

# Reddit's Veil of Anonymity: Predictors of engagement and participation in media environments with hostile reputations

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## Abstract

This research investigates how personality strength, news engagement, and news consumption influence engagement on Reddit, an environment that affords varying degrees of anonymity and is known to paradoxically host toxic and supportive communities. Using a survey of Redditors, findings suggest women are less likely to comment and post but are equally likely to vote and read posts as men, indicating there may be hesitation to engage in using more active participatory options within the site. Older users are more likely to comment and post when compared to younger users.

## Keywords

Reddit, online anonymity, hostility, social news site, social media, news engagement, gender

## Introduction

The evolving affordances of heavily used social media networks have encouraged users to put their lives online. It is not unusual to see users of these networks record and post a live broadcast, check-in when they physically arrive in various locations, and post personal information, including pictures and life milestones. However, sites like Reddit have maintained a culture that affords users anonymity or pseudonymity, which ultimately leads to a type of social media that fulfills different uses and gratifications than other social networking sites. Reddit is conceptualized as a social media network and social news site, boasting more than 280 million regular users. Reddit's evolving design is reminiscent of early Internet online message boards and blogs, consisting primarily of texts and links users click to navigate beyond the site. One of its most prominent features is the affordance of anonymity (Massanari, 2015), a condition that helps position the theoretical investigation of this research.

The degrees of anonymity offered by Reddit can foster advantages and disadvantages. For example, the same disinhibition that fosters emotional connection in some communities, like those discussing mental health (De Choudhury & De, 2014), can also foster connection and community among child pornographers with less social and legal consequence than in non-anonymous settings (Tufekci, 2017). Complete anonymity is almost impossible: Redditors begin to chip away at their

anonymity the moment they create an account by leaving bits of information through interactions, posts, comments, and activity. As such, the feature of anonymity can be artificial and can be thought of as a diaphanous veil, which creates a tangible boundary between an individual and their environment but does not completely anonymize an individual.

The present research raises questions about *who* is behind that veil. More specifically, we seek to understand better who uses Reddit, and what variables predict participation in the site. We do this in two ways. First, following previous work that has sought to identify predictors of social media use (e.g., Correa, Hinsley, & De Zuniga, 2010; Park, 2013), our research engages with questions about how personality characteristics, specifically personality strength, news engagement, and news consumption affect participation. Second, we also consider if the culture and reputation (fostered by Reddit's anonymous environment) inform our understanding of differences in participation. Findings from this investigation suggest that anonymity affirms theories that

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help us explain online community structures: Strong personalities are more likely to lead conversations; groups that have a history of being marginalized are less likely to participate in ways that make them susceptible to marginalization. As such, this research expands our current knowledge of characteristics of social media users by investigating users' personality and news consumption behavior that engage behind a veil of anonymity.

## Reddit, Anonymity, and Reputation

Reddit.com is considered a social networking site (e.g., Bergstrom, 2011), a social news site (e.g., Suran & Kilgo, 2017), and a social news aggregator (e.g., Bergstrom, 2015). In 2018, Reddit was ranked as the third most visited site in the United States, receiving more than 8 billion page views per day ("About Reddit," 2018). Reddit is made up of individual communities or groups within the site, called subreddits, and these vary in content. While some subreddits serve as forum-based discussion groups, many subreddits focus on news and link sharing.

To create a user account, Reddit only asks individuals to create a username, affording a feature of anonymity not afforded by many social media networks. For the most part, Reddit usernames are persistent over time. In the absence of required profile information such as a real name (as is the policy with Facebook), "about" section, or a profile picture, usernames are the first key identifier of an individual on the site. Users can disclose personal information by commenting and posting. Posts and comments across subreddits can be viewed on individual Redditor's pages, which can unravel anonymity through aggregating information about individual users. Reddit karma also decreases anonymity and is essentially the evaluation system that assigns users a quantitative reputation score that acts as a measure of social capital and peer approval (Van der Nagel, 2013). These scores are found on each user's profile page, and scores signal the quality of encounters on the site as well as the longevity of a user on the site. Longevity can also be accounted for because the day each user's account was created (i.e., "cake day") is available on each profile. These built-in features chip away at anonymity. As such, the very act of creating a profile on Reddit shifts the anonymous environment to a pseudonymous (e.g., Ammari, Schoenebeck, & Romero, 2018) or semi-anonymous (e.g., Kilgo et al., 2016) environment. Some Reddit users create throwaway accounts to engage temporarily without revealing one's identity (De Choudhury & De, 2014; Van der Nagel, 2013). Van der Nagel (2013) notes that throwaway accounts are typically separate from user's persistent accounts. A throwaway account "strips away a user's history" (Van der Nagel, 2013, p. 6), allowing individuals to engage without the context of their primary account and its submission history and reputation. These can, in some ways, preserve anonymity (Andalibi, Haimson, De Choudhury, & Forte, 2016). Overall, several functions allow the constant negotiation of anonymity on Reddit.

Anonymity can also be compromised by Reddit, evidenced by its privacy policies. The company collects information protocol addresses and reserves the right to share information in specific circumstances. Although Reddit's privacy policies are evolving, Reddit's general protection of user identity is a function of its claims of allegiance to freedom of expression. (For the most up-to-date privacy policy information, see <https://www.redditinc.com/policies/privacy-policy>.) Centivany and Glushko (2016) argue that freedom of expression is an essential Reddit value, mirrored in Reddit's practical design choices (e.g., the voting system). While comments and posts in some subreddits are subject to moderation by Redditors (Matias, 2016a, 2016b), many subreddits remain unrestricted.

The combination of anonymity and online communication reduces personal accountability and can create an "online disinhibition effect" which can provoke hostile actions or troll-like behaviors (Suler, 2004) as well as supportive behaviors (Bernstein et al., 2011). Hostile and troll-like behaviors are largely responsible for Reddit's reputation and regular appearance in the news. Reddit is "known for its sometimes misogynistic content" (e.g., Herring & Stoerger, 2014, p. 569). Centivany and Glushko (2016) note that "[w]hile particularly offensive or vitriolic content typically never reaches the front page, there are many subreddits dedicated to racist, sexist, violent, and particularly disturbing pornographic content." Reddit has consistently appeared in headlines that describe some threads as "woman-hating" (Mettler, 2017), "low-key toxic" (Caffier, 2017), and the "black hole of violent racism" (Hankes, 2015). Massanari's (2017) ethnography of Reddit shows that the site serves as a "nexus for toxic technocultures to thrive" and a breeding ground for misogyny and anti-feminism (p. 333). This is illustrated by the case of the dissemination of nude pictures of famous female actors on Reddit and other platforms, coined The Fappening (Massanari, 2017), as well as the #Gamergate controversy (Perreault & Vos, 2016), wherein women working in the gaming industry were harassed on platforms, such as Reddit, 4chan, Tumblr, or Twitter (Braithwaite, 2016; Massanari, 2017). Massanari (2015, 2017) acknowledges the prevalence of racism on Reddit and the frequent aberration that irony and lack of intent to be racist renders the act acceptable. The content that Redditors share on some of these forums is so brutal and abhorrent that, according to Keegan Hankes (2015), author of a study about racism on Reddit for the Southern Poverty Law Center (SPLC), "you can't even put [it] on Stormfront or other white supremacist sites" (Isquith, 2015).

Attempts to battle misogyny and racism in open systems like Reddit are undermined by the justification that the site "requires a significant tolerance for adversariality that may be alienating to some participants" (Reagle, 2013, para. 33). Using freedom of speech as a foundation, some users justify hostility toward others by adhering to an argument of choice equivalent with self-regulated exclusion (i.e., they don't like it, they don't have to be here). However, the company's

commitment to unrestricted speech has wavered. In 2012, former Reddit Chief Executive Officer Yishan Wong was quoted in an article saying there would be no ban of content that was “odious” (Laird, 2012). However, in 2015, Reddit quarantined and removed some subreddits that violated their updated policy agreements. For example, *r/rapingwomen* was banned for its promotion of violence against women. Several other subreddits were also deleted in 2015, including *r/CoonTown*, but not for direct violation of Reddit’s policies. CEO Huffman announced the ban on Reddit:

Our policies are not changing dramatically . . . we are banning a handful of communities that exist solely to annoy other Redditors, prevent us from improving Reddit, and generally make Reddit worse for everyone else. (quoted in Matney, 2015, para. 3)

In 2017, Reddit also banned almost 1,000 accounts connected with Russia’s Internet Research Agency. Despite these bans, Reddit’s open racism, sexism, and hate speech that is not deemed violent is allowed on the site (Statt, 2018).

From a dramatically different lens, scholars have shown that context-specific anonymity leads to disinhibition that creates generally supportive communities. Luarn and Hsieh’s (2014) study underscores that perceived anonymity contributed to higher willingness to express opinions in online settings. In abuse-related posts on Reddit, Andalibi et al. (2016) show that even the relationships between regular Reddit users, moderators, and throwaway account users were generally supportive. The functions of anonymity and pseudonymity help foster engaging and supportive discussions in the context of stigmatized mental health issues (De Choudhury & De, 2014) and discussions about parenting (Ammari et al., 2018). Some subreddits also foster informal learning (Esteve Del Valle et al., 2018) and build international communities to engage in online protest (Loudon, 2014).

## Predicting Social Media Use

A 2017 Pew Report suggests a staggering 69% of U.S. adults use social networking sites (Pew Research Center, 2017), a number that doubled in less than a decade (Lenhart, 2009). Reddit users account for about 6% of U.S. adults. Yet, despite its small size in comparison with other social networking sites like Facebook, Reddit has hosted threads in the Reddit-specific Q&A format *Ask Me Anything* (AMA), which include high-profile officials and prominent leaders such as former President Barack Obama. Social media sites serve as spaces for connecting, communicating, and interacting with others. Lenhart (2009) suggests that most of these online social connections and relationships stem from people who they knew before connecting on the site. Our research explores the possibility that there are strikingly different network dynamics among networks that consist primarily of individuals who do not have this established offline connection.

Research has paid close attention to who engages on social networking sites and why through approaches such as uses and gratifications theory in other social media (e.g., Chen, 2011; Papacharissi & Mendelson, 2011; Raacke & Bonds-Raacke, 2008). While emerging scholarship has examined the patterns and consequences of Reddit functions (Andalibi et al., 2016; Bergstrom, 2011; Kilgo, Yoo, & Johnson, 2018; Olson & Neal, 2015; Suran & Kilgo, 2017; Tsou, 2016; Van der Nagel & Frith, 2015), factors that predict user engagement within the site are the focus of this research. Moore and Chuang’s (2017) study found that socializing, entertaining, and status seeking are significant predictors of engagement while information seeking is not, ultimately identifying the social networking aspects of the site. However, our study approach identifies the relevant variables that might predict participation in a social news site. Thus, we seek to examine if strength in personality, news engagement, and news consumption are key predictors of Reddit use, and consider how the aforementioned reputation of Reddit might provide different results based on user demographics.

## Personality Characteristics

Research on personality characteristics of social media users shows that strong personalities are more likely to engage online through social networking, blogging, and messaging than others (e.g., Guadagno, Okdie, & Eno, 2008; Li & Chignell, 2010). Correa, Hinsley, and Gil De Zuniga (2010) found that extraversion and openness were the most likely predictors of social media use. In addition, Park’s (2013) work on Twitter adopted Noelle-Neumann’s (1985) itemizations of personality strength to understand opinion leadership within the social network of Twitter. Results showed that those with stronger personalities, who ultimately identified as having more extroverted leadership qualities, use Twitter more often. Thus, we propose the following hypothesis:

*H1.* Stronger personality characteristics predict increased Reddit interactions in terms of (a) posting, (b) commenting, (c) voting, and (d) reading.

## News Engagement and Consumption

Several studies have discussed Reddit as a social news site (e.g., Leavitt & Clark, 2014) that “functions as a democratized platform for the dissemination of information” (Suran & Kilgo, 2017, p. 1036). Reddit has touted itself as the “front page of the Internet.” Pew research confirmed that for Reddit users, seven in 10 retrieved news from the site (Barthel, Stocking, Holcomb, & Mitchell, 2016), ranking it as the highest among social media. From a broader perspective, news consumption is an increasingly important use of social media, and social media is the most preferred platform for people to share news stories (Purcell, Rainie, Mitchell,

Rosenstiel, & Olmstead, 2010). As news is purported to be a primary function on Reddit (e.g., Leavitt & Clark, 2014), the effects of news engagement and consumption should intensify Reddit use. Thus, we propose the following hypotheses:

*H2.* Higher levels of news engagement predict increased Reddit interactions in terms of (a) posting, (b) commenting, (c) voting, and (d) reading.

*H3.* Higher levels of news consumption predict increased Reddit interactions in terms of (a) posting, (b) commenting, (c) voting, and (d) reading.

Finally, taking into consideration the various cultures that exist within Reddit, we investigate if the participation relationships vary when we consider demographic information (race, gender, age, and education):

*RQ1.* Do demographic variables change the relationship between predictor variables and Reddit use in terms of (a) posting, (b) commenting, (c) voting, and (d) reading?

## Method

The survey was conducted by researchers of the Digital Media Research Program at the University of Texas at Austin and was administered between December 1, 2015, and January 15, 2016. During this period, Reddit had received significant media attention because of its decision to ban several subreddits. Chandrasekharan and colleagues (2017) argue that there was a decrease in the prevalence of hate speech on the site and of participation by members who were frequent commenters in those groups. Newell and colleagues (2016) noted that there was also considerable migration of users to alternative subreddits as well as to other social networking platforms.

To explore active Reddit users, a convenience sampling method was employed to collect survey data. Participants were recruited through posts in various subreddits that ranged from political and news-oriented to social and discussion-oriented. This includes subreddits such as *r/samplesize* (a subreddit that is dedicated to posting and responding to surveys), *r/conspiracy*, *r/askfeminists*, *r/politic*, *r/anything-goesnews*, *r/democrats*, *r/republicans*, *r/insightfulquestions*, *r/askfeminists*, *r/BlackPower*, and *r/Hispanics*. Our final sample size was 546.

## Survey Demographics

Overall, participants were young ( $M=26.58$ , standard deviation [ $SD$ ]=8.35) and highly educated (1=less than a high school degree, 5=graduate/professional degree;  $M=4.24$ ,  $SD=1.54$ ). More men participated ( $n=363$ , 66.5%) in this survey than women, and more Whites than minorities ( $n=142$ , 26.0%).

## Independent Variables

For *personality characteristics*, participants answered if they agreed or disagreed with the following six statements (1=*strongly disagree*, 7=*strongly agree*) adopted from Noelle-Neumann's (1985) concept of personality strength, a measure of opinion leadership: "I like to have responsibility," "I like to take the leadership when people conduct activities as a group," "I enjoy convincing others," "I serve as a model for others," "I am often a step ahead of others," and "I often give others advice and suggestions." Scores were averaged to create an index (Cronbach's  $\alpha=.79$ ,  $M=4.93$ ,  $SD=0.99$ ). Higher scores indicated stronger personalities.

For *news engagement*, participants answered if they agreed or disagreed with the following five statements (1=*strongly disagree*, 7=*strongly agree*): "It's a regular part of my day to catch up with the news," "I follow the news to understand what's going on in the world," "I follow the news to know what other people are talking about," "It's my duty to keep up with what's going on in the world," and "I have a pretty good understanding of the main issues facing our country." Those statements were averaged to create an index (Cronbach's  $\alpha=.76$ ,  $M=4.16$ ,  $SD=2.32$ ). Higher scores indicated higher news engagement.

Finally, *media consumption* was measured by asking participants to report how often they retrieved news from the following five media sources (1=*never*, 7=*all the time*): local newspapers, national newspapers, cable news, local TV news, and radio news. Results were averaged to create an index (Cronbach's  $\alpha=.71$ ,  $M=2.96$ ,  $SD=0.97$ ). Higher scores indicated more news consumption.

*Outcome Variables.* Four single-item measures were employed to measure how often Reddit users participated in the following activities (1=*never*, 7=*all the time*): posting news sources, commenting on posts, voting (upvoting and downvoting), and reading posts and articles on Reddit.

*Data Analysis.* Hierarchical ordinary least squares (OLS) regression analyses were performed to examine the relationships between each Reddit activity and predictor variables. Block 1 included demographics (e.g., age, gender, race, and education). Block 2 included media consumption, news engagement, and personality characteristics. Before assessing models, bivariate Pearson's correlations were run among all variables. Multicollinearity was not present for the independent variables. Table 1 shows the correlation matrix.

## Results

### Posting Stories on Reddit

In terms of posting, Block 1 of the OLS regression showed that gender and age were statistically significant. Demographic variables explained 6.4% of the model



**Table 1.** Descriptive Statistics and Pearson's Correlations ( $N=546$ ).

Variables	1	2	3	4	5	6	7	8	9	10	11
<b>Dependent variables</b>											
1. Post news stories		.40**	.21**	-.01	.12**	.09*	.13***	-.12**	.01	.22***	.10**
2. Comment on posts			.52**	.15**	-.05	.04	.07	-.19***	-.07*	.15***	.04
3. Upvote or downvote posts/ comments				.21**	-.01	.09*	.03	-.04	.02	.06	.06
4. Read articles or comments					.00	.14***	.05	-.09*	-.09*	.00	.03
<b>Independent variables</b>											
5. Personality strength						.27**	.15***	-.11**	.00	.00	.11**
6. News engagement							.33***	-.04	-.01	.06	.07*
7. News consumption								.04	.02	.18***	.15***
<b>Demographic control variables</b>											
8. Gender (0: Male, 1: Female)									.33	.34	.11**
8. Race (0: White, 1: Non-White)										.07	-.01
10. Age											.40***
11. Education											
<i>M</i>	1.86	4.80	6.60	7.40	2.96	4.16	4.93	.32	.26	26.58	3.63
<i>SD</i>	1.34	2.11	1.82	1.13	0.97	2.32	0.99	.47	.44	8.39	0.93

*SD*: standard deviation.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

variance. After entry of personality characteristics, news consumption, and news engagement at Block 2, the total variance explained by the model as a whole was 8.3%,  $R^2 = .08$ ,  $F = 6.74$ ,  $p < .001$ . In the final adjusted model, only three variables were statistically significant: Age ( $\beta = .20$ ,  $p < .001$ ) had the strongest effect, followed by gender ( $\beta = -.12$ ,  $p < .01$ ; 0 = male, 1 = female) and personality strength ( $\beta = .10$ ,  $p < .05$ ). These findings revealed that women were less likely to post news stories on Reddit compared to men, and older individuals were significantly more likely to post on Reddit (RQ1a). Individuals with stronger personality were also more likely to post on Reddit, supporting H1a. H2a (news engagement) and H3a (news consumption) were rejected.

### Commenting on Posts

Regarding commenting, OLS regression results showed that gender ( $\beta = -.17$ ,  $p < .001$ ), age ( $\beta = .15$ ,  $p < .001$ ), and news engagement ( $\beta = .03$ ,  $p < .05$ ) were statistically significant in the full model,  $R^2 = .07$ ,  $F = 5.26$ ,  $p < .001$ . These findings revealed that women were overall less likely to comment on posts, and older individuals were significantly more likely to comment on posts (RQ1b). Reddit users who were more engaged with news were also more likely to comment on the site, supporting H2b. H1b (personality strength) and H3b (news consumption) were rejected.

### Upvoting and Downvoting on Reddit

Block 1 revealed that no demographic variables were significant predictors of voting, which remained true in the final model,

answering RQ1c. Block 2 showed that only news engagement significantly predicted voting ( $\beta = .09$ ,  $p < .05$ ), suggesting Reddit users who were more engaged with news were more likely to vote on the site. H2c was supported. H1c (personality strength) and H3c (news consumption) were rejected. The final model was not significant,  $R^2 = .02$ ,  $F = 1.12$ ,  $p > .05$ .

### Reading Posts and Articles

For reading, all demographic variables were statistically insignificant, answering RQ1d. The final regression model was significant,  $R^2 = .04$ ,  $F = 2.78$ ,  $p < .01$ , with news engagement as the only significant predictor for reading posts on Reddit ( $\beta = .15$ ,  $p < .001$ ), supporting H2d. H1d (personality strength) and H3d (news consumption) were rejected.

Table 2 presents the final regression model of each regression. Although the total variance explained by the models was generally small, the models indicated statistically significant predictors. Values of  $R^2_{\text{change}}$  showed that demographic variables explained a higher proportion of the variation than personality strength, news engagement, and news consumption for posting and commenting on Reddit. In contrast, demographic variables explained a similar proportion of variation as personality strength, news engagement, and news consumption for voting and reading posts on Reddit.

## Discussion

The identity of Reddit as a social networking site, a social news site, and a message board in addition to its affordances of anonymity, its reputation for hosting hostile communities, and its controversial privacy policies led to the inception of

**Table 2.** Hierarchical OLS Regression of Each Reddit Engagement Behavior ( $N=546$ ).

Variables	Post news stories			Comment on posts			Upvote or downvote posts/comments			Read articles or posts from others		
	<i>B</i>	<i>SEB</i>	$\beta$	<i>B</i>	<i>SEB</i>	$\beta$	<i>B</i>	<i>SEB</i>	$\beta$	<i>B</i>	<i>SEB</i>	$\beta$
Block 1												
Demographic												
Gender	-.29	.12	-.12*	-.75	.19	-.17***	-.18	.17	-.05	-.19	.11	-.08
Race	.08	.13	.03	-.25	.20	-.05	.10	.18	.02	-.21	.11	-.08
Age	.03	.01	.20***	.04	.01	.15***	.01	.01	.05	-.00	.01	-.03
Education	.01	.07	.01	-.01	.11	-.00	.08	.10	.04	.05	.06	.04
Block 1 $R^2_{\text{change}}$	.06			.06			.01			.02		
Block 2												
Personality strength	.02	.01	.10*	.02	.02	.05	.00	.01	.00	.00	.01	.00
News engagement	.01	.01	.02	.01	.02	.03*	.03	.02	.09*	.03	.01	.15***
News consumption	.09	.06	.07	-.19	.10	-.09	-.09	.09	-.05	-.05	.05	-.05
Block 2 $R^2_{\text{change}}$	.02			.01			.01			.02		
<i>F</i> value	6.74***			5.26***			1.12			2.78**		
Overall $R^2$	.08			.07			.02			.04		
$R^2_{\text{adjusted}}$	.07			.05			.00			.02		

OLS: ordinary least squares; *B*: unstandardized beta coefficient; *SEB*: standard error;  $\beta$ : standardized beta coefficient.

Only final models are shown here.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

this study. As one of the most visited sites on the Internet, our study seeks to identify who uses Reddit and how they interact on the site. Our intention is not to offer insight about Reddit that can be generalized to the entire site or specific subreddits. Rather, we hope to highlight some of the activity habits of Reddit users and use our existing knowledge about Reddit's culture, reputation, and controversies to understand why differences may exist. Our results contribute to three main points of interest: (a) the role news plays with active Reddit users, (b) personality strength's association with increased participation, and (c) the role age and gender play in explaining Reddit participation.

Our first finding indicates that news, in general, is important but may not be central to predicting Reddit use. Reddit users who are highly engaged with news and that consider news consumption an important part of their lives are more likely to comment, vote, and read posts or comments on Reddit. News engagement has the strongest association with reading articles on the site; reading can be considered a more passive type of interaction. However, news consumption does not predict any of these activities. These two findings help to support evidence that the value of news and its importance in everyday life (news engagement) increases social news site participation, even if the site's users are not regularly consuming mainstream news. Furthermore, these findings invite future inquiries to reassess Reddit's site designation as a social news site. If Redditors are not consuming mainstream news, yet seven in 10 users receive news from Reddit (Barthel et al., 2016), with what news are users most engaged? The relationship between Redditors and news as well as the features of news on social news sites are ripe areas for future exploration.

The second important finding focuses on personality strength and Reddit participation. Our results showed that Reddit users who post more often tend to have stronger personalities, though personality strength was not a predictor of commenting, voting, or reading. This finding is remarkable considering the news engagement is just the opposite: Those that value news engagement the most are more likely to comment, vote, and read, but not post. Posting and commenting differ in that posters tend to lead or direct the conversation, whereas commenting can be considered more reactive. This activity pattern furthers Kilgo and colleagues' (2016) argument that opinion leadership exists on the site. Future exploration of this relationship is warranted, particularly considering the context of anonymity, throwaway accounts, and subreddit cultures.

Finally, gender and age tell a compelling story about how the site's culture and reputation may influence Reddit use. Concerning content creation, Reddit users who are women participated less on the site than men. They posted fewer news stories and commented less on posts. However, they were equally likely to vote and read posts as men. This points us to the importance of understanding fundamentally different types of engagement: Commenting and posting are among the most active forms of online engagement, reading and voting less so. The more active contributions of posts and comments are among the few spaces where users can—intentionally or unintentionally—reveal their identity in the anonymous social networking platforms such as Reddit. Thus, considering the reputation and culture of Reddit, we might conclude that women likely do not enjoy actively engaging in misogynistic cultures and so participate less.

This is also partially supported by our survey demographics: In our sample, 66.5% of respondents were male, similar to findings by Pew in 2016 who found that 67% of Reddit users were male. Yet, because of our convenience sampling, we are unable to make inferences about the gender split in Reddit overall. Women Redditors might be withdrawing from active participation while continuing to participate in more passive ways, as has been found in video game research that investigates hostile situations. Fox and Tang (2016), for example, found that women adopted various strategies to avoid sexual harassment, which included gender masking or withdrawal. Likewise, because our convenience sample was Redditors who hold accounts on the site and are actively engaging with posts (our survey was placed in a link inside the post), findings support the idea that women Redditors might refrain from engaging heavily in activities that could lead to accidental disclosure. More active forms of participation may be perceived as riskier for women and therefore undesirable.

Our results also indicate that there may be consequential power in remaining silent. The less active and completely anonymous engagement behavior of voting did not show significant differences between men and women. Although women may be less eager to comment or post, they remain active contenders as voters—the only truly anonymous and untraceable function of Reddit. This function allows women to participate in what makes it to the front page of Reddit and subreddits (ultimately seen by more people) and what is buried behind other posts and algorithmic features (ultimately seen by fewer people).

In addition, it is important to consider the period in which this study was conducted, about 6 months after Reddit began banning content online. Chandrasekharan and colleagues (2017) noted that the Reddit bans “succeeded at both a user level and a community level. Through the banning of subreddits which engaged in racism and fat-shaming, Reddit was able to reduce the prevalence of such behavior on the site” (p. 17). However, the decreased commenting and posting behaviors of active women Redditors indicate that the damage of online harassment, hostility, and oppression may have already been done. We cannot draw the same inferences for racial minority populations in this study because we posted the survey and attempted to recruit from subreddits specifically designed for minorities, which likely leads to increased participation.

Age seems to point to the most significant increases in posting and commenting on Reddit. Older Reddit users are more likely to post and comment than younger Reddit users. The relationship between age and content creation on the site through posting and commenting leads us to reconsider other cultural and technical factors that might set Reddit apart from other social networking sites—in this case, the design of the site. In 2015, Reddit’s website was reminiscent of early Internet webpage designs, devoid of elaborate graphics, and not accessible through most mobile applications. Because of this, regular Reddit use often requires browser access. As more young people rely on smartphones, mobile

devices, and tablets (Poindexter, 2012), these technology gaps might explain some of the participation differences found in this study.

There are significant limitations to the generalizability of our survey results: Our participants were recruited through convenience sampling, providing limitations to the generalizability of data across Reddit. Indeed, in many ways, subreddits act as compartmentalized communities, and our understanding of anonymity and social media use would benefit from an investigation of these individual networks or subreddits. Nevertheless, these findings foster efforts to predict who might be most likely to participate in Reddit, providing potential groundwork for further exploration of other anonymity-affording social networks such as imgur or 4chan. They also point to the effects that site reputation might have on participation, a consideration that is particularly important in the context of recent controversies that surround Facebook and Twitter regarding data sharing and the 2016 U.S. presidential election. As the politics of social media platforms, data collection, and user privacy evolve, future research should consider the reputations and histories these networks build in the collective public memory, and the effects this may have on who participates in the future.

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## References

- About Reddit. (2018, March). *Reddit*. Available from <https://about.reddit.com>
- Ammari, T., Schoenebeck, S., & Romero, D. M. (2018, April 21-26). *Pseudonymous parents: Comparing parenting roles and identities on the Mommit and Daddit subreddits*. Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems, Montreal, Quebec, Canada. doi:10.1145/3173574.3174063
- Andalibi, N., Haimson, O. L., De Choudhury, M., & Forte, A. (2016, May 7-12). *Understanding social media disclosures of sexual abuse through the lenses of support seeking and anonymity*. Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems, San Jose, CA. doi:10.1145/2858036.285809
- Barthel, M., Stocking, G., Holcomb, J., & Mitchell, A. (2016, February 25). *Nearly eight-in-ten Reddit users get news on the site*. Pew Research Center. Retrieved from <http://www.journalism.org/2016/02/25/seven-in-ten-reddit-users-get-news-on-the-site/>

- Bergstrom, K. (2011). "Don't feed the troll": Shutting down debate about community expectations in Reddit.com. *First Monday*, 16(8). doi:10.5210/fm.v16i8.3498
- Bergstrom, K. (2015, October 21-24). *Feminism is for angry white women: Exploring images of feminism on Reddit.com*. Paper presented at Internet Research 16: The 16th Annual Conference of the Association of Internet Researchers, Phoenix, AZ. Retrieved from <https://spir.aoir.org/index.php/spir/article/view/1026/682>
- Bernstein, M. S., Monroy-Hernández, A., Harry, D., André, P., Panovich, K., & Gregory, V. (2011, July 17-21). *4chan and/b/: An analysis of anonymity and ephemerality in a large online community*. ICWSM. Retrieved from <http://www.aaai.org/ocs/index.php/ICWSM/ICWSM11/paper/viewFile/2873/4398>
- Braithwaite, A. (2016). It's about ethics in games journalism? Gamergaters and geek masculinity. *Social Media + Society*, 2(4), 1-10. doi:10.1177/2056305116672484
- Caffier, J. (2017, September 11). Here are Reddit's whiniest, most low-key toxic subreddits. *VICE*. Retrieved from [https://www.vice.com/en\\_nz/article/8xxymb/here-are-reddits-whiniest-most-low-key-toxic-subreddits](https://www.vice.com/en_nz/article/8xxymb/here-are-reddits-whiniest-most-low-key-toxic-subreddits)
- Centivany, A., & Glushko, B. (2016, May 12). "Popcorn tastes good": Participatory policymaking and Reddit's "AMAgeddon." Proceedings of the CHI Conference on Human Factors in Computing Systems, San Jose, CA. doi:10.1145/2858036.2858516
- Chandrasekharan, E., Pavalanathan, U., Srinivasan, A., Glynn, A., Eisenstein, J., & Gilber, E. (2017). You can't stay here: The efficacy of Reddit's 2015 ban examined through hate speech. Proceedings of the ACM on Human-Computer Interaction, 1(2), Article 31. doi:10.1145/3134666
- Chen, G. M. (2011). Tweet this: A uses and gratifications perspective on how active Twitter use gratifies a need to connect with others. *Computers in Human Behavior*, 27, 755-762. doi:10.1016/j.chb.2010.10.023
- Correa, T., Hinsley, A. W., & De Zuniga, H. G. (2010). Who interacts on the Web? The intersection of users' personality and social media use. *Computers in Human Behavior*, 26, 247-253. doi:10.1016/j.chb.2009.09.003
- De Choudhury, M., & De, S. (2014, June 1-4). *Mental health discourse on Reddit: Self-disclosure, social support, and anonymity*. Proceedings of the Eight International AAAI Conference on Weblogs and Social Media. Retrieved from <http://www.aaai.org/ocs/index.php/ICWSM/ICWSM14/paper/download/8075/8107>
- Esteve Del Valle, M., Gruz, A., Haythornthwaite, C., Kumar, P., Gilbert, S., & Paulin, D. (2018). Learning in the wild: Predicting the formation of ties in "ask" subreddit communities using ERG models. In M. Bajic, N. B. Dohn, M. de Laat, P. Jandric, & T. Ryberg (Eds.), *Proceedings of the 11th International Conference on Networked Learning 2018* (pp. 157-164). Retrieved from [https://www.rug.nl/research/portal/files/59767106/Esteve\\_Del\\_Valle\\_et\\_al\\_NLC\\_2018.pdf](https://www.rug.nl/research/portal/files/59767106/Esteve_Del_Valle_et_al_NLC_2018.pdf)
- Fox, J., & Tang, W. Y. (2016). Women's experiences with general and sexual harassment in online video games: Rumination, organizational responsiveness, withdrawal, and coping strategies. *New Media & Society*, 19, 1290-1307. doi:10.1177/1461444816635778
- Guadagno, R. E., Okdie, B. M., & Eno, C. A. (2008). Who blogs? Personality predictors of blogging. *Computers in Human Behavior*, 24, 1993-2004. doi:10.1016/j.chb.2007.09.001
- Hankes, K. (2015, March 10). How Reddit became a worse black hole of violent racism than Stormfront. *Gawker*. Retrieved from <http://gawker.com/how-reddit-became-a-worse-black-hole-of-violent-racism-1690505395>
- Herring, S. C., & Stoerger, S. (2014). Gender and (a)nonymity in computer-mediated communication. In S. Ehrlich, M. Meyerhoff, & J. Holmes (Eds.), *The handbook of language, gender and sexuality* (pp. 567-586). Hoboken, NJ: John Wiley. doi:10.1002/9781118584248.ch29
- Isquith, E. (2015, March 18). Reddit's ugly, racist secret: How it became the most hateful space in the Internet. *salon*. Retrieved from [https://www.salon.com/2015/03/18/reddits\\_ugly\\_racist\\_secret\\_how\\_it\\_became\\_the\\_most\\_hateful\\_space\\_on\\_the\\_internet/](https://www.salon.com/2015/03/18/reddits_ugly_racist_secret_how_it_became_the_most_hateful_space_on_the_internet/)
- Kilgo, D. K., Yoo, J., & Johnson, T. (2018). Spreading Ebola panic: Newspaper and social media coverage of the 2014 Ebola health crisis. *Health Communication*. Advance online publication. doi:10.1080/10410236.2018.1437524
- Kilgo, D. K., Yoo, J., Sinta, V., Geise, S., Suran, M., & Johnson, T. J. (2016). Led it on Reddit: An exploratory study examining opinion leadership on Reddit. *First Monday*, 21(9). doi:10.5210/fm.v21i9.6429
- Laird, S. (2012, October 17). Reddit CEO: We won't ban "distasteful" content. *Mashable*. Retrieved from <https://mashable.com/2012/10/17/reddit-ceo-ban-distasteful-content/#COXqNuEG0EqU>
- Leavitt, A., & Clark, J. (2014, April 26-May 1). *Upvoting Hurricane Sandy: Event-based news production processes on a social news site*. Proceedings of the SIGCHI Conference on Human Factors in Computing Systems, Toronto, Ontario, Canada. doi:10.1145/2556288.2557140
- Lenhart, A. (2009, January 14). *Adults and social network web sites*. Pew Internet and American Life Project. Retrieved from <http://www.pewinternet.org/Reports/2009/Adults-and-Social-Network-Websites.aspx/>
- Li, J., & Chignell, M. (2010). Birds of a feather: How personality influences blog writing and reading. *International Journal of Human-Computer Studies*, 68, 589-602. doi:10.1016/j.ijhcs.2010.04.001
- Loudon, M. (2014). "Research in the wild" in online communities: Reddit's resistance to SOPA. *First Monday*, 19(2-3). doi:10.5210/fm.v19i2.4365
- Luam, P., & Hsieh, A. Y. (2014). Speech or silence. *Online Information Review*, 38, 881-895. doi:10.1108/OIR-03-2014-0076
- Massanari, A. L. (2015). *Participatory culture, community, and play: Learning from Reddit*. New York, NY: Peter Lang.
- Massanari, A. L. (2017). #Gamergate and The Fappening: How Reddit's algorithm, governance, and culture support toxic technocultures. *New Media & Society*, 19, 329-346. doi:10.1177/1461444815608807
- Matias, J. N. (2016a, September 22-23). *The civic labor of online moderators*. IPP 2016: The Platform Society, University of Oxford. Retrieved from [https://blogs.oii.ox.ac.uk/ipp-conference/sites/ipp/files/documents/JNM-The\\_Civic\\_Labor\\_of\\_Online\\_Moderators\\_Internet\\_Politics\\_Policy.pdf](https://blogs.oii.ox.ac.uk/ipp-conference/sites/ipp/files/documents/JNM-The_Civic_Labor_of_Online_Moderators_Internet_Politics_Policy.pdf)
- Matias, J. N. (2016b, May 7-12). *Going dark: Social factors in collective action against platform operators in the Reddit blackout*. Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems, San Jose, CA. doi:10.1145/2858036.2858391



- Matney, L. (2015, August 5). Reddit finally bans racist r/CoonTown and other hateful communities, updates user policies. *TechCrunch*. Retrieved from <https://techcrunch.com/2015/08/05/reddit-finally-bans-rcoontown-and-other-hateful-subreddits-updates-user-policies/>
- Mettler, K. (2017, May 18). "Shame, Shame." N. H. Lawmaker resigns after outcry over his "woman-hating" Reddit forum. *The Washington Post*. Retrieved from [https://www.washingtonpost.com/news/morning-mix/wp/2017/05/18/shame-shame-n-h-lawmaker-resigns-after-outcry-over-his-woman-hating-reddit-forum/?utm\\_term=.6396ff7a8397](https://www.washingtonpost.com/news/morning-mix/wp/2017/05/18/shame-shame-n-h-lawmaker-resigns-after-outcry-over-his-woman-hating-reddit-forum/?utm_term=.6396ff7a8397)
- Moore, C. M., & Chuang, L. M. (2017, January 4–7). *Redditors revealed: Motivational factors of the Reddit community*. In *Proceedings of the 50th Hawaii International Conference on System Sciences* (pp. 2313–2332). Retrieved from <http://hdl.handle.net/10125/41434>
- Newell, E., Jurgens, D., Saleem, H. M., Vala, H., Sassine, J., Armstrong, C., & Ruthes, D. (2016, May 17–20). *User migration in online social networks: A case study on Reddit during a period of community unrest*. Proceedings of the 10th International AAAI Conference on Web and Social Media (ICWSM), Cologne, Germany. Retrieved from <https://www.aaai.org/ocs/index.php/ICWSM/ICWSM16/paper/view/13137/12729>
- Noelle-Neumann, E. (1985, September 1–5). *Identifying opinion leaders*. Broadening the uses of research: 38th ESOMAR Congress, Wiesbaden, Germany.
- Olson, R. S., & Neal, Z. P. (2015). Navigating the massive world of Reddit: Using backbone networks to map user interests in social media. *PeerJ Computer Science*, 1, e4. doi:10.7717/peerj-cs.4
- Papacharissi, Z., & Mendelson, A. (2011). Toward a new(er) sociability: Uses, gratifications and social capital on Facebook. In S. Papathanassopoulos (Ed.), *Media perspectives for the 21st century* (pp. 212–230). New York, NY: Routledge.
- Park, C. S. (2013). Does Twitter motivate involvement in politics? Tweeting, opinion leadership, and political engagement. *Computers in Human Behavior*, 29, 1641–1648. doi:10.1016/j.chb.2013.01.044
- Perreault, G. P., & Vos, T. P. (2016). The GamerGate controversy and journalistic paradigm maintenance. *Journalism*, 19, 553–569. doi:10.1177/1464884916670932
- Pew Research Center. (2017). Social media fact sheet. *Author*. Retrieved from <http://www.pewinternet.org/fact-sheet/social-media/>
- Poindexter, P. M. (2012). *Millennials, news, and social media: Is news engagement a thing of the past?* New York: Peter Lang.
- Purcell, K., Rainie, L., Mitchell, A., Rosenstiel, T., & Olmstead, K. (2010, March 1). *Understanding the participatory news consumer: How internet and cell phone users have turned news into a social experience*. Pew Research Center. Retrieved from <http://www.pewinternet.org/2010/03/01/understanding-the-participatory-news-consumer/>
- Raacke, J., & Bonds-Raacke, J. (2008). MySpace and Facebook: Applying the uses and gratifications theory to exploring friend-networking sites. *CyberPsychology & Behavior*, 11, 169–174. doi:10.1089/cpb.2007.0056
- Reagle, J. (2013). "Free as in sexist?" Free culture and the gender gap. *First Monday*, 18(1). doi:10.5210/fm.v18i1.4291
- Statt, N. (2018, April 11). Reddit CEO says racism is permitted on the platform, and users are up in arms. *The Verge*. Retrieved from <https://www.theverge.com/2018/4/11/17226416/reddit-ceo-steve-huffman-racism-racist-slurs-are-okay>
- Suler, J. (2004). The online disinhibition effect. *CyberPsychology & Behavior* 7, 321–326. doi:10.1089/1094931041291295
- Suran, M., & Kilgo, D. K. (2017). Freedom from the press? How anonymous gatekeepers on Reddit covered the Boston Marathon bombing. *Journalism Studies*, 18, 1035–1051. doi:10.1080/1461670X.2015.1111160
- Tsou, A. (2016). How does the front page of the Internet behave? Readability, emoticon use, and links on Reddit. *First Monday*, 21(11). doi:10.5210/fm.v21i11.7013
- Tufekci, Z. (2017). *Twitter and tear gas: The power and fragility of networked protest*. New Haven, CT: Yale University Press.
- Van der Nagel, E. (2013). Faceless bodies: Negotiating technological and cultural codes on Reddit Gonewild. *Scan | Journal of Media Arts Culture*, 10(2). Retrieved from <http://scan.net.au/scn/journal/vol10number2/Emily-van-der-Nagel.html>
- Van der Nagel, E., & Frith, J. (2015). Anonymity, pseudonymity, and the agency of online identity: Examining the social practices of r/Gonewild. *First Monday*, 20(3). doi:10.5210/fm.v20i3.5615

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