2008). Specifically, for women, the violation of normative expectations involves assuming an agentic behavior in the public sphere. According to the role congruity theory (Eagly & Karau, 2002), women compared to equivalent men, are perceived as less entitled to occupy leaders’ positions because they are supposed to lack agentic qualities associated with leadership. Thus, hateful online messages assume the function of a policing tool used to reinforce the traditional gender hierarchy in the public sphere of the web (Jane, 2014). One illustrative example of this dangerous practice is the 2014 online campaign known as “Gamergate” (Nieborg & Foxman, 2018). Several women who were prominent in the video game industry expressed criticism of the lack of diversity of female roles and the sexualized female portrayals that characterize many video games. The Gamergate campaign, in response, unleashed online harassment and threats of rape and murder against these women.

In this context, it is easy to understand why women feel that they are placing themselves at risk when they seek to express themselves in publicly relevant domains such as journalism (Ferrier & Garud-Patkar, 2018) or politics (Krook, 2017). In an online survey on attacks against female journalists, in 2013, almost two-thirds of the 149 female respondents indicated they had experienced intimidation, threats, or abuse in relation to their work (Lees Munoz, 2016). Women face similar intimidation in the political realm. In-depth interviews with 109 bloggers from Germany, Switzerland, the United Kingdom, and the United States who write about feminism and politics revealed that 73.4% had had negative experiences because of blogging and social media use, including abusive comments as well as rape and death threats (Eckert, 2018).

AIM AND HYPOTHESES

According to several scholars (Jane, 2014; Mantilla, 2005; Vickery & Everbach, 2018), online harassment of women is so prevalent as to have become an established norm in the current digital society.
Until now, research conducted on online harassment has mainly examined this phenomenon from the (certainly relevant) point of view of female victims, collecting their personal experiences of online victimization (Ferrier & Garud-Patkar, 2018; Lees Munoz, 2016). However, to the best of our knowledge, no empirical study has examined systematically whether and how people react differently online to women and men who occupy public roles. Although women frequently report being the target of aggressiveness in online interactions, research on whether they actually are targeted more than men is scant. Therefore, we sought to test the hypothesis that, regardless of the content of the posts published, female public profiles on Facebook generate responses characterized by more hostile and vulgar language.

We based our prediction on research and theory that define stereotypes as cognitive structures including expectancies (see Hamilton, Sherman, & Ruvolo, 1990, for a review), on role congruity theory (Eagly & Karau, 2002), and on research on the backlash effect (Rudman & Phelan, 2008). Thus, we reasoned that reactive hostility could occur as a backlash derived from the very fact that women voicing their opinion in the public debate are still perceived as deviating from gender stereotype expectancies.

**METHOD**

Sample and Procedure

Eight Facebook profiles of Italian public figures were selected: two males and two females in politics and a similar group of four prominent journalists. The four political figures had various institutional roles and political orientations. They included Virginia Raggi (mayor of Rome) and Luigi Di Battista (vice-president of the chamber of deputies), both from the Five Star Movement, and Maria Elena Boschi (Minister for Institutional Reforms) and Matteo Renzi (Prime Minister), both from the Democratic Party. The political offices indicated are the ones that these persons held at the time of data collection. Among professional journalists, we covered both print and broadcast media by selecting Andrea Scanzi, Luisella Costamagna, and Giulia Innocenzi (all of whom work in both areas) along with Enrico Mentana, television news director for La7. Three selection criteria were used: (a) notoriety (we chose personalities widely known by the general public), (b) active use of a Facebook page, and (c) downloadability through an ad hoc Facebook application of both posts and comments from the time span considered in the study.

Posts and comments published on all eight profiles from July to December 2016 were extracted using Netvizz, a built-in application within Facebook. We collected a total of 2,056 posts and 1,609,099 comments (Table 1). Political (POL) profiles recorded a higher number of comments per post than the journalists’ (JOU) profiles (POL = 1,034.8; JOU = 363.4). Within both professional categories, female received fewer comments per post than their male counterparts (F_pol = 736.1; M_pol = 1,185.4; F_jou = 34.1; M_jou = 544.8). Before being analyzed, strings of text — both posts and comments — were cleaned. Repeated comments and all nontextual contents (e.g., links, videos, images) were deleted; in addition, a manual lexical cleaning procedure was undertaken to remove special characters (e.g., emoticons, hashtags), separate words that were connected as if they were one word (e.g., whocaresIvoteNO), correct misspellings, translate dialecticisms into Italian, and change expressions intended to represent spoken language (e.g. buf-fooooooooon) into proper written form.
TABLE 1
Number of posts, comments, and comment/post ratio

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
<th>Number of posts</th>
<th>Comments</th>
<th>Comments/post ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boschi</td>
<td>Female politician (Democratic Party)</td>
<td>96</td>
<td>46,889</td>
<td>488.43</td>
</tr>
<tr>
<td>Raggi</td>
<td>Female politician (Five Star Movement)</td>
<td>306</td>
<td>251,817</td>
<td>822.93</td>
</tr>
<tr>
<td>Costamagna</td>
<td>Female journalist</td>
<td>56</td>
<td>1,521</td>
<td>27.16</td>
</tr>
<tr>
<td>Innocenzi</td>
<td>Female journalist</td>
<td>226</td>
<td>7,548</td>
<td>33.40</td>
</tr>
<tr>
<td>Mentana</td>
<td>Male journalist</td>
<td>167</td>
<td>141,865</td>
<td>849.49</td>
</tr>
<tr>
<td>Scanzi</td>
<td>Male journalist</td>
<td>345</td>
<td>118,614</td>
<td>343.81</td>
</tr>
<tr>
<td>Renzi</td>
<td>Male politician (Democratic Party)</td>
<td>213</td>
<td>224,386</td>
<td>1053.45</td>
</tr>
<tr>
<td>Di Battista</td>
<td>Male politician (Five Star Movement)</td>
<td>647</td>
<td>816,459</td>
<td>261.91</td>
</tr>
</tbody>
</table>

Note. The political offices indicated are the ones that these persons held at the time of data collection.

Data Analysis

Linguistic Inquiry and Word Count (LIWC; Pennebaker, Boyd, Jordan, & Blackburn, 2015), a text analysis software that analyzes transcripts on a word-by-word basis and compares words with a dictionary composed of 80 dimensions, was used to analyze the comments and posts retrieved. LIWC was developed in the early 1990s by James W. Pennebaker to map both the linguistic and psychological dimensions of language, and it has been regularly updated to the current version (Pennebaker et al., 2015). The software comprises two core components: the procedural component that performs the analysis, and an internal dictionary, available in different languages, including Italian, that contains the set of words recognized by LIWC. The software scans the texts (in this case, the Facebook comments or the posts), searches for all the words in the dictionary, counts them, and assigns each of them to a specific category. LIWC provides standard language categories (e.g., articles, prepositions, pronouns — including first person singular, first-person plural, etc.), psychological processes (e.g., positive and negative emotion categories, cognitive processes such as use of causation words, self-discrepancies), relativity-related words (e.g., time, verb tense, motion, space), and traditional content dimensions (e.g., sex, death, home, occupation). The LIWC dimensions are hierarchically organized. For example, the word “cried” would fall into the categories “sadness,” “negative emotion,” “over-all affect,” and “past-tense verb” (Pennebaker, Mehl, & Niederhoffer, 2003, p. 553).

To test the research hypothesis that female public profiles on Facebook would elicit more hostile communication than male profiles, we used vulgar language and emotions as proxies. Indeed, in addition to containing coarse language, hostile online communication occurs often as an extreme form of negative emotional expression (Derks, Fischer, & Bos, 2008). Moreover, as research suggests that positive emotions are more prevalent than negative emotions in browsing Facebook (Lin & Utz, 2015), we decided to monitor also the expression of positive emotions to cover a broader range of emotional states. Therefore, we selected three among the available LIWC psychological categories (named as psychological processes by Pennebaker et al., 2015): positive emotions, negative emotions — this one including three subcategories, namely anxiety, anger, and sadness — and swear words. For each transcript analyzed (i.e., a single com-
ment or post), LIWC detected the words signaling emotions and vulgarities and provided the percentage of words assigned to each of the three categories (and related subcategories) selected.

To offer an exemplification of LIWC’s functioning, let’s consider three comments drawn from our dataset, posted by a follower of Virginia Raggi: 1) “Bellissimo intervento Virginia, grande!” [Wonderful post Virginia, great] 2) “Siete proprio senza vergogna, soprattutto tu sindaca!” [You guys are shameless, especially you major] 3) “Smettila di scrivere cazzate, lavora!” [Stop talking shit, go to work!]. From Comment 1, LIWC would detect the words “wonderful” and “great,” and assign them to the category “positive emotions.” Moreover, it would calculate the percentage covered by these two words on the total number of words contained in the comment. On negative emotions and vulgarity, this post would score 0%. From Comment 2, LIWC would detect the word “shameless” and assign it to the categories “negative emotions” and “anger” (a subcategory of negative emotions). The same calculation of percentages as in Comment 1 would occur. From Comment 3, LIWC would detect the word “shit” and assign it to the category “swear words.” Again, percentages of words for each of the categories selected by the user would be calculated. Subsequently, for both comments and posts, we exported the datasets containing the percentage of words assigned to each of the categories of analysis into SPSS to perform statistical analyses.

Results

A repeated-measure ANOVA was conducted using the comments posted by visitors to the eight profiles, with the valence of emotions as the within-participants variable (i.e., positive vs. negative emotions) and the profiled person’s gender as the between-participants variable. A main effect of valence of emotions, $F(1, 1609097) = 17719.82, p < .001, \eta^2_p = .011$, and gender of the target, $F(1, 1609097) = 1286.95, p < .001, \eta^2_p = .001$, emerged along with a significant two-way interaction, $F(1, 1609097) = 141.67, p < .001, \eta^2_p < .001$. Simple effect analyses showed that women elicited both more positive emotions: $M_F = 0.82, SD = 4.40; M_M = 0.65, SD = 3.80$; $F(1, 1609097) = 478.762, p < .001$, and more negative emotions: $M_F = 1.89, SD = 6.90; M_M = 1.54; SD = 5.93$; $F(1, 1609097) = 797.270, p < .001$, than men. However, when the same analysis was performed on the posts written by the eight public figures, a similar pattern of differences was not revealed. Indeed, the main effect of gender, $F < 1$, as well as the two-way interaction between author’s gender and the emotional valence, $F(1, 2054) = 2.43, p = .119$, did not reach statistical significance, showing that the posts of politicians and journalists did not differ significantly by gender in their expression of positive and negative emotions. A main significant effect of emotional valence emerged, $F(1, 2054) = 24.15, p < .001, \eta^2_p = .012$, with negative emotions ($M = .77, SD = 1.62$) overcoming positive ones ($M = .40, SD = 2.44$).

To inspect carefully whether the expression of different subtypes of negative emotions changed according to gender, we conducted a multivariate analysis of variance with the target’s gender as the independent variable and the three negative emotions — anxiety, anger, and sadness — as the dependent variables. Results revealed a significant difference in the expression of negative emotions according to gender, Wilk’s Lambda $= 1$, $F(3, 1609097) = 67.77, p < .001, \eta^2_p < .001$. More specifically, although the expression of anxiety did not change according to gender, $F < 1$, anger, $F(1, 1609097) = 192.45, p < .001, \eta^2_p < .001$, and sadness, $F(1, 1609097) = 10.59, p < 0.001, \eta^2_p < .001$, were expressed more toward female (vs. male) profiles (anger: $M_F = 0.62, SD = 4.42; M_M = 0.51, SD = 3.85$; sadness: $M_F = 0.55, SD = 2.93; M_M = 0.53, SD = 3.02$).
With regard to vulgarities, the comparison between male and female comments showed that comments targeted at females contained a slightly higher number of them: $M_F = 0.21, SD = 2.39; M_M = 0.20, SD = 2.42; t(1699104) = 2.75, p = .006$, Cohen’s $d = 0.006)$. The presence of negative emotions in the comments, especially anger, was associated with the use of coarse and offensive terms (see Table 2).

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Positive emotions</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Anxiety</td>
<td>-.006*</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Anger</td>
<td>-.012*</td>
<td>.019*</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>4. Sadness</td>
<td>-.009*</td>
<td>.018*</td>
<td>-.016*</td>
<td>-</td>
</tr>
<tr>
<td>5. Swear words</td>
<td>-.008*</td>
<td>-.007*</td>
<td>.161*</td>
<td>-.012*</td>
</tr>
</tbody>
</table>

* $p < .001$.

**DISCUSSION**

Research reporting the personal experiences of women on the Internet has indicated they are often targets of hostile and aggressive speech. The present study is the first attempt to determine systematically whether female public figures are more heavily targeted by aggressive communication on Facebook than their male counterparts. Regardless of gender, our results showed the use of coarse and aggressive language was significantly associated with the expression of negative emotional states, particularly anger, which is considered the most viral of emotions in social media (Martin & Vieaux, 2016). Moreover, we found a prevalence of negative emotional expression among Facebook commenters. This tendency can be explained by the presence of a general disinhibition effect related to social media use (Panger, 2017), but also by a situational factor that we believe may have contributed to heightening the use of negative language. During the time period of our study, public debate in Italy focused heavily on proposed constitutional reform, which culminated in a referendum vote on December 4, 2016. Because of the highly divisive nature of the issue, a rapid polarization of positions, either in favor or against, occurred in media coverage, along with an accompanying exacerbation of the general climate of public discourse. The issue was heavily debated on social networks too and it recurred frequently in the posts and comments on the eight Facebook profiles selected in our study.

The central hypothesis of this study — namely, that regardless of the content of their posts, women expressing their opinions in an online public space would elicit more hostile responses, with more use of offensive language, than men — was supported by the findings. However, the small effect size does not allow us to conclude that our results will be replicated. Nevertheless, they do indicate a trend deserving further attention.

We found that women’s posts triggered not only a higher number of reactions that displayed anger, anxiety, and sadness, along with greater use of swear words, but also more responses characterized by positive emotions. In general, women whose profiles were included in this study elicited a higher number of emotional responses than their male counterparts did, regardless of how and what they communicated. As shown by the parallel analysis of comments and posts, this over-representation of emotions was not linked to a contagion phenomenon that caused followers to become attuned to the same tone of posts.
There was no such tuning effect (Kramer, 2012). One possible explanation, which we offer only at a speculative level, is based on the generally accepted premise that women who assume traditional male roles, such as those who make their voice heard in the public debate, violate the traditional gender stereotypes (Rudman & Phelan, 2008). We hypothesize that the emotional ignition we found among the followers of our female public figures was a sort of overreaction to the violation of the traditional feminine image, either positively or negatively connoted, but in any case highly emotional. Hence, we advance that such an overrepresentation of emotions sprung from the activation and the concurrent violation of conventional gender stereotypes.

Limitations and Future Research Directions

Our study has some limitations, the most significant of which is the small number of Facebook profiles selected, which made it difficult to identify a clear, consistent pattern of findings. Even though our results were drawn from the analysis of a vast corpus of communications (2,056 posts and 1,609,099 comments), they were affected by the specific features and characteristics of the eight public figures selected and their Facebook pages. The eight profiles also differed with regard to the number of posts and comments. Some difficulties were involved in achieving a complete cleaning of the texts. Moreover, in our text analysis, we did not consider the emoticons that were present in the comments which could be highly important cues about people’s emotional states. Finally, it was not possible (short of resorting to a manual context analysis, which was prohibitive given the size of the dataset) to distinguish between vulgarities directed at the authors of the posts and those that referred to third parties or events mentioned in the posts themselves. Last but not least, our data could be not fully independent since a same visitor may have commented on the post of a female target and on the post of a male target. Therefore, future studies should consider this relevant issue when comparing comments to female and male targets. Thus, our work constitutes a very first contribution to the literature on this topic; further studies with a larger sample are needed to confirm the results we found.

CONCLUSIONS

Public opinion tends to underestimate the seriousness of hostile online behavior toward women, as well as sexist attitudes generally (Vickery & Everbach, 2018). There seems to be a widespread perception that, since this conduct occurs in online environments, its consequences remain confined to the virtual world and do not cause any substantive harm to victims (Hess, 2014; Mantilla, 2005). On the contrary, sexist hate speech is a human rights violation (Council of Europe, 2016) that can cause severe emotional damage to innocent people. Changing public perspectives and raising awareness regarding the severity of hostile online communications and their real negative consequences in the lives of girls and women should be an urgent social priority.

FUNDING

This research was supported by a grant from University of Perugia, Department of Political Sciences (Ricerca di base 2017 “Cybersexual harassment delle donne, aspetti psicologici, sociali e culturali”).


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