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RESEARCH

MP Twitter Engagement and Abuse Post-first COVID-19 Lockdown in the UK: White Paper

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Abstract

The UK has had a volatile political environment for some years now, with Brexit and leadership crises marking the past five years. With this work, 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 work covers the period of June - December 2020 and analyses Twitter abuse in replies to UK MPs. This work is a follow-up from our analysis of online abuse during the first four months of the COVID-19 pandemic in the UK. The paper examines overall abuse levels during this new seven month period, analyses reactions to members of different political parties and the UK government, and the relationship between online abuse and topics such as Brexit, government's COVID-19 response and policies, and social issues. In addition, we have also examined the presence of conspiracy theories posted in abusive replies to MPs during the period. We have found that abuse levels toward UK MPs were at an all-time high in December 2020 (5.4% of all reply tweets sent to MPs). This is almost 1% higher than the two months preceding the General Election. 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 stays above 5% starting from September 2020 onward, as the COVID-19 crisis deepened and the Brexit negotiations with the EU started nearing completion.

Keywords: COVID-19; Twitter; politics; incivility; abuse

1 Introduction

Our previous work studying online abuse in the context of British politics has shown that it can be specific to context, specific to individuals (their characteristics and behaviour) and specific to events unfolding around us [1]. 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 white paper charts Twitter abuse in replies to UK MPs between June and December 2020, which is a follow-up from our analysis of online abuse during the first four months of the COVID-19 pandemic in the UK [2]. The paper examines overall abuse levels during this new seven month period, analyses reactions to members of different political parties and the UK government, and the relationship between online abuse and topics such as Brexit, government's COVID-19 response and policies, and social issues. In addition, we have also examined the presence of conspiracy theories posted in abusive replies to MPs during the period.

This paper makes a contribution to the longitudinal comparison of abuse trends toward 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 [1] and during the first four months of the COVID-19 pandemic in the UK [2], this research not only presents new findings, but is also able to corroborate findings of our own previous studies and other related studies.

Our key new findings are as follows:

- 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 we have studied - the 2017 and 2019 General Elections and the first 4 months of the pandemic (Feb - May 2020).
- 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.
- 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.
- 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 onwards, which stays above 5% starting from September 2020 onwards, as the COVID-19 crisis deepened and the Brexit negotiations with the EU started nearing completion.

2 Related Work

In this paper, we examine the impact of COVID-19 on abuse levels toward UK MPs. We were expecting 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, editors Ferrara, Cresci and Luceri [3] 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”.

Our previous work, however, was inconclusive about the overall impact of COVID-19 on abuse levels towards UK MPs, due to the novelty of the situation and compassion during Boris Johnson’s illness [2]. Abuse toward politicians was at an all-time low during Johnson’s illness, as he usually features quite prominently in the data because of his role [1]. 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 has levelled-out during this first year of COVID-19.

Previous work on abuse directed at UK MPs indicated that hostility toward MPs was rising [4, 5, 6, 7], particularly in relation to contentious issues, like the European referendum, the Brexit crisis and inequality [2]. Ward and McLoughlin [8] 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 to our previous work [1], the authors demonstrated that increased name recognition and popularity had a positive relationship with levels of abuse, which may be one reason for the differences in gender. As there are more male politicians in senior roles than women, they feature more prominently and may therefore receive more abusive replies.

Southern and Harmer [9] conducted a deeper content analysis on tweets received by MPs during a period 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 more likely to be stereotyped by identity (men by party) and to be questioned in their position as an MP. Gorrell *et al* [5] 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. Where some abuse is distressing, other abuse is personal, threatening and limits women's participation in the public office [5, 10, 11].

Abuse toward specific parties has been difficult to distinguish, due to impacts of prominence, personal characteristics and specific events [1]. However, when controlling for this, Ward and McLoughlin [8] 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 June to 31 December 2020 inclusive, and discusses Twitter engagement with currently serving MPs that have active Twitter accounts (568 MPs in total), as well as abuse-containing replies sent to them. In total, across the seven month period, we collected and analysed 8.9 million reply tweets to the MPs, which were sent in response to the overall 545,071 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 took this approach as the analysis results are more reliable due to the fact that replies are directed at the politician who authored the tweet, and thus, any abusive language is more likely to be directed at them. 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 [1]. The abuse detection method underestimates by possibly as much as a factor of two, finding more obvious verbal abuse, but missing linguistically subtler examples. This is useful for comparative findings, tracking abuse trends, and for approximation of actual abuse levels.

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 Corbyn receives 10 abusive tweets out of 100 and 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.**

4 Overall Abuse Levels and Main Target MPs

Summary

- Prominent politicians continue to attract the most abuse (e.g. Boris Johnson, Matt Hancock, Priti Patel, Keir Starmer), with specific events and personal characteristics or online engagement also influencing levels of abuse, as we previously reported [1]
- The individuals receiving the most sustained abuse are Boris Johnson and Matt Hancock. In fact, Boris Johnson only fell below average abuse levels toward the end of August. Matt Hancock never falls below that average throughout the entire period studied
- Both Boris Johnson and Matt Hancock received their highest levels of abuse in December 2020, with the combination of Brexit negotiations and continued COVID-19 challenges intersecting.

This section examines the overall abuse levels during the seven month period of this study and analyses reactions to members of different political parties and the UK government, as well as presents a brief gender-based comparison.

In Tables 1, 2, and 3, we present an overview of our data. 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. Table 1 shows the current period covered by this paper, from June - December 2020. Table 2 shows a comparison with the previous COVID-19 periods we studied from February - May 2020 [2], Table 3 shows a comparative table for periods studied before and during the 2017 and 2019 General Elections. We can see that the stress from COVID-19 and the Brexit negotiations correspond with higher levels of abuse toward British MPs during the current period studied, 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.

The top 10 MPs who got the highest number of abusive replies is shown in the following bubble chart (Figure 1). The x-axis is the date from June to December 2020, aggregated on two-week intervals, and the y-axis corresponds to the percentage of

Period	Original MP tweets	Retweets by MPs	Replies by MPs	Replies to MP	Abusive Replies to MPs	% Abusive
Jun 2020	28,916	53,003	15,237	1,660,213	73,598	4.433
Jul 2020	24,473	42,546	11,136	1,050,950	43,369	4.127
Aug 2020	16,764	27,858	8,029	891,509	37,755	4.235
Sep 2020	25,856	45,117	10,440	1,243,971	55,509	4.462
Oct 2020	27,125	46,240	12,106	1,362,753	69,346	5.089
Nov 2020	27,450	37,965	11,737	1,348,034	61,421	4.556
Dec 2020	25,159	35,434	12,480	1,355,797	73,138	5.394
Total	175,743	288,163	81,165	8,913,227	414,136	4.646

Table 1 Engagement and abuse level statistics between June and Dec 2020.

Period	Original MP tweets	Retweets by MPs	Replies by MPs	Replies to MP	Abusive Replies to MPs	% Abusive
7 Feb - 1 Mar 2020	16,482	26,632	6,952	562,322	19,301	3.43
1 Mar - 23 Mar 2020	22,419	39,781	11,482	777,396	33,069	4.25
23 Mar - 1 Apr	11,571	21,821	7,137	441,983	13,919	3.15
1 Apr - 17 Apr 2020	17,007	30,124	10,407	782,774	24,327	3.11
17 Apr - 10 May 2020	22,906	38,949	11,906	890,926	32,050	3.60
10 May - 23 May 2020	16,824	30,279	8,822	1,270,669	56,827	4.47

Table 2 Engagement and abuse level statistics between Feb and May 2020 [2].

Period	Original MP tweets	Retweets by MPs	Replies by MPs	Replies to MP	Abusive Replies to MPs	% Abusive
3 Nov - 15 Dec 2019	184,014	334,952	131,292	3,541,769	157,844	4.46
29 Apr - 9 Jun 2017	126,216	245,518	71,598	961,413	31,454	3.27

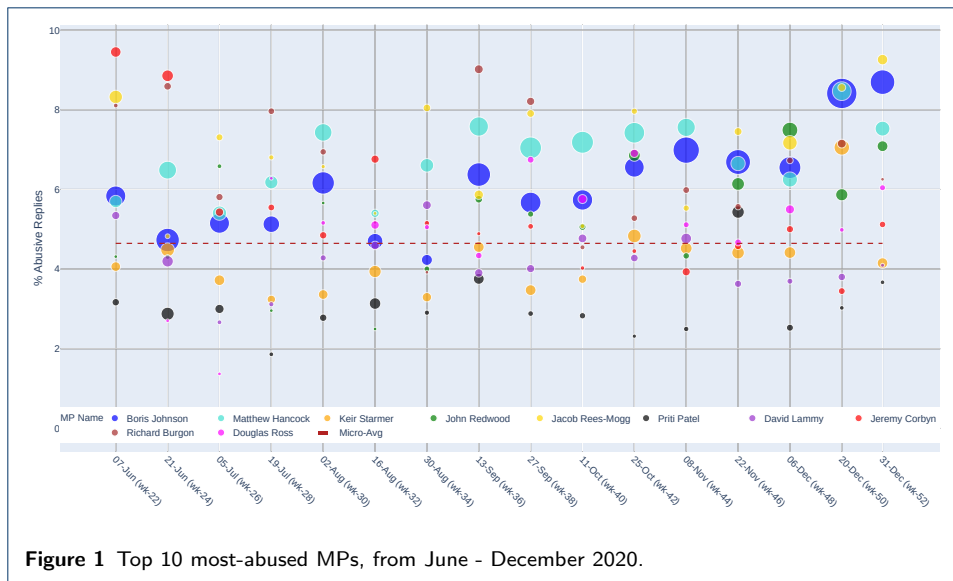
Table 3 Abuse level statistics from the 2017 and 2019 General Elections [1].

abusive replies received, where the size of the bubble shows the absolute number of abusive replies received. We can see that, as in our previous work, 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. The last three 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 this fall (in addition to pushback against Brexit). First, he received rebukes for suggesting that investors take their money outside of the UK [1]. Then, after a report was released detailing the ways in which several conservative MPs (including Redwood) have profited from privatization in the NHS and from the COVID-19 crisis [2], 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 [3].

[1]<https://www.forbes.com/sites/francescoppola/2017/11/12/british-lawmaker-advises-investors-to-take-their-money-out-of-the-uk/?sh=33947d9a4c1e>

[2]<https://www.thelondoneconomic.com/opinion/revealed-the-links-between-tory-mps-and-the-people-profiting-from-nhs-privatisation-213827>

[3]<https://www.gov.uk/government/speeches/leader-of-the-house-of-commons-speech-8-june-2020>



What became known as the “Mogg-Conga”^[4] (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”^[5]. Priti Patel 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^[6].

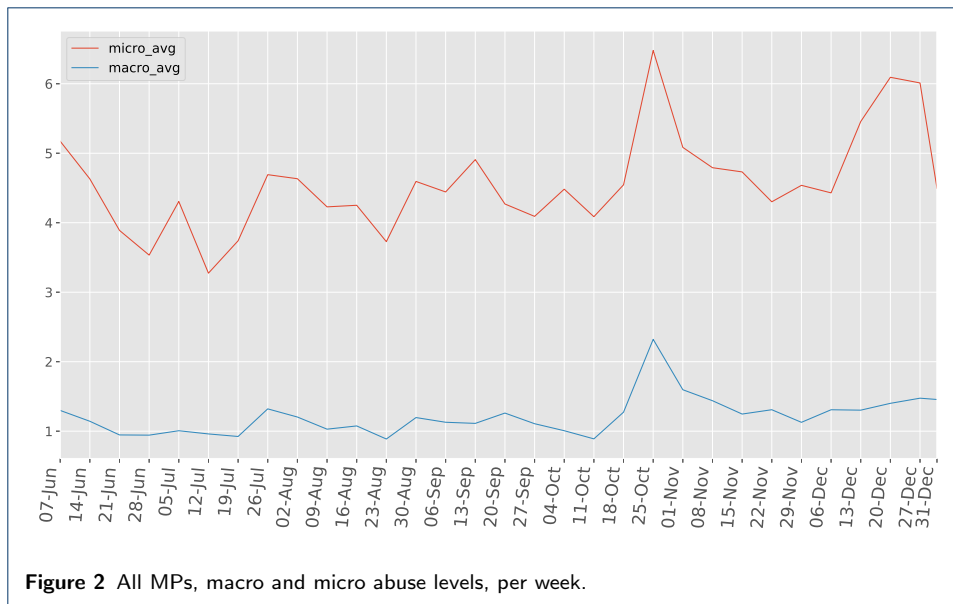
The timeline in Figure 2 shows abuse levels overall, toward all MPs. It reflects a per-week basis since the beginning of June. From the beginning of June it shows a slight decrease through the rest of June, with a smaller peak at the beginning of July, possibly as UK businesses cut more than 11,000 jobs in 48 hours. However, by “Super Saturday” on July 4th, when pubs and restaurants are able to reopen, abuse levels dip back under 4%. This effect is short-lived, as abuse levels rise again through the second half of July. Compulsory mask wearing was slowly introduced during this time. However, this took place at different paces across the four nations, which may have led to some confusion. There are likely to be regional differences as well, as several lockdowns were introduced in the northern part of England. Easing of restrictions was also postponed in some areas.

Abuse levels remain more or less steady through the rest of the summer and fall with a sharp rise from the 18th - 25th of October. During this time, PM Boris Johnson was in a public dispute with Manchester mayor Andy Burnham over financial support during the lockdown. London, as well, was put under increased restriction. Across the four nations the difference in response was quite stark. Scotland introduced a 5 tier system. Wales had the firebreak lockdown. Anger over lockdown boiled

[4] <https://www.bbc.co.uk/news/uk-politics-52897865>

[5] <https://www.bbc.co.uk/news/uk-55354958>

[6] <https://www.bbc.co.uk/news/uk-55026137>

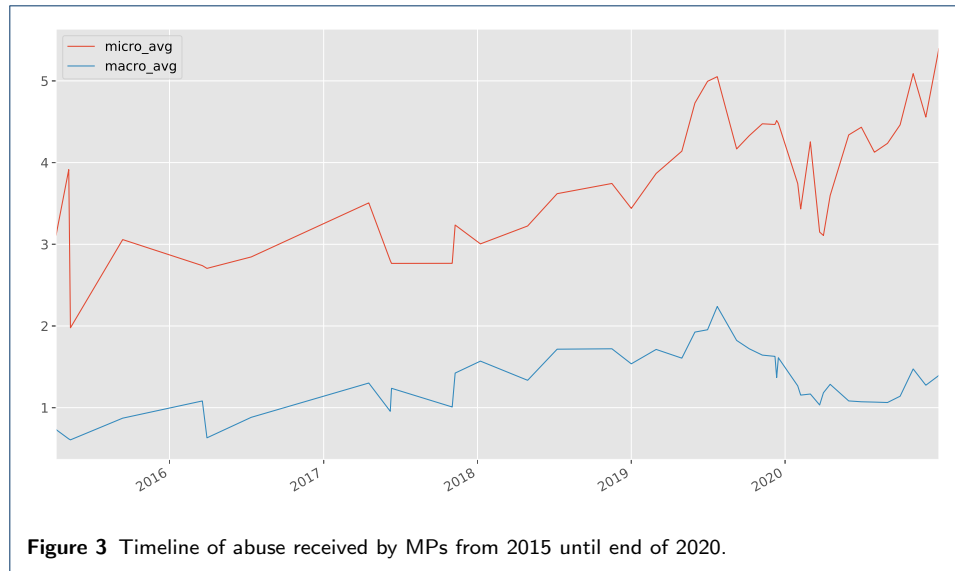


over into protests on the 24th in London with tens of thousands of participants. In addition, rows over the government’s decision not to extend free school meals to children in England continued over the month. However, upon further analysis of the tweets, as our analysis above can confirm, we linked 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^[7]. This tweet got a number of abusive replies. Then, on the 23rd, Ms. 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^[8], 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 1550) in comparison to Amanda Milling’s tweet, given that Rayner had already abused Chris Clarkson by that point.

Abuse then remains elevated at between 4% and 5% across November with another sharp rise across December, which peaks around the 20th and is maintained across the holiday period. 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, ‘canceled’ holiday plans for many in England. The three other nations made similar changes to their holiday restrictions. While abuse levels appeared to be falling by the very end of the month, potentially as Brexit negotiations were clarified, the effects of January’s lockdown (which effectively has kept many in the UK on a persistent lockdown since late October) will be interesting to observe in future work.

^[7]<https://twitter.com/amandamilling/status/1318920363473047552>

^[8]<https://twitter.com/ChrisClarksonMP/status/1318953597959393280>



5 Long-term Context

To understand the level of abuse received by MPs during the COVID-19 crisis, it is helpful to make a comparison across all of the time periods we have studied, from General Elections in 2015, 2017 and 2019, all the way through the COVID-19 periods of our previous and current work. From the timeline shown in Figure 3, we see that aside from a blip around the 2015 general election, abuse toward MPs on Twitter has been tending to rise from a minimum of 2% of replies in 2015, peaking mid-2019 at over 5% with a smaller peak of around 4.5% around the 2019 general election. We can see that toward the end of 2020, abuse levels had reached their highest point yet, at 5.4%.

6 Top Recipients of Abuse per Party and Gender

In Table 4, we see the top 10 MPs receiving abusive replies each month of the studied period from June - December 2020. The numbers in brackets are showing first the number of abusive replies against the number of all replies received. So, for example, Boris Johnson received 12,768 abusive replies in June, out of 252,271 replies in total.

As we can see from the table, the Conservatives received the most significant numbers of abusive replies in this period, with the top two spots occupied by Boris Johnson and Matt Hancock. We can see the impact of the leadership contest in the Liberal Democrats, as well as a few outspoken members of the SNP, but otherwise, the smaller parties did not feature on this list. This doesn't mean that they do not receive abusive replies. In contrast with the bigger parties, however, it is less noticeable in the larger trends and patterns we can observe. In the next two sections, we discuss the influence of gender and party affiliation on receiving abusive replies during COVID-19.

6.1 Difference in responses to different parties

We can see from tables 5 - 7 that the Tory party received the highest percentage of abusive replies from July 2020 onwards, which stays above 5% starting from

June	July	August	September	October	November	December
Boris Johnson (12786/252271)	Boris Johnson (9487/168847)	Boris Johnson (4837/99519)	Boris Johnson (12200/196481)	Matthew Hancock (10146/137162)	Boris Johnson (14880/218905)	Boris Johnson (18145/223108)
Matthew Hancock (6636/111073)	Matthew Hancock (5796/85779)	Matthew Hancock (2851/45756)	Matthew Hancock (10405/142332)	Boris Johnson (9987/158993)	Matthew Hancock (5922/85294)	Matthew Hancock (6951/92418)
Keir Starmer (3986/94082)	Ed Davey (2387/19784)	Keir Starmer (2719/75431)	Keir Starmer (2518/64320)	Keir Starmer (3606/77218)	John Redwood (3876/59347)	Keir Starmer (4742/83357)
Barry Gardiner (3213/17272)	Keir Starmer (1962/58901)	Dawn Butler (2556/58119)	Jacob Rees-Mogg (1736/27113)	Amanda Milling (2854/19263)	Keir Starmer (2883/71112)	John Redwood (3623/56227)
Priti Patel (3015/104071)	Barry Sheerman (1779/21412)	Iain Duncan Smith (2145/24143)	Richard Burgon (1680/20029)	John Redwood (2330/37491)	Priti Patel (2008/47080)	Jacob Rees-Mogg (3200/41901)
Jeremy Corbyn (2957/35489)	Dominic Raab (1557/31631)	David Lammy (1773/36299)	Priti Patel (1653/46795)	Chris Clarkson (2036/6762)	Jacob Rees-Mogg (1989/26300)	Imran Ahmad-Khan (2605/25118)
David Lammy (2314/54385)	Jeremy Corbyn (1527/28144)	Priti Patel (1766/58021)	David Lammy (1598/39304)	Douglas Ross (1701/27253)	David Lammy (1686/40485)	Grant Shapps (1427/24171)
Jacob Rees-Mogg (2293/30434)	Priti Patel (1199/43613)	Gavin Williamson (1338/20479)	Andrea Jenkyns (1227/22194)	Selaine Saxby (1675/17073)	Douglas Ross (1137/8390)	Andrew Bridgen (1394/13052)
Dawn Butler (1680/26013)	Richard Burgon (1066/14754)	Douglas Ross (1288/26197)	John Redwood (1052/18383)	Rishi Sunak (1648/35925)	Andrew Rosindell (1137/8390)	Michael Fabricant (1356/23872)
Dominic Raab (1647/30878)	Jacob Rees-Mogg (905/12311)	Zarah Sultana (1193/24739)	Kevin Hollinrake (1004/7669)	David Lammy (1491/32903)	Dominic Raab (1136/19473)	Jeremy Corbyn (1288/28999)
Layla Moran (1565/22686)	Rishi Sunak (783/34638)	Neil Coyle (1115/10456)	Douglas Ross (943/16860)	Nadine Dorries (1342/33851)	Iain Duncan Smith (1032/20303)	Richard Burgon (1141/15966)
Nadia Whittome (1548/23351)	James Cleverly (727/10858)	Jeremy Corbyn (1096/19977)	Dawn Butler (906/19957)	Angela Rayner (1340/25246)	Jeremy Corbyn (994/22586)	David Lammy (1049/26042)
Therese Coffey (1451/22069)	David Lammy (707/19524)	Michael Gove (827/10663)	Dehenna Davison (798/19249)	Johnny Mercer (1287/13878)	Ian Blackford (943/14477)	Tobias Ellwood (1007/13140)
Sajid Javid (1197/24873)	Andrea Jenkyns (450/7156)	Jacob Rees-Mogg (736/9804)	Lucy Allan (709/19163)	Margaret Ferrier (1185/16501)	Richard Burgon (915/15125)	Lucy Allan (994/16564)
Richard Burgon (1159/16341)	Liz Truss (440/16956)	James Cleverly (544/9580)	Nadine Dorries (603/13568)	James Cleverly (1175/17902)	Rishi Sunak (895/33440)	Ed Davey (964/15233)
Michael Gove (1080/14429)	Caroline Nokes (437/9181)	Nadia Whittome (478/5813)	Jeremy Corbyn (571/11299)	Sajid Javid (1066/17716)	Nadine Dorries (857/18395)	Douglas Ross (893/15740)
Jess Phillips (1061/28876)	Esther McVey (404/5459)	Natalie Elphicke (471/8285)	Scott Benton (569/6269)	Richard Burgon (936/18529)	Michael Gove (810/10921)	David Davis (829/10318)
Henry Smith (913/6372)	Nadine Dorries (394/11290)	John Redwood (465/13131)	Johnny Mercer (544/7364)	Jeremy Corbyn (928/23536)	Scott Benton (804/7511)	Priti Patel (806/25167)
Naz Shah (843/10900)	Jeremy Hunt (391/7877)	Layla Moran (419/7664)	Ian Blackford (528/13009)	Steve Baker (916/22494)	Barry Sheerman (766/8392)	Ian Blackford (784/13293)
Nadine Dorries (793/20349)	Jess Phillips (377/14320)	Jeremy Hunt (376/4509)	Tobias Ellwood (526/11134)	Priti Patel (763/28733)	Joy Morrissey (638/13718)	Gavin Williamson (683/10389)

Table 4 Top 10 MPs receiving the most abusive replies from June - December 2020

September 2020 onwards, as the COVID-19 crisis deepened and the Brexit negotiations with the EU started nearing completion. In contrast, the percentage of abuse received by Labour MPs remained below 4% July 2020 onwards, continuing the trend observed from April 2020. As we argued in our previous work [2], 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, in this period, we also have the first reports of the consequences of the pandemic on the job market [12], the economy [13], household income [14], and mental health [15, 16], for example, which may be influencing public perception of how the Tories have managed the crisis. The Liberal Democrats have a spike in abuse in July, most likely reflecting confusion around the leadership contest, which was first postponed to May 2021[9]. After a number of complaints from party members, this decision was reversed and the election proceeded through July and August 2020 [10]. Though the smaller parties do not receive a large portion of abusive replies, in August, we saw a surge of abuse toward the Democratic Unionist Party, potentially toward 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.

6.2 Differences in abuse based on gender

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,

[9] <https://www.libdems.org.uk/leadership-election-postponed>

[10] <https://www.libdems.org.uk/leadership-timetable>

MP Name	Original MP tweets	Replies to MP	Abusive Replies to MPs	% Abusive
Boris Johnson	395	1,318,124	82,322	6.245
Matthew Hancock	702	699,814	48,707	6.960
John Redwood	291	199,893	12,105	6.056
Jacob Rees-Mogg	159	155,656	11,396	7.321
Priti Patel	170	353,480	11,210	3.171
Douglas Ross	441	115,775	6,319	5.458
Dominic Raab	455	120,614	5,568	4.616
Rishi Sunak	264	171,044	4,894	2.861
Iain Duncan Smith	408	79,741	4,867	6.104
Nadine Dorries	324	117,348	4,854	4.136
James Cleverly	420	83,338	4,360	5.232
Michael Gove	56	59,134	4,018	6.795
Andrea Jenkyns	210	64,860	3,797	5.854
Amanda Milling	341	29,175	3,137	10.752
Steve Baker	1,059	98,675	2,959	2.999
Sajid Javid	315	58,193	2,806	4.822
Tobias Ellwood	254	53,636	2,804	5.228
Imran Ahmad-Khan	245	29,996	2,786	9.288
Gavin Williamson	71	46,692	2,620	5.611
Andrew Bridgen	132	29,885	2,617	8.757

Table 5 Conservative MPs who had the highest percentage of abusive replies from June to December 2020.

MP Name	Original MP tweets	Replies to MP	Abusive Replies to MPs	% Abusive
Keir Starmer	572	524,421	22,416	4.274
David Lammy	775	248,942	10,618	4.265
Jeremy Corbyn	385	168,050	9,361	5.570
Richard Burgon	646	104,105	7,138	6.857
Dawn Butler	726	130,644	5,985	4.581
Barry Sheerman	2,564	60,498	4,220	6.975
Zarah Sultana	621	103,519	3,869	3.737
Angela Rayner	1,353	120,060	3,420	2.849
Barry Gardiner	109	18,664	3,257	17.451
Nadia Whittome	452	56,266	2,984	5.303
Jess Phillips	742	111,724	2,950	2.640
Diane Abbott	411	56,470	1,751	3.101
Neil Coyle	1,188	21,220	1,620	7.634
Lisa Nandy	363	59,803	1,566	2.619
Naz Shah	220	19,115	1,248	6.529
Chris Bryant	1,416	41,493	1,161	2.798
Wes Streeting	1,153	32,455	1,043	3.214
John McDonnell	408	34,375	1,018	2.961
Jon Ashworth	472	28,676	946	3.299
Rosena Allin-Khan	676	43,276	836	1.932

Table 6 Labour MPs who had the highest percentage of abusive replies from June to December 2020.

MP Name	Original MP tweets	Replies to MP	Abusive Replies to MPs	% Abusive
Ed Davey	758	63,686	4,942	7.760
Layla Moran	1,221	42,654	2,425	5.685
Wera Hobhouse	569	9,151	342	3.737
Tim Farron	623	14,299	294	2.056
Munira Wilson	607	9,425	152	1.613
Daisy Cooper	389	6,955	151	2.171
Christine Jardine	571	3,983	67	1.682
Sarah Olney	235	3,397	66	1.943
Jamie Stone	539	7,813	29	0.371
Alistair Carmichael	187	1,960	19	0.969
Wendy Chamberlain	237	906	3	0.331

Table 7 Liberal Democrats' MPs who had the highest percentage of abusive replies from June to December 2020.

and a fifth some time of sexual violence, globally [17]. Studying instances of online violence against women are intended to investigate this specific issue we see playing out in the physical world, to see if we can identify additional features of suppression or exclusion of women from politics in the online space. However, large-scale analysis of online hate and abusive language in the UK have not returned significant

differences for men and women [18]. Indeed, at first glance, our analysis of abusive terms directed at male (Figure 4) and female MPs (Figure 5) appear to confirm this. The reasons for this could be diverse. Lexical approaches may not capture subtler forms of discrimination [1]. Other features may play an important role from an intersectional perspective. For example, our work indicated that prominence and personal characteristics are important features in online abuse. Studies from similar contexts have suggested that gender may play a more prominent role when a woman is a very visible government figure [19].

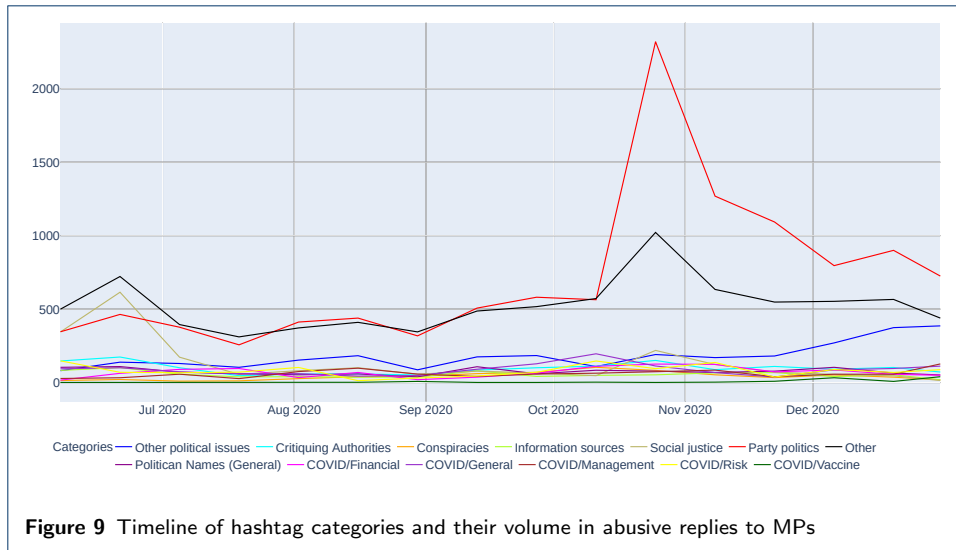
We know the gender identity of MPs in the UK through self-report or use of pronouns in the media. All MPs fall into binary gender classification at the moment. We can see from our Table 8 in the analysis that, when we looked for sexist language that focuses on the gender of any MP, only four men feature on our top list despite having a much higher representation in the UK political context. The women on the list come from all major parties and the SNP. 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 seven-month period.

MP Name	Original MP tweets	Replies to MP	Abusive Replies to MPs	Sexist Abuse	% Sexist
Margaret Hodge	225	22,513	820	196	0.871
Therese Coffey	169	25,520	1,558	169	0.662
Margaret Ferrier	235	17,575	1,214	107	0.609
Layla Moran	1,221	42,654	2,425	256	0.600
Nadia Whittome	452	56,266	2,984	300	0.533
Natalie Elphicke	80	12,290	609	65	0.529
Naz Shah	220	19,115	1,248	97	0.507
Theresa May	10	12,810	440	62	0.484
Esther McVey	181	22,202	986	99	0.446
Vicky Ford	245	12,810	694	52	0.406
Dawn Butler	726	130,644	5,985	514	0.393
Andrea Leadsom	427	21,987	794	85	0.387
Zarah Sultana	621	103,519	3,869	388	0.375
Andrea Jenkyns	210	64,860	3,797	241	0.372
Nadine Dorries	324	117,348	4,854	428	0.365
Diane Abbott	411	56,470	1,751	177	0.313
Lucy Allan	655	64,662	2,532	201	0.311
Barry Gardiner	109	18,664	3,257	56	0.300
Selaine Saxby	744	20,691	1,720	59	0.285
Imran Ahmad-Khan	245	29,996	2,786	84	0.280
Ian Blackford	489	65,002	3,171	179	0.275
Anneliese Dodds	390	22,695	489	59	0.260
Caroline Lucas	960	57,248	1,304	144	0.252
Rebecca Long-Bailey	191	23,372	621	58	0.248
Ed Davey	758	63,686	4,942	155	0.243
Priti Patel	170	353,480	11,210	838	0.237

Table 8 MPs receiving the most gendered abuse during the period studied from June - December 2020

Figures 4 and 5 show word clouds for abuse directed at male and female MPs (respectively).

Figure 6 shows the percentage of daily abusive replies per gender. Usually male MPs have a higher abusive tweet ratio (not accounting for the type of abusive language), but not always. For example, around 25 Oct, the micro-avg for female MPs is higher than for the male ones, despite the male macro-avg is still higher. Our analysis indicates that this was due to the conflict previously described between Chris Clarkson and Andrea Rayner. Also after the first week of Nov (around 8th), women MPs micro and macro average abuse exceeded those of men MPs.



a description of those codes, along with some examples of hashtags that belong to that category.

Our analysis in Figure 9 shows that party politics have played a big role during the COVID-19 crisis, with many calls for different politicians to resign, or referring to specific scandals of each party. Other political issues, predominantly Brexit, also feature prominently.

Code	Description	Examples
Critiquing Authorities	Hashtags that are critical of the government more generally, and it's activities	#cronyism, #corruption, #lieslieslies
Information Sources	Hashtags that are critiquing or reporting about/from the media	#dontbuythesun, #panorama, #buyapaper
Social Justice	Hashtags that refer to issues of social justice and equality, both in a positive and negative sense	#IstandwithHongKong, #blacklivesmatter, #alllivesmatter
Politician Names	Hashtags that refer to specific politicians more neutrally	#BorisJohson, #matthancock, #askRishi
Party Politics	Hashtags that refer to specific parties, or that refer to back and forth party politics in the UK	#Toryscum, #labourleaks, #80seatmajority
COVID- General	General hashtags related to COVID-19	#Covid, #corona, #pandemic
COVID- Financial	COVID hashtags related to the financial situation of citizens and the country	#excludedUK, #forgottenfreelancers, #forgottenld
COVID- Risk	COVID hashtags related to personal risk and prevention	#wearamask, #socialdistancing, #covidiot
COVID- Vaccine	COVID hashtags related to vaccines and the vaccine roll-out	#novaccine, #coronavaccine, #covidvaccine
Conspiracies	Hashtags related to conspiracies that have arisen or been revived during COVID-19	#covidscam, #fakecrisis, #scamdemic
Other political activities	This code is for hashtags that relate to other political activities that do not have another code here.	#brexit, #nodealcaroline, #chisbill
Other	This code is for all other hashtags that were too general (used in many different circumstances) or ambiguous to code	#losers, #muppets, #nationaldisgrace

Table 11 Codebook for hashtag qualitative analysis on

In June, we see several social justice issues take the forefront, possibly as a result of global racial justice protests. Hashtags about food security, workers rights, racial justice and global conflicts dominate this period (which we see as the olive green line peaks in June). Counter hashtags, such as alllivesmatter, appear toward the

end of the list and a number of the hashtags associated with abusive language refer to social justice issues, indicating a small backlash to attention on social justice issues. What is conspicuously missing during this time, is prominence of the Brexit theme, despite just being 6 months away from the December 31st deadline. Some negative attention on the conservatives begins to bubble up, after a brief period of low (compared to the average) abuse levels at the beginning of 2020.

In July, we see the primary focus of attention shift to workers rights, and in particular those workers whose income has been disrupted by the pandemic, but for whom no provisions had (as of yet) been made. The exception to this shift away from more diverse social issues is the continued support for protests in Hong Kong. Brexit returns to the top of the hashtag themes. In terms of hashtags gathering abusive replies, negative attention on the conservatives grows in July.

In August, a number of issues remain on the table from the previous months, including those forgotten by existing economic packages, Brexit, and negative attention on the conservatives. Concern about student A-levels arose during this period, after it was revealed that the algorithmic approach to deciding student grades (after cancelling 2020 exams) had resulted in marks below their teachers' predictions for more than a third of students^[13]. Another big issue during this time concerns a report leaked in April of 2020, which detailed anti-semitism and other types of racist and sexist abuse in the Labour party. Senior labour officials pushed back with claims that parts of the report had been falsified or taken out of context in early August. A push to encourage senior Labour officials to publish full reports, to clarify their comments, emerged in response. During that same week, Dawn Butler posted on Twitter that she had been racially profiled and stopped by the police on the road. Rumours that she had edited this video, or misrepresented what happened lead to attention and abuse. In September, anger and frustration with the conservative party is prominent as financial insecurity becomes the top concern that is visible in our analysis. While the crisis in Hong Kong is still receiving attention, concerns closer to home take priority.

Attention to food security rises again in October, as the half-term time returns, the question of free school meals to the docket. Again, negative attention on the conservatives is still high. The protests in Nigeria to end the Special Anti-Robbery Squad (SARS), a police unit accused of multiple abuses, appear in our top ten list, in particular after the The Lekki Toll Gate Massacre on October 20th, 2020 (only recently re-opened in February 2021).

In November, just 2 months before the Brexit deadline, attention on the topic rises again. Negative attention on the conservatives for multiple issues during this time, including continued dissatisfaction with job retention and financial schemes, the cladding scandal and pressures on the NHS, continue to occupy a top position. Nearly all of the hashtags associated with abusive content are about the conservatives, with the exception of a small amount of attention on Keir Starmer, potentially for criticising Boris Johnson heavily during this time. During Prime Minister's Questions, Starmer called Johnson the "single biggest threat to the future of the UK"^[14].

^[13]https://en.wikipedia.org/wiki/2020_UK_GCSE_and_A-Level_grading_controversy

^[14]<https://www.theguardian.com/politics/video/2020/nov/18/pmq-s-keir-starmer-says-boris-johnson-is-single-biggest-threat-to-future-of-uk-video>

By December, concern about Brexit is really beginning to take shape. Nine of the top hashtags are related to Brexit, four of which relate to abusive replies. Negative and abusive attention on the conservatives occupy the other significant portion of public attention during this time. Despite the continued lockdowns and the confusing government guidelines around Christmas holidays.

8 Conspiracy theories

Conspiracy thinking has been implicated in “prejudice, witch hunts, revolutions, and genocide” as well as terror attacks and rejection of scientific consensus. They are also a regular part of sense-making, in which people want to explain significant events that do not, as of yet, have a satisfactory explanation [20]. Conspiracy thinking has been shown to “reduce normative political engagement”, while increasing “non-normative political engagement” [21]. This is viewed as evidence of the connection between political extremism and violence. So, potentially lashing out at MPs with abusive language or threats could potentially be viewed as a non-normative political action.

In our last paper, we found more examples of conspiracy-related hashtags that involved the origins of the virus or its connections to Chinese labs [2]. This is potentially due to the lack of clear information at the beginning of the pandemic. In our current period, top hashtags found in abusive replies to MPs (Table 12) show that conspiracies related to covid being a scam or part of a larger plan to disrupt the freedoms of the people are at the top. This could potentially have to do with continued lockdowns and fears from various industries that have been unable to trade for a considerable time period.

Some conspiracies existed before the COVID-19 crisis (kbf is actually Keep Britain Free, which is conspiracy adjacent), whereas others are more specific to COVID-19. We see in the narrative of tweets including these hashtags that older conspiracy theories remerge in the context of COVID-19, such as the great reset and conspiracies about Bill Gates. These topics return again and again and represent fears that the wealthy and powerful will seek to use their influence to control citizens. What’s important to remember is that conspiracies often have a kernel of truth. There are many ways that those with money and influence can shape our experiences, which can be evidenced. However, there is no evidence of a large-scale, coordinated effort to control world population, engage in a cultural genocide or to implant micro-chips in our brains.

In the second part of our analysis, we performed a small manual coding exercise on conspiracy hashtags to understand what those hashtags represent. The code “pumping up the base” had to do with any hashtag that is about communicating the presence of a movement of those interested in that hashtag, for example, the popular qanon slogan “Where We Go One, We Go All” (wwg1wga), or 3pointfivepercent, which refers to the so-called critical mass required make social change^[15]. Other conspiracies implicate the government or other authorities in wanting to control the people (such as Agenda21, or the GreatReset). This category seems to be the most highly represented. In the second largest categories are hashtags that communicate that the pandemic is not real (such as scamdemic, covidhoax). We have

^[15]<https://www.bbc.com/future/article/20190513-it-only-takes-35-of-people-to-change-the-world>

also coded a smaller category of hashtags that communicate that the pandemic is over-exaggerated (rather than completely fake, though individuals using this hashtag may believe that to be true). This includes hashtags like *casedemic*, which refer to potential anomalies in reporting on COVID-19 data.

Hashtag	Hashtag Count	Hashtag Covid
scamdemic	115	Covid Conspiracy
kbfb	94	Existing Conspiracy
plandemic	77	Covid Conspiracy
covidhoax	43	Covid Conspiracy
scamdemic2020	28	Covid Conspiracy
coverup	27	Existing Conspiracy
thegreatreset	26	Existing Conspiracy
nwo	25	Existing Conspiracy
covid1984	21	Covid Conspiracy
greatreset	20	Existing Conspiracy
3point5percent	18	Existing Conspiracy
casedemic	13	Covid Conspiracy
agenda21	12	Existing Conspiracy
wwg1wga	11	Existing Conspiracy
hoax	10	Existing Conspiracy
fakepandemic	9	Covid Conspiracy
fakevirus	9	Covid Conspiracy
billgatesbioterrorist	9	Existing Conspiracy
coronahoax	8	Covid Conspiracy
plandemichoax	8	Covid Conspiracy
billgates	8	Existing Conspiracy

Table 12 Top conspiracy hashtags.

Hashtag Category	Hashtag Count
government/other authorities want control	368
pandemic is fake	253
pandemic is over-exaggerated	22
pumping up the base	37
Total	680

Table 13 Number of hashtags found in each hashtag category from June - December 2020.

9 Conclusion

In this paper, we have presented a follow-up work to our investigation of the first months of the pandemic, to provide an overview of trends in abuse toward UK MPs during the COVID-19 pandemic. We have presented quantitative analysis on the volume and frequency of abusive replies to UK MPs, as well as the various topical hashtags that are linked to those responses. We analysed the extent to which abuse levels appeared to be impacted by the features of party and gender, two unclear variables from previous research. We also included a deeper qualitative examination of the data, including a descriptive timeline of events that explain some of the levels of abuse we see at different times, directed toward different individuals. We also manually annotated and analysed how different clusters of hashtags appeared in the data, and looked more closely at the representation of conspiracies in those hashtags.

Our analyses indicate that COVID-19 has added up to 1% more abusive replies to levels that had remained around 4% over the previous four years. We found a clear

party difference in this period, with the Conservatives receiving the lion's share of abusive replies. Our hashtag analysis also confirms these findings.

While we were not able to detect considerable differences in the type of abusive speech that women and men MPs received, women were more likely to make our top list of MPs who receive gendered abuse.

As with our previous work, we were able to confirm that prominence, personal characteristics and events do appear to make a difference in the amount of abusive replies a UK politicians will receive.

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