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Abuse in the time of COVID-19: the effects of Brexit, gender and partisanship

Abuse in the
time of COVID-
19

1045

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Abstract

Purpose – The authors investigate how COVID-19 has influenced the amount, type or topics of abuse that UK politicians receive when engaging with the public.

Design/methodology/approach – This work covers the first year of COVID-19 in the UK, from March 2020 to March 2021 and analyses Twitter abuse in replies to UK MPs. The authors collected and analysed 17.9 million reply tweets to the MPs. The authors present overall abuse levels during different key moments of the pandemic, analysing reactions to MPs by gender and the relationship between online abuse and topics such as Brexit, the government's COVID-19 response and policies, and social issues.

Findings – The authors have found that abuse levels towards UK MPs were at an all-time high in December 2020. Women (particularly those from non-White backgrounds) receive unusual amounts of abuse, targeting their credibility and capacity to do their jobs. Similar to other large events like general elections and Brexit, COVID-19 has elevated abuse levels, at least temporarily.

Originality/value – Previous studies analysed abuse levels towards MPs in the run-up to the 2017 and 2019 UK General Elections and during the first four months of the COVID-19 pandemic in the UK. The authors compare previous findings with those of the first year of COVID-19, as the pandemic persisted, and Brexit was forthcoming. This research not only contributes to the longitudinal comparison of abuse trends against UK politicians but also presents new findings, corroborates, further clarifies and raises questions about the previous findings.

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Keywords Online abuse, British MPs, COVID-19, NLP

Paper type Research paper

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1. Introduction

Previous studies of online abuse received by British MPs indicate that abuse can be specific to the context, individuals (their characteristics and behaviour) and events unfolding around us (Stephen Ward and Liam McLoughlin, 2020; Gorrell *et al.*, 2020; Esposito and Breeze, 2022). Different combinations of the above (who you are- and what you've done or said, for example) may also shape public perception, leading to abuse (Farrell *et al.*, 2020; Esposito and Breeze, 2022). Already in the midst of serious upheavals to "business as usual" with Brexit and leadership crises, we wanted to understand more about how the global health emergency, COVID-19, influences the amount, type or topics of abuse that UK politicians receive when engaging with the public.

This paper charts Twitter abuse in replies to UK MPs between 1 March 2020 and 31 March 2021, spanning the first complete year of the COVID-19 pandemic in the UK. The paper examines overall abuse levels during this 13-month period and analyses reactions to members of different political parties and the UK government. In particular, we focused on classifying types of abuse and comparing the receipt of different types of abuse depending on party affiliation and gender. We also analysed the hashtags contained in tweets to UK MPs, in order to follow topical trends in abusive tweets.

This paper contributes to the longitudinal comparison of abuse trends towards UK politicians. Since the same data collection and abuse detection method was used to analyse previous levels of abuse towards MPs in the run-up to the 2017 and 2019 UK General Elections (Gorrell *et al.*, 2020) and during the first four months of the COVID-19 pandemic in the UK (Farrell *et al.*, 2020), this research not only presents new findings, but is also able to validate, further clarify or raise question about the findings of previous, related studies.

Our key findings are as follows.

- (1) Abuse levels towards UK MPs in the run-up to Brexit in December 2020 reached 5.4% of all reply tweets sent to MPs. This is the highest level seen across all time periods that have been studied in the literature – specifically, the 2017 and 2019 General Elections and the first 4 months of the pandemic (Feb–May 2020).
- (2) The 5.4% average abuse in Dec 2020 is almost 1% higher than the 4.5% average abuse levels reached in the two months preceding the 2019 General Election.
- (3) Another flashpoint was in October 2020, when abuse levels spiked to almost 5.1%. Our analysis links this to a specific conflict regarding two MPs and their supporters, however this period also included new tier restrictions, circuit breakers and lockdown protests.
- (4) In a departure from the trend seen in the first four months of the pandemic, MPs from the Tory party received the highest percentage of abusive replies from July 2020 onward, which stayed above 5% starting from September 2020 onward, as the COVID-19 crisis deepened and the Brexit negotiations with the EU started nearing completion.
- (5) With the start of the new year until March 2021, abuse towards all MPs begins to decline, falling to pre-pandemic, pre-2019 general election levels.
- (6) Analysis of the types of abuse that MPs receive based on their gender show that women (particularly those from non-White backgrounds) receive unusual amounts of abuse, targeting their credibility and capacity to do their jobs.
- (7) Analysis of topic coverage through hashtags indicates that inter-party politics, general critiques of the government and key political figures are most often associated with abusive tweets, in comparison with specific worries and complaints around COVID-19.

2. Related work

In this paper, we examine the impact of COVID-19 on abuse levels towards UK MPs. We were expecting the impact to be significant, given the amount of misinformation, partisanship and frustration around COVID-19, as well as the existing political affairs of the UK regarding Brexit and party leadership. In a special issue related to online harm during COVID-19, [Ferrara et al. \(2020\)](#) comment that COVID-19 has been an “unprecedented setting for the spread of online misinformation, manipulation, and abuse, with the potential to cause dramatic real-world consequences”. We also suspected that online abuse would increase more generally, given the frustration and anger around how the pandemic was handled.

There have been clear indications that online abuse (particularly towards women) has increased during the pandemic. A 2020 report from Glitch UK, a charity addressing online abuse, and End Violence Against Women Coalition indicated that women, particularly those with minority characteristics reported increases in online violence. Similarly, an extensive, mixed-methods global study of online violence against women in journalism ([Posetti et al., 2021](#)) also showed that, particularly for those living in countries designated as the Global South, women journalists had been increasingly targets of online violence during the pandemic.

Previous work, however, was inconclusive about the overall impact of COVID-19 on abuse levels towards British MPs, due to the novelty of the situation and expressions of compassion during Boris Johnson’s illness ([Farrell et al., 2020](#)). Abuse towards politicians was at an all-time low during Johnson’s illness, which was unusual as he usually features quite prominently in the data because of his role ([Gorrell et al., 2020](#)). Particularly as previous work has indicated that high-profile individuals do tend to attract more abuse ([Gorrell et al., 2018](#); [Van Noorden, 2022](#)). It is therefore necessary to compare these findings with those of the current period, as the pandemic has matured and Brexit was clearly on the horizon, to see how abuse levelled-out during this first year of COVID-19.

2.1 Gender and abuse of UK MPs

Violence against women in politics is an established issue. A 2016 study indicated that a quarter of women politicians had received some type of physical violence, and a fifth had experienced some type of sexual violence, globally ([Akhtar and Morrison, 2019](#)). As mentioned above, studies have already shown that online violence towards women particularly has increased during the pandemic, especially when they are in the public eye. The study by [Posetti et al. \(2021\)](#) indicated that, in addition to being the targets of online violence, women are also those most often responding to it. This indicates that women are carrying more of the burden in experiencing and dealing with online violence, the consequences of which include mental health struggles, the need for increased physical security, changes in their participation in online settings, self-censoring and disruptions to their work. The impacts on women with minoritised characteristics have been particularly pronounced. The results of a survey conducted by Glitch UK in June and July 2020 with 484 respondents, more than a third of the respondents with minority characteristics reported increases in online violence during the pandemic. 94% of those respondents felt that the incidents they experienced were not addressed properly. Therefore, studying instances of online violence against women can help investigate the specific issues we see playing out in the physical world and to understand the additional features of suppression or exclusion of women from politics in the online space.

Previous work on abuse directed at UK MPs indicated that hostility towards MPs was rising ([Gorrell et al., 2018](#); [Gorrell et al., 2019](#); [Binns and Bateman, 2018](#); [Ward et al., 2017](#)), particularly in relation to contentious issues, like the European referendum, the Brexit crisis and inequality ([Farrell et al., 2020](#)). [Stephen Ward and Liam McLoughlin \(2020\)](#) found

previously that language that could be classified as hate-speech was rather low, however, in comparison to more generally uncivil language. Still, women from minority backgrounds were more likely to be the recipients of that type of abuse. The authors also found that men received more online abuse that was uncivil than women.

Similarly, work by [Gorrell et al., 2020](#), the authors demonstrated that increased name recognition and popularity had a positive relationship with levels of abuse, which may be one reason for the gender differences. As there are more male politicians in senior roles than women, they feature more prominently and may receive more abusive replies.

[Esposito and Breeze \(2022\)](#) conducted a mixed-methods analysis on 135,452 tweets mentioning 10 UK MPs of diverse backgrounds, in which they analysed different levels of intensity and valence in messages. The authors found that, while women MPs received slightly more emotional messages, individual differences accounted for greater variance. This was also true of comments related to appearance *vs* intelligence (except for Liz Truss who received many more comments about intelligence). However, in their qualitative examination, the authors found that abuse around appearances targeting women has explicit sexist undertones and overtones, remarking on a woman's sexual desirability, their morality and sexuality, as well as more intersectional forms of hate (those that reflect both racism and sexism, for example). The sample is quite small, making it difficult to ascertain if individual or group characteristics are associated with trends over time. Still, this analysis points to a need for greater nuance when analysing categories of abuse in this way.

[Southern and Harmer \(2019\)](#) conducted a deeper content analysis on tweets received by MPs and found that while men received more incivility in terms of numbers of replies, women were more likely to receive an uncivil reply. Women were also more likely to be stereotyped by identity (men by party) and to be questioned in their position as an MP. [Gorrell et al. \(2019\)](#) noted in addition that the impacts or consequences of abusive language are not manifesting in the same ways for male and female MPs, or MPs with intersectional identities of race and gender. While some abuse is distressing, other abuse is personal, threatening and limits women's participation in the public office ([Gorrell et al., 2019](#); [Delisle et al., 2019](#); [Pew, 2017](#)). Overall, what all of the previous studies demonstrate, is that general methods of analysing hate online may not capture the full picture of how societal perceptions of gender are reproduced online.

Abuse towards specific parties has also been difficult to distinguish, due to impacts of prominence, personal characteristics and specific events ([Gorrell et al., 2020](#)). Previous research has indicated that the Conservative Party in the UK does tend to have higher abuse levels [Gorrell et al., 2018](#); [Gorrell et al., 2019](#), possibly because they were (and still are) the political party in power at the time of data collection in the studies referenced above. Other reasons may have to do with the impacts of austerity on key social issues like food security [Lambie-Mumford and Green \(2017\)](#) and health [Basu et al. \(2017\)](#). There may also be a preference for the Labour Party among Twitter users [1]. However, when controlling for party affiliation, [Stephen Ward and Liam McLoughlin \(2020\)](#) found that less visible MPs had a very small percentage of hate and abuse. In our work, we explore some of these findings in comparison with what we can observe happening during the COVID-19 period.

3. Data collection and analysis methodology

This study spans 1 March 2020 to 31 March 2021 inclusive and discusses Twitter engagement with currently serving MPs who have active Twitter accounts (568 MPs in total), as well as abuse-containing replies sent to them. In total, across the 13-month period, we collected and analysed 17.9 million reply tweets to the MPs, which were sent in response to the overall 1.1 million tweets authored by MPs (which consist of original, retweets and replies by MPs).

The dataset was created by collecting tweets in real-time using Twitter’s streaming API. We used the API to follow the accounts of MPs – this means we collected all the tweets sent by each MP, any replies to those tweets and any retweets either made by the MP or of the MP’s own tweets. Note that this approach does not collect all tweets which an individual would see in their timeline, as it does not include those in which they are just mentioned. However, “direct replies” are included. We decided upon this approach as the results from our analysis are likely to be more reliable. Replies containing abusive language that are directed to a specific MP are more likely to have that MP as the intended target. No data was lost, as volumes did not exceed Twitter rate limits at any point.

Tweets from earlier in the study have had more time to gather replies. Most replies occur in the day or two following the tweet being made, but some tweets continue to receive attention over time, and events may lead to a resurgence of focus on an earlier tweet. Reply numbers are a snapshot at the time of the study.

We analysed the dataset with the automatic abuse-based detection method developed by [Gorrell *et al.*, 2020](#). This abuse detection method excels at finding more obvious verbal abuse but may overlook linguistically subtler examples. This approach was particularly useful for comparative findings, tracking abuse trends and approximation of actual abuse levels.

In addition to the quantitative studies, we also performed two qualitative analyses on the type of abuse received by MPs. In first, we followed an adaptation of an annotation scheme described in a big data analysis of online abuse received by journalist Maria Ressa [2]. We took the top abusive terms appearing more than 100 times in the data and annotated them as either an attack on the MPs’ credibility, their person or their politics or if the attack is sexual or gendered in any way. We used this analysis to dig further into the type of abuse received by MPs by gender. We also examined the final category of gendered attacks in more detail, to understand more about the specific lexis used when making gendered attacks towards women and men MPs.

In the second qualitative analysis, we analysed the topics represented by hashtags appearing more than four times in abusive tweets. We analysed the trends in topic appearances over the course of the entire first year of COVID. This analysis makes it possible to see which topics appear to be associated with the highest levels of abuse that we see in our data.’

4. General trends

This section examines the overall abuse levels during the 13-month period of this study and analyses reactions to members of different political parties and the UK government.

To understand the level of abuse received by MPs during the COVID-19 crisis, it is helpful to make a comparison across different time periods studied in previous work, from General

Macro- and micro-averaging

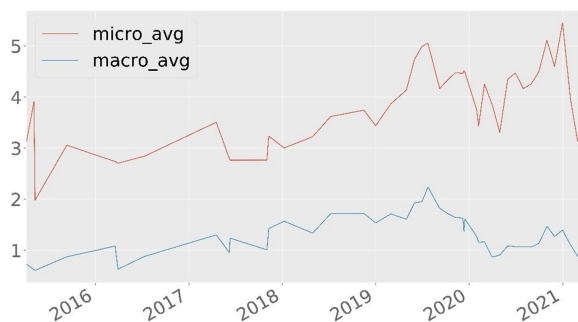
In several places throughout the report, we present both a macro-average and a micro-average of abuse levels received by politicians. The micro-average is calculated on totals across all individuals. So, if Kier Starmer receives 10 abusive tweets out of 100 and Boris Johnson receives 15 abusive tweets out of 200, then the micro-average would be $(10 + 15)/(100 + 200)$. The result is dominated by Johnson’s counts, as he received more. **In the micro-average, a small number of individuals receiving a great many tweets may disproportionately affect the result.** In the macro-average, proportion of abuse is first calculated, and then these are averaged. So, in the above example, the macro-average would be $(0.1 + 0.075)/2$ (because $10/100$ is 0.1 and $15/200$ is 0.075). **Macro-average tends to better express the experience of the average MP.**

Elections in 2015, 2017 and 2019, all the way through the COVID-19 pandemic. In [Figure 1](#), we show a comparison of both the micro- and macro-averages of abuse received from 2015 to 2021. The abuse was steadily rising during the Brexit negotiations, reaching a peak during the 2019 General Election. This peak is only supplanted during the height of the COVID crisis, particularly in the latter half of 2020.

In [Table 1](#), the columns show, for each time period, the number of original tweets authored by MPs, the number of retweets authored by them, the number of replies written by them, the number of replies received by them, number of abusive replies received by them and abusive replies received as a percentage of all replies received by the MPs. The months in which abusive replies were high, we have provided some key events that occurred during the time that may have influenced public perceptions, as well as government communication strategies around COVID-19. This includes the successive ending and restarting of lockdowns in the UK, which characterised the summer months of 2020, and the school closures and partisan politics that occurred just before Brexit in late 2020.

[Figure 2](#) shows an annotated timeline of the various peaks of activity in which MPs received a high number of abusive replies. In this graph, the horizontal red line refers to the average percentage of abusive replies, showing that abuse levels were well above the average for some key dates (which we will discuss later on in this article). [Figure 1](#) shows a comparison with the previous general election periods covered by [Gorrell et al. \(2018\)](#), as well as the initial COVID-19 period (February–May 2020) investigated by [Farrell et al. \(2020\)](#). We can see that potential stress from COVID-19 and Brexit negotiations correspond with higher levels of abuse towards British MPs, particularly in October and December. We can also see politicians communicating more during this period and receiving a consistently high level of response from the public, which makes sense given the current crisis. However, in the months following Brexit, abuse fell off, dropping to just under 4% in January and nearly to 3% in February.

In [Figure 2](#), we have provided an annotated timeline to illustrate the spikes in abusive attention more clearly. The first annotated peak is happening around the 21st of October followed by another peak on the 24th. These peaks may be partially attributed to several high-profile conflicts during this time. PM Boris Johnson was in a public dispute with Manchester mayor Andy Burnham over financial support during the local lockdowns occurring in this time. London, as well, was put under increased restriction, building tension. Across the four nations the difference in response was quite stark, leading to confusion, comparison and anger. Scotland introduced a 5-tier alert system as restrictions on commerce were due to expire. Wales had the firebreak lockdown in an attempt to sharply curb rising COVID cases. Anger over the lockdown boiled over into protests on the 24th in London with



Source(s): Created by authors

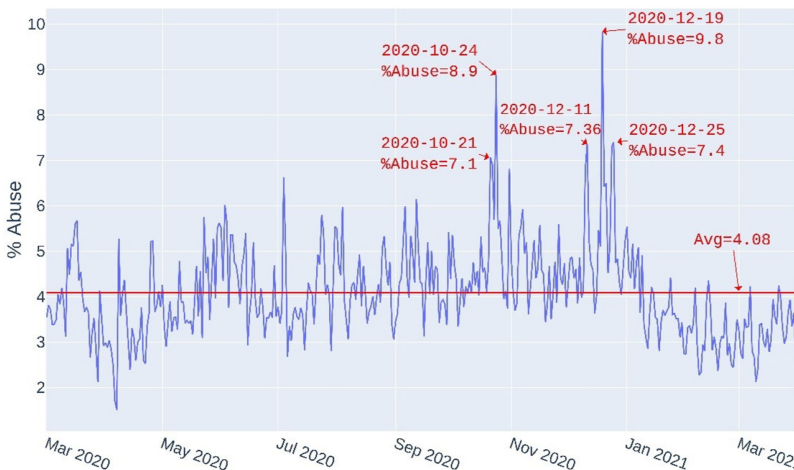
Figure 1.
Micro- and macro-
averages for abuse
from 2015 to 2021

Overall stats from March 2020 to March 2021

COVID period	Original MP tweets	Retweets by MPs	Replies by MPs	Replies to MPs	Abusive replies to MPs	% Ab (all)	COVID events
March 2020	33,990	61,602	18,619	1,219,379	46,964	3.85	
April 2020	31,364	54,249	17,799	1,325,967	43,879	3.31	
May 2020	30,838	55,421	15,928	2,166,847	94,232	4.35	
June 2020	28,916	53,003	15,237	1,770,971	79,156	4.47	Lockdowns and Elections
July 2020	24,473	42,541	11,136	1,120,402	46,691	4.17	
August 2020	17,316	28,563	8,222	972,294	41,412	4.26	
September 2020	25,855	45,116	10,440	1,328,095	59,806	4.50	School Closures
October 2020	27,125	46,240	12,106	1,454,704	74,359	5.11	Partisan Politics
November 2020	27,450	37,965	11,737	1,440,564	66,187	4.59	Brexit, partisan politics and lockdowns
December 2020	25,158	35,434	12,480	1,449,708	79,082	5.46	Brexit, partisan politics and lockdowns
January 2021	26,937	45,198	13,704	1,528,068	60,597	3.97	
February 2021	22,451	38,901	10,156	959,438	30,073	3.13	
March 2021	28,072	50,019	11,664	1,111,200	36,432	3.28	

Source(s): Created by authors

Table 1.
Statistics covering the entire period from March 2020 to March 2021



Source(s): Created by authors

Figure 2.
Annotated timeline of abusive tweets sent to MPs

tens of thousands of participants. In addition, rows over the government's decision not to extend free school meals to children in England continued over the month. However, upon further analysis of the tweets, we linked the peak of abuse in October to another incident in

which Angela Rayner referred to Chris Clarkson as “scum”, while he was speaking in parliament on the 21st of October. A few hours later, Amanda Milling tweeted that this was unacceptable behaviour [3]. This tweet got a number of abusive replies. Then, on the 23rd, Milling tweeted a request for the Labour Party to “take action against Labour MPs and party members who perpetrate abuse”, which resulted in even more abuse. Chris Clarkson tweeted his appreciation for her support [4], which also received a number of abusive replies. Interestingly, when Angela Rayner tweeted on 21 Oct at 18:45, the amount of abuse she received was relatively low (219 of 1,550) in comparison to Amanda Milling’s tweet, given that Rayner had already abused Chris Clarkson by that point.

The three remaining peaks happened in December 2020, on the 11th, 19th and 25th. The UK was a leader in rolling out the vaccine, with the first recipient getting “the jab” on December 9th. Initial confusion around who would receive the first vaccines, led to some consternation, especially among healthcare workers, may have led to an uptick in abusive replies to MPs. In addition, London was seriously affected at the time, having the highest rate of infection for any area in England.

With the Brexit deadline coming quickly into focus, by mid-month, 68% of the country was on the toughest restrictions and yet the government was still promising an easing of restrictions over the holidays. Then, the new strain in the UK was discovered mid-month, and the introduction of Tier 4 restrictions on the 19th of December, “cancelled” holiday plans for many in England. The three other nations made similar changes to their holiday restrictions.

Finally, on the 20th, France (among other countries) imposed travel restrictions for those coming from the UK, leading to massive delays and disruptions to international freight transport. The resulting worries over quarantine requirements, potential food shortages and the Heavy Goods Vehicle (HGV) drivers kept from their families during a holiday period may have impacted the levels of abuse received by British MPs during this time.

In the first part of 2021, abuse levels go back to the levels seen before the pandemic started, just below 4%. This would indicate that the pandemic and the way it has been handled have not strongly influenced the abuse landscape in more general terms. Rather, specific incidents and conditions, such as those brought upon by lockdowns and school closures, appear more likely to influence the general percentages of abuse received during this time period. In the following subsections, we will look at trends towards specific parties and specific MPs to further unpack this data.

4.1 Abuse received by political party

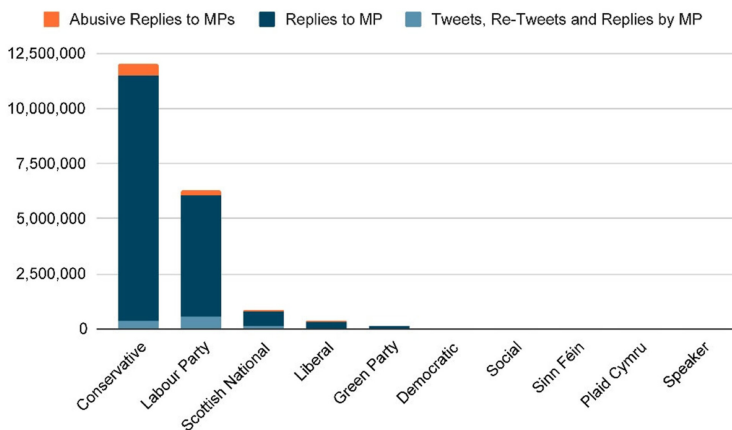
In [Table 2](#) and [Figure 3](#), we have provided a table and a bar chart to show the amount of abusive replies received by British MPs by party. As was argued in previous work [Farrell et al. \(2020\)](#), the attention on the Tory party most likely has to do with a combination of the conservatives being in power during a significant crisis and the general uncertainty in current events, with which the public is largely uncomfortable. However, concerns about the job market [Mayhew and Paul, 2020](#), the economy [David and Ron, 2020](#), household income [Brewer and Laura, 2020](#) and mental health [Johnson et al. \(2021\)](#) and [White and Van Der Boor \(2020\)](#), for example, may be influencing public perception of how the Tories have managed the crisis.

The two parties most highly represented in our data, Labour and the Conservatives, each published more than 100,000 Tweets in the time period (171,187 and 121,695 Tweets, respectively) as we can see from [Table 2](#). However, the Conservative Party received more than half a million abusive replies, whereas Labour received just under 200,000. That is within a total number of replies, 11,119,75 to Conservatives and 5,545,848 to Labour. The Liberal Democrats, however, received the highest percentage of abusive replies at 5.27%. The contentious leadership contest and a few missteps in public perception may account for some

Party	Original MP tweets	Retweets by MPs	Replies by MPs	Replies to MPs	Abusive replies to MPs	% Ab (all)
Conservative party	121,695	191,117	53,904	11,119,754	520,539	4.68
Labour party	171,187	282,986	77,087	5,545,848	199,768	3.60
Scottish national party	36,949	87,554	28,249	646,651	16,567	2.56
Liberal democrats	10,778	10,756	6,261	308,433	16,257	5.27
Green party	1,906	948	153	118,154	2,643	2.24
Democratic unionist party	1,045	2,299	473	37,210	1,839	4.94
Social democratic and labour party	1,480	3,728	948	31,831	577	1.81
Sinn Féin	2,780	6,008	1,398	20,806	511	2.46
Plaid Cymru	2,021	8,653	751	9,703	91	0.94
Speaker	104	203	4	9,247	78	0.84

Source(s): Created by authors

Table 2.
Abuse received by party



Source(s): Created by authors

Figure 3.
Absolute number of abusive replies by party

of the difference. The leadership contest was first postponed to May 2021 [5]. After a number of complaints from party members, this decision was reversed, and the election proceeded through July and August 2020 [6].

Though the smaller parties do not receive a large portion of abusive replies, in August, we saw a surge of abuse towards the Democratic Unionist Party, potentially towards Sammy Wilson, who was in conflict with the government over Brexit in August 2020. As the Brexit crisis comes to an end, abuse levels appear to level out alongside the SNP.

4.2 Specific MPs

The top 10 MPs who got the highest number of abusive replies are shown in the following two bubble charts (Figures 4 and 5).

The x-axis is the date from March 2020 to March 2021, aggregated on two-week intervals. In Figure 4, the y-axis corresponds to the percent of abusive replies over total replies received

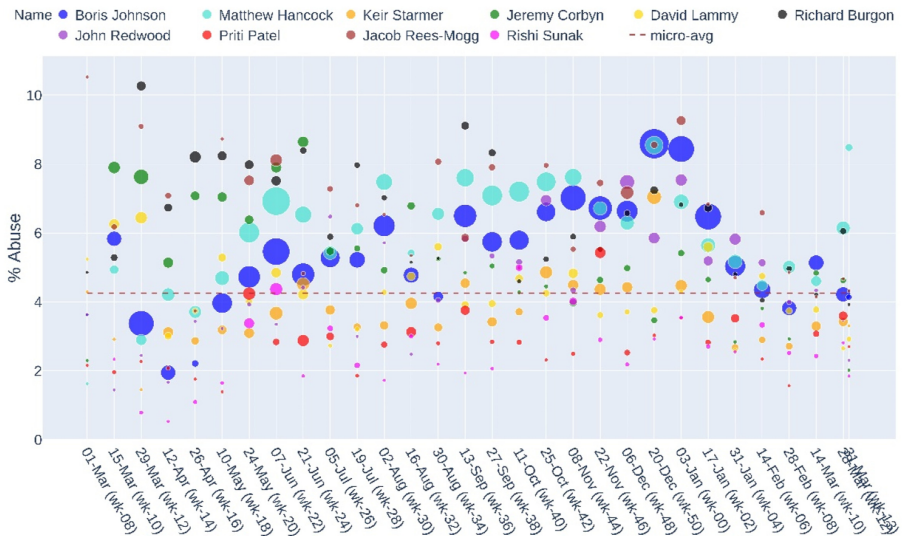


Figure 4.
Top 10 abused MPs by
absolute abuse
over time

Source(s): Created by authors

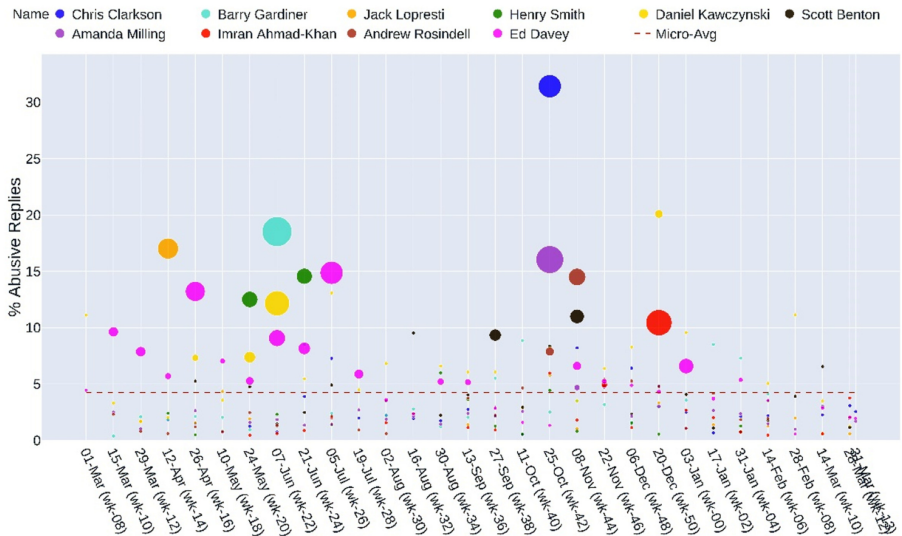


Figure 5.
Top 10 abused MPs by
percentage of abuse
over time

Source(s): Created by authors

by all MPs, where the size of the bubble shows the absolute number of abusive replies received. We can see that, as in previous work [Gorrell et al. \(2018\)](#) and [Stephen Ward and Liam McLoughlin \(2020\)](#), those with considerable roles in the government or in the opposition parties receive many more replies, and more abusive replies than MPs with less visibility. Of the governmental figures, we see that Matt Hancock and Boris Johnson receive the most negative attention throughout, followed by Labour leader, Keir Starmer. This is to be

expected as Johnson and Hancock are most visible regarding COVID-19 preparations and management, and Keir Starmer has been critical of the government response. Starmer has also received abuse from more progressive members of Labour who view Starmer as too centrist. We can expect a certain amount of party politics to play out among the Twitter users who follow any of those individuals. To help explore how much abuse might be party-related and how much personality-related, we did conduct a small analysis on abuse of Jeremy Corbyn *vs* abuse of Keir Starmer. Though Starmer publishes more tweets, his abuse level has remained below 4% at 3.80%, whereas Corbyn received 5.84%. This indicates that Corbyn remains a polarising figure in British politics.

The remaining individuals may have more specific issues impacting the levels of abuse they receive. John Redwood, an outspoken Brexiteer, came under fire for two separate issues in the fall of 2020 (in addition to pushback against Brexit). First, he received rebukes for suggesting that investors take their money outside of the UK, after promoting Brexit. Then, after a report was released detailing the ways in which several conservative MPs (including Redwood) have profited from privatisation in the NHS and from the COVID-19 crisis, Redwood received considerable criticism. Jacob Rees-Mogg, another figure who is polarising in the British public, was also implicated in COVID-related profiteering.

However, these peaks may be explained by Rees-Mogg's campaign and subsequent speech in parliament last June on returning MPs to the chamber. What became known as the "Mogg-Conga" (also in some of our hashtag analysis) refers to the way that members were required to file into the building to vote, following social distancing guidelines. Rees-Mogg was also involved in a public critique of UNICEF, which has offered to provide free meals to school children, when it appeared the British parliament would not provide them. Mogg accused UNICEF of "playing politics" around food security. Priti Patel, another Conservative Party member, has typically attracted abuse for strong language around migration policies. In the previous COVID-19 periods, Patel was accused of bullying, a charge which has followed her into the current period, after Boris Johnson chose to keep her in her role.

In [Figure 5](#), the *y*-axis corresponds to the percentage of abusive replies received by the total number of replies received by the specific MP. Again, the size of the bubble shows the absolute number of abusive replies received. The reason for this is to spot MPs receiving an unusually high percentage of abusive replies to their tweets. For this chart, we filtered out any MPs who received less than the average absolute amount of abusive replies received, so that we could avoid highlighting cases that may not be strongly relevant.

Abuse levels remain more or less steady through the rest of the summer and fall with a sharp rise from the 18th to 25th of October. The latter was discussed in detail in the preceding sections.

4.3 Analysis based on gender

As discussed in previous studies, large-scale analysis of online hate and abusive language in the UK has not returned significant differences for men and women ([Vidgen et al. 2019](#); [Gorrell et al., 2020](#)). The reasons for this could be diverse. Lexical approaches may not capture subtler forms of discrimination ([Gorrell et al., 2020](#)). Other features may play an important role from an intersectional perspective. For example, previous work indicated that prominence and personal characteristics are important features in online abuse ([Gorrell et al., 2020](#)). Studies from similar contexts have suggested that gender may play a more prominent role when a woman is a very visible government figure ([Rheault et al., 2019](#)). In the following subsections, we make some closer comparisons of the abuse received by men and women MPs and suggest some pathways for future research.

4.3.1 General analyses. We know the gender identity of MPs in the UK through self-report or use of pronouns in the media. All MPs fall into binary gender classification (male or female,

excluding non-binary) at the moment and to our knowledge. In [Figure 6](#), we see the top terms directed towards women MPs and in [Figure 7](#), the top terms for men. At first glance, these terms appear quite similar, meaning that the top types of abuse, *e.g.* calling someone an idiot (in a variety of ways) and using general expletive insult, are common for both women and men MPs.

Nevertheless, we took a deeper look at the top MPs receiving gendered abuse. When we look at gendered abuse in simple terms, however (i.e. the percentage of abuse towards an MP who refers to their gender or uses disparaging words about their gender), this can be misleading. If an MP has only two replies and they are both abusive in gendered ways, this gives them a percentage of 100, pushing them to the top of a list. Likewise, someone who generally receives a lot of abuse of all kinds, such as prominent politicians, may also skew these results. To help highlight cases where gendered abuse appears more targeted, we removed the top five MPs receiving the most abusive replies, and the five MPs receiving the smallest number of abusive replies, and then calculated the mean. We then looked at the top MPs who received more replies than the mean. The results can be found in [Table 3](#).

We can see from [Table 3](#) that no men feature in the top list despite having a much higher representation in the UK political context (66%) [7]. It is also an important observation that eight women with minority ethnic backgrounds (in the UK) are on this list, despite making up less than 6% of the UK parliament [8].

The women on the list come from all major parties. 14 of the women are from the Labour Party, 8 are from the Conservative Party, 2 are from the SNP and 1 is from the Green Party. Some are quite visible on Twitter, as seen in the number of tweets they sent during the time, for which they received abusive replies. Some are less visible, given that the period does cover a 12-month period. It appears that women MPs are receiving disproportionate amounts of gendered abuse, regardless of party affiliation or visibility, and that this burden is carried unequally by women who are not White.

4.3.2 Other types of gendered abuse. Sexist terms, however, are not the only indicator of gendered abuse. To break this analysis down further, we applied an adaptation of an annotation scheme described in a big data analysis of online abuse received by journalist Maria Ressa [9]. We took the top 50 abusive terms received by men MPs (appearing more than

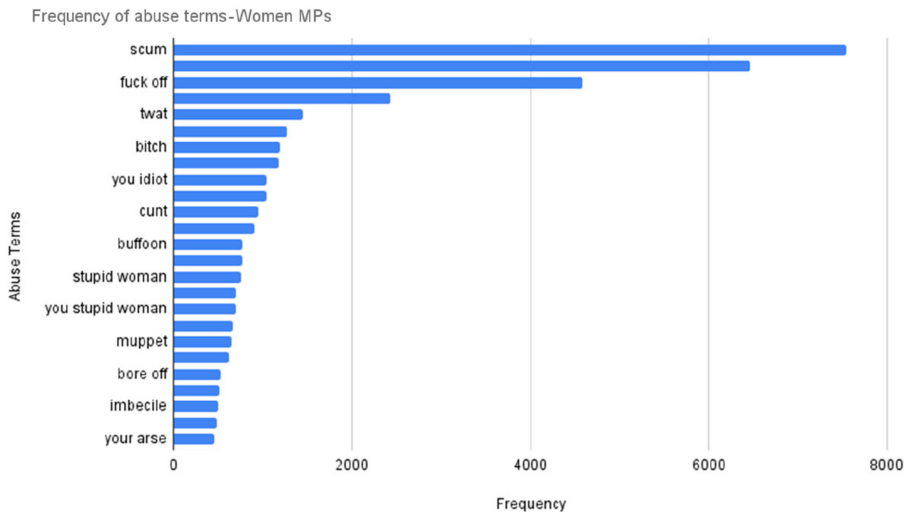
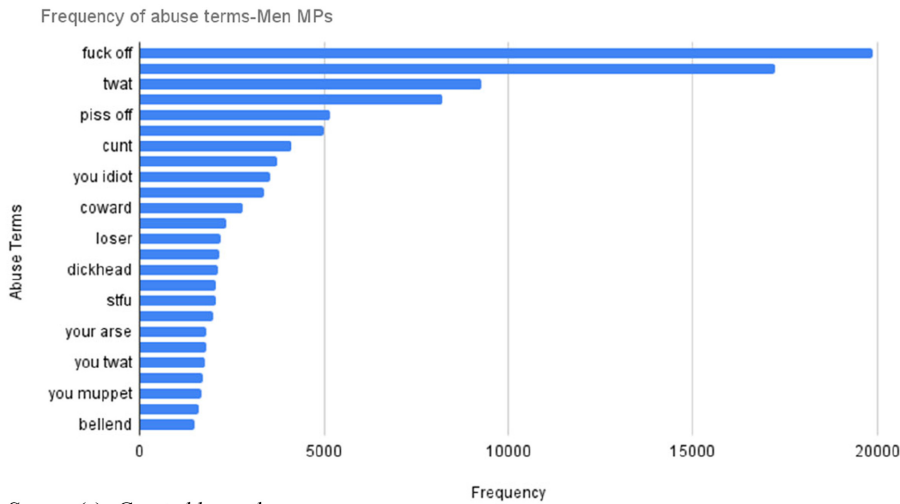


Figure 6.
Top abuse terms
received by
women MPs

Source(s): Created by authors



Abuse in the
time of COVID-
19

1057

Figure 7.
Top abuse terms
received by men MPs

Source(s): Created by authors

MP name	Original MP tweets	Abusive replies to MP	Sexist abuse to MP	% sexist
Margaret Hodge	443	1,306	370	28.33
Andrea Leadsom	949	1,328	237	17.85
Pauline Latham	132	1,123	177	15.76
Emily Thornberry	461	966	147	15.22
Therese Coffey	371	1,919	265	13.81
Vicky Ford	586	891	121	13.58
Naz Shah	389	2,346	279	11.89
Priti Patel	366	18,053	2,108	11.68
Rebecca Long-Bailey	427	1,472	161	10.94
Dawn Butler	1,521	7,349	783	10.65
Helen Whately	249	1,385	141	10.18
Margaret Ferrier	433	1,426	145	10.17
Yvette Cooper	349	1,103	108	9.79
Nadia Whittome	896	4,618	446	9.66
Caroline Lucas	1,906	2,643	252	9.53
Esther McVey	317	1,588	150	9.45
Rosena Allin-Khan	1,598	2,372	221	9.32
Joanna Cherry	1,175	919	85	9.25
Claudia Webbe	1,132	1,960	177	9.03
Jess Phillips	1,748	5,833	510	8.74
Diane Abbott	918	3,329	290	8.71
Zarah Sultana	1,327	8,787	743	8.46
Nadine Dorries	718	11,323	940	8.3
Anneliese Dodds	632	1,106	90	8.14
Lisa Nandy	700	3,666	295	8.05

Source(s): Created by authors

Table 3.
Top MPs receiving
gendered abuse

100 times in the data) and the top 50 abusive terms received by women MPs and annotated them as either an attack on the MP's credibility, their person or their politics or if the attack is sexual or gendered in any way. The analysis of this activity can be found in [Table 4](#).

Table 4.
Different types of
abuse for women and
men MPs

	Category of abuse	Total #	Percentage (%)
Women MPs	Attacks on Credibility	17,308	33.35
	Personal	24,942	48.06
	Political	1,491	2.87
	Sexual/Explicit/Misogyny/Gendered	8,155	15.71
	<i>Grand Total</i>	<i>51,896</i>	
Men MPs	Attacks on Credibility	51,607	28.96
	Personal	80,084	44.94
	Political	3,590	2.01
	Sexual/Explicit/Misogyny/Gendered	42,911	24.08
	<i>Grand Total</i>	<i>178,192</i>	

Source(s): Created by authors

From the table, women appear to receive more attacks on credibility (about 4% more), more personal attacks (about 3%) and slightly more political abuse (just under 1%). What is interesting perhaps is to see that men MPs appear to be receiving 8% more abuse that is sexual, sexually explicit or gendered. Looking at these terms in more detail, we can see that women MPs receive nearly twice the amount of abuse that can be considered sexist (e.g. bitch, witch, stupid woman), and men MPs more sexually explicit abuse terms (e.g. dickhead, wanker). It's worth noting that the majority of terms used to insult men MPs are still pejorative terms for anatomy most often associated with women (twat, cunt, etc.). Even if this relates back to social or cultural conventions regarding speech, the roots of such language are misogynistic (Sobieraj, 2018).

5. Topics associated with abuse

To gain an understanding of what kinds of topics and user interests are associated with abusive language, we conducted an analysis on the hashtags used in abusive tweets. We identified 9,654 unique hashtags appearing at least once. To ease our analysis, we reduced this to hashtags appearing four or more times in tweets. This left us with 1,287 hashtags, which we manually coded according to the general topic associated with the hashtag, such as the economy during COVID or specific aspects of Brexit (pro-Brexit, pro-Europe). We then collapsed these codes further to just five: COVID-related, Brexit-related, Party-related, Personal (including hashtags about specific people or using personal insults) and Other (for all other topics, such as immigration, social justice, education or other policy-related issues). We analysed the appearance of these topics (via their hashtags) in tweets containing abuse and calculated what percentage of abusive tweets contain hashtags related to each topic. This analysis can be seen in the graph in Figure 8.

The figure shows that the hashtags most commonly appearing in abusive tweets are related to party dynamics. When we looked back to our data to understand which party is most often addressed in abusive tweets containing hashtags about party-dynamics during this period, we found that most hashtags are related to the Tories. This may have something to do with how the COVID crisis has been handled, or Brexit, or other issues, but our analysis is only looking at the singular appearance of a hashtag and not co-occurrences. This is important to note in the limitations of this study. Still, one can see a decline in COVID hashtags over the course of the pandemic (in terms of the percentages of abusive tweets). Brexit-related hashtags have a short peak just before Brexit occurred. Personal abuse appears to be on an upturn towards the end of the year, rising alongside party-related hashtags.

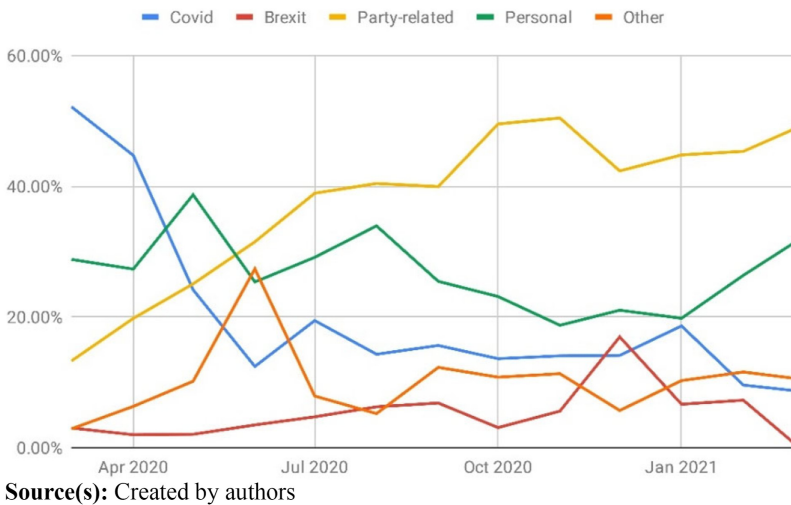


Figure 8.
Percentage of hashtag
topic coverage, within
tweets labelled as
abusive, over time

6. Discussion and future work

From our study, it appears that three factors may have influenced the high levels of abuse that we see around the last three months of 2020: Brexit and confusion around COVID-19 restrictions (particularly in the face of the then emerging Omicron variant), alongside potential criticism of the government's handling of both. While we continued to live with COVID-19 into the first three months of 2021, abuse of MPs on Twitter appears to be returning to pre-pandemic, pre-Brexit levels. As this study only encompasses the first year of COVID-19 in the UK, it is difficult to predict if this is a downward trend, or more of a baseline that is always there and rises in the face of new crises. Potential avenues of future research include looking at the impact of local, national and international events on the general trends of abuse towards British MPs. Our study also revealed that, while men receive a lot of abuse on Twitter, the abuse that women receive is more personal. In terms of the four factors illuminated by [Gorrell *et al.* \(2020\)](#), prominence may play a greater role in the likelihood that men MPs will receive abuse when they are very visible and engage with the public, as we saw with continued high levels of abuse towards Jeremy Corbyn. For women, our data indicate that prominence is not as much of a deciding factor, as women MPs are still more likely to receive sexist abuse. From an intersectional standpoint, similar to the study by [Farrell *et al.* \(2020\)](#), our study indicates the persistence of social inequality online, whereby people (and particularly, women) who are of a non-White background appear to receive a significant proportion of abuse, despite being underrepresented in British Parliament. In future studies, it would be advised to get into the details of abuse to really understand it further. Who is receiving which types of abuse? In which cases does this occur and how much abuse are they receiving? How does this relate specifically to their own activity online? Answers to these questions could help to further explore the consequences of participation on social media for different representatives of the public.

7. Conclusion

In this paper, we have followed online abuse trends for the first year of COVID-19. Our data indicates that the COVID-19 pandemic may have combined with additional stresses on the British public to create more uncertainty and frustration that may correlate with the abuse

levels we see throughout the year. We found that specific incidents tend to be correlated with high levels of abuse, such as public disagreements and behaviour on social media, combined with the visibility of the participants. When looking into more detail on gendered abuse, we found that women still tend to receive more sexist and personal attacks on their credibility, which may have a chilling effect on women (particularly women from marginalised groups) participating on social media. Our limited analysis of topics associated with abuse, as connected through related hashtags, indicates that partisanship is a key contributor to abuse on social media. This is an issue that deserves continued attention as we consider what kind of role social media ought to play in a civil, democratic society.

Notes

1. <https://www.statista.com/statistics/1077272/most-followed-uk-political-parties-on-twitter>
2. <https://unesdoc.unesco.org/ark:/48223/pf0000377223>
3. <https://twitter.com/amandamilling/status/1318920363473047552>
4. <https://twitter.com/ChrisClarksonMP/status/1318953597959393280>
5. <https://www.libdems.org.uk/leadership-election-postponed>
6. <https://www.libdems.org.uk/leadership-timetable>
7. <https://commonslibrary.parliament.uk/research-briefings/sn01250/>
8. <https://committees.parliament.uk/committee/328/women-and-equalities-committee/news/161363/action-needed-to-avoid-losing-a-generation-of-women-in-politics>
9. <https://unesdoc.unesco.org/ark:/48223/pf0000377223>

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