



‘Am I being unreasonable to vaccinate my kids against my ex’s wishes?’ – A corpus linguistic exploration of conflict in vaccination discussions on Mumsnet Talk’s AIBU forum

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ARTICLE INFO

Keywords:

Corpus linguistics
Discourse analysis
Health communication
Vaccination
Mumsnet

ABSTRACT

Online parenting forums are popular sources of information about childhood vaccinations, but vaccination discussions, especially online, are often polarised and polarising (Jenkins & Moreno 2020). This can have very real implications for ultimate vaccination decisions (Al-Hasan et al., 2021). Among the most visited parenting forums in the UK is Mumsnet Talk, hosted on the parenting website Mumsnet, which has a reputation for being straight-talking and combative. This supposedly applies particularly to its most popular Talk Topic, ‘Am I being unreasonable?’ (AIBU), which also includes numerous threads related to vaccinations.

In this paper we combine corpus-based methods with qualitative discourse analysis to examine over 6-million words of vaccination-related discussions on 895 threads on AIBU from the inception of Mumsnet in 2000 to May 2021. We provide evidence of a greater presence of confrontation-related language in these threads when compared with similar threads not on AIBU, zooming in on nine keywords that can be used as insults (e.g. ‘idiot’ and ‘bitch’). The use of these keywords reveals the multiple types of conflict at play, including between people with opposing *and* similar vaccine stances. While some insults are directed at each other within the forum, the majority are directed at external third parties, often the protagonists at the heart of offline conflicts detailed in the original post of an AIBU thread. We show that, although these insults perform impoliteness towards external third parties potentially perpetuating conflict that predates any posting on the forum, they simultaneously have a supportive and community enhancing function within the threads. We reflect on the implications of our findings for the role of AIBU as a point of reference and site of interaction for parents facing vaccination-related issues and decisions.

1. Introduction

It is well-documented that social media plays an important role in what people read about vaccinations (Wilson & Wiysonge, 2020). Parenting websites and community forums in particular are accessed as sources of information and spaces for interactions about childhood vaccinations, as well as vaccinations more generally (Betti et al., 2021). One popular platform where vaccine-related discussions take place is Mumsnet Talk, the community forum hosted on the parenting website Mumsnet.

Mumsnet is associated with straight-talking, animated parenting discussions (Pedersen and Smithson, 2010; Pedersen and Smithson, 2013; Taylor, 2015, Pedersen, 2020), including on difficult or taboo subjects such as post-natal depression (Jaworska, 2018) and maternal regret (Matley, 2020). The Talk topic described as most combative, ‘Am I being unreasonable?’ or AIBU, is also the most popular on the site (Mumsnet, 2009, Pedersen and Smithson, 2013) and includes tens of thousands of posts that make reference to vaccines and vaccinations (as detailed in Section 3). Vaccination discussions, especially online, are also often polarised and polarising (Jenkins & Moreno, 2020) and this

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<https://doi.org/10.1016/j.dcm.2022.100624>

Received 3 February 2022; Received in revised form 21 June 2022; Accepted 22 June 2022

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can have very real implications for ultimate vaccination decisions (Al-Hasan et al., 2021). It is therefore important to understand the extent and nature of potentially antagonistic and polarising discussions about childhood vaccinations on popular and influential parenting forums. Yet, to the best of our knowledge, no studies have explored the nature of vaccination discussions on Mumsnet's *AIBU*, especially from a linguistic perspective. This paper aims to fill this gap. We combine corpus-based methods with qualitative discourse analysis to determine whether and how vaccination discussions on *AIBU* are more combative than vaccination discussions in other Talk Topics. We provide evidence of a greater presence of confrontation-related language, and focus specifically on nine nouns that can be used as insults (e.g. 'idiot' and 'bitch'). We outline the different types of conflict around vaccinations linked to these insults, and reflect on the implications of our findings for the role of *AIBU* as a point of reference and site of interaction for parents facing vaccination-related issues and decisions.

2. Mumsnet and Mumsnet Talk

Mumsnet was founded in 2000 'to make the lives of parents easier by providing them with easily accessible childcare information, advice, and solutions' (Mumsnet, 2021a). Although two similar sites, Netmums and BabyCentre, were launched in the same year, Mumsnet enjoyed an extraordinarily successful rise over the ensuing decade. Mumsnet founder Justine Roberts attributes this to the 'always-on, anonymous, advice and support from other parents' available on Mumsnet (Roberts, 2016). It currently receives 1.2 billion page views per year (Mumsnet Ltd, 2021) and reported 104 million unique user visits in 2019 (Mumsnet Ltd, 2020). Mumsnet has interviewed dozens of celebrities, experts, authors, and politicians via webchats, published widely read books, and acquired notable political influence in the UK over the years. The site has hosted online conversations with senior political figures (e.g. British Prime Ministers Boris Johnson, Gordon Brown and David Cameron, political party leaders Nigel Farage, Nick Clegg and Ed Miliband, and even US Secretary of State and Presidential candidate Hillary Clinton). In addition, it has launched numerous activist campaigns in the UK (e.g. 'Let Girls Be Girls', Mumsnet, 2010) and, more recently, contributed to the UK school regulator Ofsted's rapid review of sexual abuse in school and colleges (Ofsted, 2021).

Mumsnet's success hinges on the engagement of its users, who are mainly white, university educated women of childbearing age (Mumsnet, 2009). This engagement mostly takes place on the community forum section of the site called Mumsnet Talk. The content on Mumsnet Talk mainly consists of verbal text with very little use of emojis, images, GIFs, etc. and without restrictions on text length. At the time of writing, Mumsnet Talk hosted 243 topics, i.e. sub-forums organised around a specific subject. Each topic includes potentially hundreds of threads, and each thread can consist of up to 1,000 posts. Mumsnet Talk as a whole averages eight million posts per year, currently amounting to 4.5 billion words (Mumsnet, 2021a). This content sometimes forms the basis for Mumsnet's books, and many of the campaigns have their roots in forum discussions.

Mumsnet's reputation as a particularly straight-talking and opinionated parenting site may relate to the fact that, unlike competitors such as Netmums and BabyCentre, Mumsnet does not detail explicit rules of engagement for its forum, aside from specifying 'No personal attacks, no trolling, misleading or deliberately inflammatory behaviour' (Mumsnet, 2021b). It also does not pre-moderate or apply focused surveillance of activity. The ethos is to 'keep intervention to a minimum and let the conversation flow' (Mumsnet, 2021b). While Taylor (2015: 136-8) does provide some examples of users criticizing one another for

'patronising' and 'bitchy' comments, Pedersen and Smithson (2013: 102) note that combative posts are not always faced with the outrage and condemnation one might expect from a site designed to build a community of parents. Instead, some users openly celebrate Mumsnet's 'aggressive' and 'combative' style of posting (Pedersen and Smithson, 2013: 103). In fact, entertainment (59%) and debate (36%) were also important reasons mentioned by users for visiting the site (Mumsnet, 2009), and more recently, Pedersen and Smithson (2013) found that 91% of 391 participants in their study used Mumsnet as a source for entertainment.

Alongside entertainment, however, Parenting forums also operate as an information resource and a virtual support system (Drentea and Moren-Cross, 2005; Hall and Irvine, 2009; Jaworska, 2018; Madge and O'Connor, 2006). Mumsnet's 2009 census reflected these trends specifically for the website, as 76% of respondents stated they came to the site for advice and 75% mentioned information as a key reason for visiting (Mumsnet, 2009). In addition, 86% of Pedersen and Smithson's (2013) participants stated they go to Mumsnet for advice, and 64% stated they go for support. One domain that parents seek advice for on such websites is health (Campbell et al., 2017). Mumsnet Talk hosts several popular topics specifically dedicated to health, such as *General Health* (96,457 threads), *Children's Health* (36,477 threads), *Coronavirus* (30,567 threads), *Women's Health* (4,508 threads), and *Postnatal Health* (2,870 threads), but health-related discussions take place in more general Talk Topics too, including *AIBU*.

Health discussions on Mumsnet Talk regularly include the topics of vaccines and vaccinations, and indeed 29% of participants in Campbell et al.'s (2017) survey of parents in England specifically cited Mumsnet as a website they use to learn more about vaccinations, with a smaller proportion (13%) citing Facebook or Twitter. This influence is one of the key motivations for our study. The other is the relationship between how frequently Mumsnet is consulted by parents for vaccine information, and how extensively vaccines are discussed on the site. Our approach, outlined in Section 3, retrieved 1,102,329 threads and 22,113,665 posts across 32 Topics from Mumsnet Talk that included the words 'vacc*' or 'vaxx*' (where * is a 'wildcard' that can stand for any character or series of characters).

2.1. *Am I being unreasonable (AIBU)*

By a considerable margin, the largest and busiest topic on Mumsnet Talk is *AIBU* or '*Am I being unreasonable?*'. At the time of data collection (June 2021), threads on *AIBU* represented 12.6% ($n = 361,389$) of all threads, 29.6% ($n = 23,301,366$) of all posts, and approximately 30%, or 1.3 billion words, of words on Mumsnet Talk. To compare, the second most populated topic, *Style and Beauty*, represents 6.6% ($n = 187,390$) of all threads on Mumsnet, 4.1% ($n = 3,195,316$) of all posts and 2.1% ($n = 130,467,358$) of all words. The immense popularity of *AIBU* has also been highlighted in previous research. For example, in Pedersen and Smithson's (2013) study of Mumsnet Talk, 391 users ranked *AIBU* as one of their most visited topics. According to the search engine optimisation platform Sitechecker, of the top five search engine queries that led people to Mumsnet in October and November 2021, two contain *AIBU* (#2 *aibu*; #3 *aibu mumsnet*). Given its size, traffic, and purpose, *AIBU* occupies a distinct position within Mumsnet. Akin to agony aunt advice columns and other online forum topics such as *Am I the Asshole* on Reddit ($r/AITA$), *AIBU* offers a space where users can present dilemmas or questions about thoughts, situations or actions, and receive advice and judgements about their 'reasonableness'. Perhaps unsurprisingly given both the impact of the COVID-19 pandemic and the routine childhood immunisation schedule in the UK, numerous scenarios presented on

Table 1
Corpora with word counts.

	Corpus	Number of Threads	Number of Posts	Number of words
Target corpus	AIBU-V	895	88,932	6,269,560
Reference corpus	CGC-V	5,056	224,814	14,976,311
Components of reference corpus	Coronavirus-V	2,873	181,538	11,572,648
	General Health-V	1,583	37,025	2,915,015
	Children's Health-V	600	6,251	488,648

AIBU involve vaccines and vaccination decisions.

Vaccine discussions can become particularly heated and polarised (Martin et al., 2020). While evidence to substantiate the claims about combativeness in discussions on *AIBU* has so far been primarily anecdotal or small in scale, we found some support for this idea in a preliminary investigation into the data we collected for the present study. We examined all 205 mentions of 'AIBU' in replies to posts about vaccinations. In 27% of these instances ($n = 55$), Mumsnet users discuss the communicative style they associate with *AIBU*, with comments such as: 'It's AIBU. It's like the mothership to rude fuckers', and 'It's AIBU – expect rude'.

There is therefore evidence both from previous studies and from Mumsnet users that a combative communicative style is an interactional norm shared by the *AIBU* discourse community (Swales, 1990; Zappavigna, 2011), including in the context of vaccinations. This may potentially involve impoliteness (Culpeper, 2011) or a rapport-challenging orientation (Spencer-Oatey, 2008). Indeed, conflict in its various guises is relatively consistent with computer-mediated communication more broadly. From the earliest implementations of online interactions, we can find extensive evidence of attempts to mediate and mitigate antisocial behaviours through features such as blocks, bans, mute functions, content-based filters, automated and manual moderation, abuse report systems, terms of service agreements, and so forth (Donath, 1999: 48). More recently, research into impoliteness in online contexts has begun to recognise the breadth of norms, including those around impoliteness, that can exist even within an ostensibly homogenous platform such as Twitter or Reddit or, as in this case, Mumsnet (Graham & Hardaker, 2017). In addition, *AIBU*'s reported high entertainment value is consistent with pragmatics literature that discusses verbal conflict as a source of entertainment, for example in TV shows (Culpeper, 2005), and in practices such as sounding (Labov, 1997), flyting (Culpeper, 1996) and roasting (Dynel and Poppi, 2019).

As we show in Section 3, 10.7% of the 8,147 threads mentioning vaccinations on 32 Mumsnet Talk topics are found on *AIBU*. Yet, to the best of our knowledge, there is not yet a systematic linguistic investigation of whether and how *AIBU* may indeed be more confrontational than other Talk Topics in the context of vaccinations. This has particular importance since, despite being potentially entertaining, conflict and polarisation may be damaging from the perspective of public health.

In the rest of this paper we therefore investigate:

1. whether there is linguistic evidence that *AIBU* is more combative than the rest of Mumsnet Talk.
2. what forms potential conflict takes on *AIBU*.
3. how this manifests in the context of vaccination discussions on *AIBU*.

We describe our data and methods in the next section before

presenting our findings in section 4.

3. Data and method

Our main dataset, the AIBU-V corpus, consists of 895 threads of vaccination-related discussions on *AIBU* from the inception of Mumsnet in 2000 to May 2021, amounting to 6,269,560 words. This was created by collecting all threads on *AIBU* that include the lemmas *vaccin** or *vaxx** with optional prefixes *un(-)*, *re(-)*, *anti(-)* and *pro(-)* in the original post¹. Posts were collected using a custom web scraping script and were then organised and accessed using the Forum Explorer environment (McNutt and Scott-Brown, 2018). We additionally created a comparison or 'reference' corpus by applying the same search terms to threads posted on three large health-related topics on Mumsnet Talk: *Coronavirus* (Coronavirus-V), *General Health* (General Health-V) and *Children's Health* (Children's Health-V). The reference corpus (CGC-V) contains 5,056 threads and 14,976,311 words. A summary of our corpora is provided in Table 1.²

While many vaccines are discussed in our corpora, a small set of targeted diseases dominate discussions in AIBU-V. Where a target disease for a vaccine is explicitly mentioned, these are COVID-19 (143 threads), influenza (102 threads), measles, mumps and rubella (MMR; 102 threads), and chickenpox (60 threads). These threads discuss the vaccines themselves, the vaccine producers, stories of conflict caused by vaccination, vaccine damage, general attitudes towards vaccination, and social issues such as mandatory vaccination.

We employed a corpus linguistic technique known as keyness analysis (Scott, 1997, Baker, 2004), using CQPweb (Hardie, 2012), to compare the relative frequencies of words in AIBU-V to the reference corpus, CGC-V. The keywords produced by this comparison are statistically 'overused' in AIBU-V compared with the reference corpus, i.e. they have much higher relative frequencies and are therefore *distinctive* linguistic features of our data. We used Log Ratio (Hardie, 2014), a measure of effect size, to determine what counts as a keyword in AIBU-V, with a minimum raw frequency of 10 and minimum Log Ratio

¹ Note: our method does not give all, and only, posts about vaccinations. We miss original posts about vaccinations that do not contain our search terms, and we include replies to original posts about vaccinations that stray off topic. However, 'vaccin*' and 'vaxx*' capture the most unmarked, common, and least ambiguous ways of discussing vaccinations on Mumsnet. In addition, for our study, the comparability of the target and reference corpora matters more than achieving complete coverage.

² The ethical issues involved in collecting and analysing online forum interactions are complex (Mackenzie 2017). In the case of Mumsnet, posts are in the public domain and contributors can use pseudonyms as usernames. We did not therefore seek individual consent for the purposes of our study. However, as Mumsnet owns all material posted on the site, we sought and obtained their permission to carry out the research. Original usernames or any identifying information has also been removed for the purposes of this study. The study was approved by the FASS-LUMS Research Ethics Committee at Lancaster University.

threshold of 1.0, which indicates that the relative frequency in the target corpus is at least twice that of the reference corpus³.

This comparison resulted in 323 keywords which we grouped thematically on the basis of semantic similarities, using an inductive, bottom-up method (see Bailey, 2020, Baker et al., 2020 for a similar approach). This resulted in 15 major groupings (e.g. *People, Health and Medicine, Communication*) presented in section 4. We manually examined the keywords in these thematic groups for evidence of combativeness and conflict. As we show in section 4, this led us to focus on the thematic group of *Insults*, which consists of the following nine keywords: ‘arse’, ‘bitch’, ‘cow’, ‘cunt’, ‘dick’, ‘idiot’, ‘knob’, ‘morons’, ‘twat’.

In Culpeper’s (2011: 135) terms, all nine keywords are nouns that can be used as insults, or, more precisely, as:

- personalized negative vocatives (e.g. ‘You twat’);
- personalized negative assertions (e.g. ‘You’re such a twat’); and
- personalized third-person negative references (e.g. ‘the twat’ or ‘He’s a twat’).

These are conventionalised structures in which the nine nouns can convey impoliteness, defined as the expression of ‘a negative attitude towards specific behaviours occurring in specific contexts’ (Culpeper, 2011: 23). In Spencer-Oatey’s (2008: 32) terms, these structures can express a ‘rapport challenge orientation’ - that is, ‘a desire to challenge or impair harmonious relations between the interlocutors’. As such, the insults listed above may be used in ways that contribute to the combative style associated with *AIBU*. In *AIBU-V*, this may involve disagreement and interpersonal conflict about vaccinations. The thematic group is therefore highly relevant to our three research aims.

To examine the actual use and implications of these nine keywords in *AIBU-V*, concordance lines were manually coded for:

1. Whether each occurrence was used as an insult in context;
2. The vaccination stance of the post where the noun occurs and the stance attributed to the target, where this could be determined (pro-vaccination, hesitant, anti-vaccination, or unclear);⁴
3. The target of the potential insult, where applicable, as:
 - **Original poster** (termed **OP**, though note that OP is also used to mean *Original Post*): the individual who started the thread;
 - **Other Mumsnet user(s)**: usually other contributors within the same thread;
 - **OP Characters**: specific (real) people, often family members, mentioned in the original post;
 - **General third parties**: e.g. healthcare workers;
 - **Hypothetical**: a third party in a hypothetical or counter-factual scenario (e.g. ‘What’s the betting this doesn’t ‘sit right’ with some idiot in some way or another?’);

³ Traditionally, Log-likelihood or similar tests of statistical significance are used in combination with effect-size measures in corpus linguistic analyses. However, recent work has criticized the use of statistical significance measures in corpora due to the way that corpus methods violate the assumption of independence (Brezina 2018: 112-3). Although all our keywords have Log-likelihood values above 15.13, we therefore use Log Ratio only as our statistical measure.

⁴ Although for convenience we sometimes refer to the stance of the *writer*, *referent*, or *target*, we are in fact dealing with the stance expressed in a particular post or that is attributed by a writer to others. Attitudes towards vaccination can change (Gidengil et al., 2019; Elkin et al., 2020, Office for National Statistics 2021), and people can assume or attribute stances for strategic reasons. Vaccination attitudes are also best captured as a cline (Elkin et al., 2020), and for our study, we adopted a three-point scale. The labels ‘pro-’ or ‘anti-vaccination’ were applied where a writer or target appeared to lean towards a particular attitude; ‘hesitant’ was applied where a writer or referent presented or was described as uncertain about vaccinations; and ‘unclear’ was applied where the context did not provide enough evidence to attribute a stance.

Table 2
Coded example from the data.

Extract	Insult?	Target	Writer stance	Target stance
She’s a fucking <i>idiot</i> unless there is an actual, valid reason why her children can not be vaccinated. She’s putting vulnerable people at risk as well as her own children.	Yes	OP character	Pro	Anti

• Unclear

Concordance lines were coded as ‘Other’ when the noun was not used as an insult (e.g. ‘vaccines are the sacred cow of medicine’) and when it was *mentioned* rather than *used*, for example by being included within quote marks or being part of a quote from a previous post that a Mumsnet user reproduces before responding to it. Table 2 provides a fully elaborated example of the coding scheme.

To check coding agreement, two raters, TCP and WD, coded a sample of 100 uses of ‘idiot’ which were then compared. The four fields in Table 2 were each given one code out of 15 potential codes (four writer stances; four target stances; seven targets). Agreement was seen as total agreement across all fields for a concordance line, not per individual code. Agreement was very high in the first instance (91%), with agreement for only writer/target vaccination stance higher still (98%).

4. Results

4.1. Keyword groups and conflict on *AIBU-V*

As mentioned in the previous section, a keyness comparison between the *AIBU-V* target corpus and the *CGC-V* reference corpus returned 323 keywords with a Log Ratio of 1.00 or above and a minimum of 10 occurrences.

Table 3 shows the outcome of the next step in our analysis – the thematic grouping of the 323 keywords, based on semantic similarity. The 15 groups we identified (including a Miscellaneous group) are listed in descending order of the number of keywords they subsume. Example keywords are provided for each group.

The group with the highest number of keywords (*People*) reflects a major trend in *AIBU-V*: original posts tend to outline a situation in which the writer is in some kind of conflict or has a dilemma involving family members with different attitudes to vaccinations, often in the context of a health or medical issue. In the extract below, for example, the original poster describes how she has been repeatedly challenged by her partner’s mother for not vaccinating her son, and asks for confirmation that her irritation at this perceived interference is justified:

(1) Had another delightful invasion from the in-laws today. Dp’s [Dear partner’s] Mum ended the visit by telling me how wrong I was not to get ds [dear son] (14 months) vaccinated. We’ve been through this many a time, just wish she’d respect and accept our decision. Am I right in thinking this is none of her bloody business? (15-Jan-11).

In example 2 in contrast, a pro-vaccination original poster feels undermined in her role as a parent by some family members who criticise her decision to give her child both recommended and optional vaccinations:

(2) I have opted to vaccinate my toddler against chicken pox and meningitis b (4 separate jabs) at quite a cost, but one I consider to be worth it. Certain members of my family have told me this is unfair to my child (to put her through trauma of extra injections) and unnecessary. They are implying I am some sort of cotton wool parent to do this and I need to relax a bit more. She is also about to have the flu

Table 3
Groupings of keywords in AIBU-V vs. CGC-V reference corpus.

Group	Example keywords	No. of keywords (types) in group
People	<i>in-laws, mother, newborns</i>	69
Health and medicine	<i>chickenpox, immuno-compromised, STD</i>	62
Miscellaneous	<i>knitting, photos, sugar</i>	45
Communication	<i>apologise, offensive, patronising</i>	31
Negative evaluation/event	<i>smug, unreasonable, vile</i>	22
Mumsnet	<i>AIBU, OPs, YANBU</i>	15
Belief	<i>Conspiracies, QAnon, views</i>	15
Relationships	<i>divorced, friendship, marriage</i>	14
Parenting	<i>breastfeed, childcare, nappies</i>	10
Insults	<i>cunt, idiot, twat</i>	9
Vaccines	<i>anti-vaxxers, immunise, vaxxers</i>	9
Anatomy	<i>breast, penis, teeth</i>	7
Sex	<i>condom, sex, sexual</i>	6
Time	<i>1998, lifelong, nowadays</i>	5
Emotions	<i>feelings, guilty, upset</i>	4
Total		323

vaccine (nasal spray), to which they rolled their eyes, even though it is recommended by NHS.

Would other people think this way of me? (24-Oct-14)

In both cases, references to people (e.g. ‘in-laws’, ‘ds’, ‘toddler’) occur in the context of family conflict about vaccinations. These scenarios, which are typical of OPs in AIBU-V, suggest that attitudes and decisions about (childhood) vaccinations can be intertwined with broader kinship and social relationships, and be repeatedly challenged and negotiated as part of those relationships. We will return to these scenarios in section 4.2.4, where we show that the family members who cause the original poster to check their own reasonableness on AIBU are the main target of the group of keywords we have subsumed under the label *Insults*.

Four further groups of keywords include some evidence of conflict, either on the forum or in the aspects of their lives that contributors share on AIBU. In the *Communication* group, consistent with previous findings by Taylor (2015), ‘patronising’ is sometimes used to criticise an attitude attributed to other AIBU contributors, and ‘apologise’ is sometimes used to express regret about previous behaviour on or beyond the forum, or to demand an expression of regret from others:

(3) So bog off with your sneering, patronising comments. I have promoted this vaccine. I have had the vaccine. I work in a vaccination centre. (06-Apr-21).

(4) I apologise if my earlier comment offended you btw [by the way] (17-Dec-20).

Keywords under the *Negative evaluation/event* group sometimes express a negative assessment of others’ attitudes in interaction, including on the forum (e.g. ‘unreasonable’) while several of the terms included under *Belief* (e.g. ‘QAnon’) and *Vaccines* (e.g. ‘anti-vaxxers’) are accompanied by expressions of negative evaluation:

(5) You can have a critical viewpoint and exercise some critical thought without being a QAnon nutter though (06-Oct-20).

However, the most explicit evidence of conflict can be found in the *Insults* groups, to which we now turn.

4.2. ‘Insult’ keyword group and conflict on AIBU-V

Table 4 lists the nine nouns included in the *Insults* group in descending order of Log Ratio, and provides the raw frequencies of occurrences in AIBU-V.

Out of 1,289 total occurrences, these nouns are used in the kinds of structures that Culpeper (2011) associates with insults 675 times (e.g.

Table 4
Keywords that can be used as insults in AIBU-V.

Keyword	Frequency	Log Ratio
knob	39	2.54
morons	72	2.26
bitch	106	2.2
cunt	78	2.08
dick	126	1.82
twat	167	1.72
cow	116	1.54
arse	264	1.19
idiot	321	1.19
Total	1,289	

‘you’re a fucking idiot’). An additional 38 occurrences *imply* an impolite stance towards someone else, without appearing in an insult structure. For example, in ‘DD [Dear Daughter] is also fully vaccinated because I’m not an idiot’, the writer implies via a negated self-referential insult that someone who does not vaccinate their children is ‘an idiot’. In the next section we will focus on the 52% of cases where these nouns appear in insult structures.

4.2.1. Insults

Table 5 provides a breakdown of the coding of the 675 instances of the nine nouns being used as insults for (a) the target of the insults and (b) the writer’s stance towards vaccinations.

Table 5 shows that the writers who use insults overwhelmingly express a pro-vaccination stance in their post ($n = 425$, 63%), with only 2% ($n = 13$) expressing anti-vaccination, and 0.4% ($n = 3$) expressing vaccine-hesitant views. In 34.6% ($n = 234$) of cases, the stance is unclear from the immediate co-text. Table 6 provides a breakdown of the vaccination stance of the targets of insults. In contrast to the writers, who present primarily as pro-vaccination, the targets’ vaccination stances are more varied.

Importantly for the purposes of our study, the tables show that other Mumsnet users on the forum are rarely the targets of the insults under analysis, with only 5.3% ($n = 36$) aimed at the OP, and 6.2% ($n = 42$) levelled at someone else on AIBU. In the vast majority of cases ($n = 588$, 87.1%) the target is a third-person referent who is *not* a participant in the exchanges taking place. This includes mostly individuals who

Table 5

Targets of insults and writer's stance in AIBU-V.

Target of Insult	Frequency	Pro-Vaccination Writer	Anti-Vaccination Writer	Hesitant Writer	Unclear
OP Character	444	297	0	0	147
Third Party	144	96	4	2	42
Mumsnet User	42	18	5	0	19
OP	36	11	4	1	20
Hypothetical	8	3	0	0	5
Unclear	1	0	0	0	1
Total	675	425	13	3	234

Table 6

Vaccination stance of the targets of insults.

Target of insult	Frequency	Pro-vaccination target	Anti-vaccination target	Hesitant target	Unclear
OP Character	444	178	144	5	117
Third Party	144	14	82	1	47
Mumsnet User	42	8	14	0	20
OP	36	30	1	1	4
Hypothetical	8	1	3	0	4
Other	1	0	0	0	1
Total	675	231	244	7	193

feature as characters⁵ in the OP's first post (n = 444, 65.8%) as well as generic third parties (n = 144, 21.3%).

We now consider the most frequent groups of targets of insults in ascending order of frequency, with a particular focus on the role of vaccination stance in the negative evaluation expressed by the writer of the insult.

4.2.2. The OP and other Mumsnet users as targets

Some AIBU contributors employ the insults under analysis to engage in direct conflict with other users. This can be triggered by the target's stance on vaccines, as in example 6 below, or other reasons, such as another Mumsnet user's attitude towards someone with differing views, as in example 7:

(6) OP: AIBU to think non vaccination is child abuse.
Reply: I don't often say this but OP you are a twat (27-Feb-11).

(7) [@user] - you are a patronising idiot..... and I'd rather not speak to you. (24-May-10).

Where it could be determined, the largest proportion of writers (n = 29, 37.2%) insulting the OP and other Mumsnet users appeared to be pro-vaccination. The dominant vaccination stance of the target, however, differed depending on whether the target was the OP or another Mumsnet user. OP as targets tended to have a pro-vaccination stance, whereas other Mumsnet users as targets tended to have an anti-vaccination stance.

A key issue to note here is that when Mumsnet, and in particular, AIBU, is described as combative, whether by users on the forum itself or in journalism or in the scholarly literature, the implicit assumption appears to be that *this* kind of conflict is the form being described – where users post content, find themselves being attacked, and in turn attack others. In practice, however, and as noted above, our analysis shows that user-on-user conflict only accounted for only 11.5% of uses of the nine keywords under discussion as insults (36 targeted at the OP and 42

targeted at another Mumsnet user). That said, it should be noted that our analysis can only identify direct user on user conflict in the form of name calling. Other methods of inciting conflict or combativeness such as sarcasm and irony, as found by Taylor (2015), may be a more prevalent way in which users attack each other.

4.2.3. General third parties as targets

The next most common (n = 144, 21.3%) form of conflict in the data occurred where general third parties outside of the forum were insulted. The most frequently referenced individuals were members of the anti-vaccination movement (n = 51, 35.4%), of which eight were specific mentions of Andrew Wakefield⁶, as in example 8. In other cases, people in the writers' own circles functioned as targets, or generic groups, as in example 9.

(8) For heavens sake - the idiot [Wakefield] who proposed this theory was struck off by the GMC (24-Oct-10).

(9) I do believe that parents who don't vaccinate are morons (19-Oct-15).

As these examples suggest, the majority of the writers insulting third parties present as pro-vaccination and they primarily (n = 82, 57%) direct insults at anti-vaccination targets.

4.2.4. Characters in original posts as targets

By far the most frequent target of insults in our dataset (n = 444, 65.5%) are characters in the stories that Mumsnet users present in their original posts. These are often family members and friends, but also ex-partners, current partners, work colleagues, and neighbours. As we mentioned in relation to the *People* keyword group, these characters tend to have irritated or concerned the OP enough with regard to their approach to vaccinations that they turn to AIBU to ask whether their own views or reactions are 'unreasonable'. The preferred response to this question is some version of 'you are not being unreasonable', abbreviated on Mumsnet to 'YANBU'. Table 7 provides a breakdown of the vaccination stances that can be attributed to this particular group of

⁵ To repeat a point we made in section 2, our use of the term *character* should not be understood to imply that the posts are works of fiction. The term is simply a convenient means of distinguishing clearly identified, proximal, personal third parties such as 'my mum', 'his ex-girlfriend', 'their grandparents', etc. from more generic, distant, impersonal third parties such as 'health workers', 'a scientist', 'the Government', etc..

⁶ Andrew Wakefield is a former doctor and prolific anti-vaccination activist who was struck off the UK medical register in 2010. He played a pivotal role in establishing the disproven claim that there is a link between the MMR vaccination and the onset of autism in children.

Table 7
Vaccination stance of OP characters who are the target of insults.

OP Characters	
Vaccination Stance	Raw frequencies (%)
Pro-vaccination	178 (40.1%)
Anti-vaccination	144 (32.4%)
Hesitant	5 (1.1%)
Unclear	117 (26.4%)
Total	444

targets.

40% of targets (n = 178) in this group are attributed a pro-vaccination stance, which seems to suggest a substantial pattern in our data in which both the person using an insult and the target are pro-vaccination. However, an examination of concordance lines revealed that 130 of 178 instances of the nine insults targeting a pro-vaccination OP character occur within a single thread and target the same individual – a character in an original post who we will refer to as ‘Sandra’.

The thread in question opens with the OP explaining how they published an update on Facebook celebrating their imminent first COVID-19 vaccination. Sandra, a relative of the OP, commented on the Facebook post, and the OP quotes Sandra’s words as follows:

(10) “so many young people having their jabs- what magic key have you all got to jump the queue? I’m over 50 and I work with the public, but I can’t just waltz in like some!” (24-Feb-21)

The OP then details several exchanges with Sandra and ends the post asking if they (the OP) were unreasonable to ‘message Sandra and tell her how bloody vile she is?’ The responses to this question were largely supportive of the OP and disapproving of Sandra, and many of them expressed this support by using one of the nine insults with Sandra as their target:

(11) Sandra sounds like a weapons grade arse (24-Feb-21).

(12) Sandra is a dick (24-Feb-21)

(13) Sandra was just being a cunt. A jealous entitled cunt too (25-Feb-21)

With 130 instances of the insults under discussion, the Sandra thread shows an extreme case of the kind of verbal pile-on that can occur on *AIBU*, and it may be that this type of interaction contributes to its reputation as combative. In this specific case, the title of the thread (‘Piss off, Sandra!’) immediately establishes a low impoliteness threshold (Culpeper, 2011: 204 et passim) and encourages insults directed at Sandra. The more insults that are used in the thread, the more the impoliteness threshold is lowered, making it easier for others to engage in further impoliteness. In addition, there is arguably an element of reciprocity at play here - that is ‘pressure to match the perceived or anticipated (im)politeness of other participants, thereby maintaining a balance of payments’ (Culpeper and Tantucci, 2021: 150). The quote attributed to Sandra is impolite towards the OP, so impoliteness directed at Sandra restores the balance, as well as performing the preferred *AIBU* response (which necessitates critique of Sandra). In this sense, the insults are not simply instances of impoliteness, but simultaneously instances of affiliative or supportive behaviour that contribute to a community bond. They provide evidence of combativeness, but, within the *AIBU* discourse community (Swales, 1990), they are simultaneously supportive of a fellow member.

Furthermore, the Sandra thread highlights the variety of interpersonal conflicts that can be generated by the topic of vaccinations. In addition to the tensions that arise when members of family or friendship groups have opposing stances towards vaccinations, or over interpersonal conduct on the forum itself, the ‘vaccine jealousy’ that Sandra is berated for is arguably characteristic of the first vaccine roll-outs of the

COVID-19 pandemic, when pro-vaccination people may have had different opinions about who should be prioritised for vaccination.

Having accounted for the insults that occur in the Sandra thread, the largest group of remaining insults in Table 6 (n = 144, 46%) target OP characters who are attributed an anti-vaccination stance. This typically involves situations where an anti-vaccination friend or family member undermines or obstructs an OP who leans towards vaccinating their own children (as we saw in example 2 in section 4.1). In example 14, it is the prospect of conflict with an anti-vaccination ex-partner that causes a dilemma for a pro-vaccination OP.

(14) Dts [Darling twins] are six. For long and boring reasons which I’m happy to discuss but aren’t the issue in question, they are not vaccinated. Recently I’ve come under pressure to have them done, and I’m happy to go ahead, but ex p [partner] was against it when the boys were born (as was I). He rowed with his pro-jab family terribly over it.

We aren’t able to discuss things unfortunately, as whatever I say seems to finish with him flying off the handle during a change over, so I stay indoors when he comes to collect the children. Sad, I know.

But what the fuck shall I do about these vaccinations?

Example 15 below, from the replies to example 14, is typical of posts using the nine insults under discussion (in this case ‘knob’) to target an OP character.

(15) Oh FFS! Unless there is a known family history of certain allergies the case against vaccination is a load of **dangerous** hippy bullshit. Yes there have been some cases of vaccinations causing harm but this is **shit bad luck** the same as if your beloved child gets leukaemia or is hit by a bus.

And I don’t believe in respecting the wishes of the NRP [Non Resident Parent] when the NRP is being a knob. What if the NRP’s wishes were for his DD [Dear Daughter] to be circumcised? That would be a fuck-right-off and prohibited steps order, surely.

The respondent adopts a combative style with multiple expletives (‘FFS’, ‘bullshit’, ‘shit bad luck’, ‘fuck-right-off’), but this is done to express validation for the OP’s frustration and support for their pro-vaccination preference. Indeed, we found that the large majority of insults targeted towards characters in the OP’s post support the OP’s attitude (n = 279, 89.7%), and that the OP themselves in these instances tend to present as pro-vaccination (n = 241, 86.3%). By insulting the OP’s family members or friends, Mumsnet users confirm that the OP is not ‘unreasonable’, thereby validating their predominantly pro-vaccination attitudes.

5. Discussion

The results of our analysis offer several different insights. Firstly, our keyword analysis provides overdue linguistic evidence that, at least with regard to discussions of vaccinations, *AIBU* is indeed more combative than other forum topics on Mumsnet. Specifically, these keywords demonstrate that both *traces* of conflict expressed through lexical items such as ‘apologise’, and *performance* of conflict expressed through insults such as ‘idiot’, are distinctive characteristics of *AIBU* when compared with similar discussion threads on other health-related Talk Topics.

At the same time, we are able to add nuance to claims about the distinctiveness of *AIBU*, as our analysis of nine insult nouns reveals multiple different types of conflict. For example, conflict can occur between individuals posting on the forum, or with people outside the forum. These conflicts may arise between people who hold different vaccination stances, or who hold similar vaccination stances but disagree about detailed aspects of vaccination such as timings and necessity, which may lead to ‘vaccine jealousy’ – a phenomenon that may

be particularly associated with the roll-out of COVID-19 vaccines.

Perhaps one of the most interesting findings is that, as shown by the large number of items in the *People* keyword group and the high proportion of insults directed at these third parties, original posts repeatedly document the myriad of ways in which attitudes and dilemmas about vaccinations can be intricately connected with the social dynamics of kinship and friendship. Specifically, indecision or delays about vaccinations can be caused not by medical concerns or logistical challenges or even vaccine hesitancy and rejection, but by family pressure, peer group attitudes, and attempts to balance social, moral, and health concerns with maintaining close, personal relationships. In this sense, the conflict often predates the story told by the OP and the dilemma they present. However, once narrated for the members of *AIBU*, this conflict can then continue in a new form, and can be further inflamed by the respondents, be that by insulting the characters in the OP, by introducing their own stories of conflict, or, though less common, by inciting conflict towards another Mumsnet user.

We also found that those who use the nine keywords as insults in our data primarily express pro-vaccination stances ($n = 425$, 63%), and primarily target third parties ($n = 588$, 87.1%), i.e. others not on Mumsnet. With the exception of Sandra, those third parties were usually attributed an anti-vaccination stance. Though idiosyncratic, the Sandra thread is nevertheless revealing. The conflict in that case is not about vaccine decisions or (mis)information. Rather, it is related to decorum and etiquette, with pro-vaccination Mumsnet users decrying the jealousy and rudeness expressed by pro-vaccination Sandra. This demonstrates the emergences of a new type of tension around vaccination precipitated by events outside of the average person's control, and shows that conflict can occur even among people who fundamentally hold very similar views in relation to vaccinations.

In all of this conflict, however, we have also shown that instances which might, on the surface, appear to be prototypical linguistic evidence of combativeness – insults – also overwhelmingly function as a form of support for the original poster themselves. Similar connections between impoliteness directed at third parties and affiliation and bonding have been noted in the context of climate change discussions on YouTube (Andersson 2021) and political commentary on Twitter (Vladimirou and House 2018). By vigorously siding with the OP, even against their family or friends, respondents reassure the original poster that they are not unreasonable and contribute to the sense of community on the site. There is of course a danger that this use of insults may actually encourage or increase divisions and polarisation between people with different views about vaccinations. However, the extent to which this may happen will depend on readers' awareness of a combative style as a shared norm on *AIBU* as a discourse community (Swales 1990). In this context, those most at risk of being negatively affected by this confrontational approach are likely to be those least familiar with *AIBU* or Mumsnet more generally.

A final point to note is that though this style is often positively evaluated by Mumsnet users who are familiar with this norm, it has also dissuaded some users from posting (Pedersen and Smithson 2010). Indeed, despite its huge popularity and daily traffic, some users have even suggested removing *AIBU* from the platform (Mumsnet 2009). Overall, then, when conflict on Mumsnet is examined more closely, we find a complex picture of the dynamics between impoliteness, affiliation, entertainment, and exclusion.

6. Conclusion

Mumsnet in general, and *AIBU* in particular have widely been described as particularly combative, by users, in press articles, and in the academic literature. Given Mumsnet's influence and popularity, and the size of *AIBU* relative to other topics in Mumsnet Talk, we set out to investigate whether there was any linguistic evidence to support this characterisation of *AIBU*, and to explore in more depth how conflict may manifest in discussions about vaccinations. An analysis of keywords

revealed an obvious group of *Insults*, in addition to groups such as *Communication* and *Belief* which contain words that hint at conflict through notions such as being patronising and engaging in conspiracy theories, and the *People* group, which points at scenarios of conflicts about vaccinations in the poster's family and social circles outside of Mumsnet.

Within that combative tendency, a close, qualitative analysis of the nine nouns categorised as *Insults* revealed patterns that contradicted common expectations and perceptions about who is likely to offend whom, both on Mumsnet and in online discussions about vaccinations more generally. Conflicts among Mumsnet users accounted only for a minority of uses of the nine insults. Moreover, except in cases involving vaccine jealousy, pro-vaccination writers predominantly directed insults at anti-vaccination targets. Even if we consider that the majority of these insults are indirect, i.e. targeted at individuals outside of the actual interaction, and that Mumsnet removes posts involving misinformation, the data still challenges any blanket association between conflictual communication and anti-vaccination attitudes (Hotez, 2021).

Our analysis also demonstrated that, although Mumsnet might be considered combative on the surface, particularly to newcomers or casual observers, this interactional strategy can actually be a mark of affiliation and support. Acculturated *AIBU* users are very likely to have recalibrated their benchmarks for impoliteness assessments to account for the fact these many forms of conflict are an expected and even a welcomed and valued community norm.

Finally, with regards to vaccination discourse on Mumsnet in particular, this paper demonstrates a very clear need to investigate actual language use. Anti-vaccination stances and vaccine hesitancy are widely believed to be driven by misinformation, lack of knowledge, misperception of risk, or personal ideology. These factors certainly exist, but in our data a large proportion of the conflict around vaccines involved making decisions within the context of managing complex, social dynamics and relationships between partners, ex-partners, the OP's own parents or siblings, and so forth, particularly where tensions were pre-existing. It is therefore unsurprising that individuals may find themselves seeking perspectives on forums such as *AIBU* in an effort to unpick the intricacies of the matter and find a way forward. Based on the data we have analysed, parenting forums such as Mumsnet can perform a useful function in (vigorously) supporting pro-vaccination decisions in the context of anti-vaccination kinship or social circles.

Funding

The study was funded by the Economic and Social Research Council, part of UK Research and Innovation (grant reference number ES/V000926/1).

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

The authors do not have permission to share data.

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