"The fight against Coronavirus":

A longitudinal corpus-based analysis of the polarization and predictive grammatical frames of war metaphors used by Conservative and Labour UK MPs between 1970-2020.

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English Language, 2021.

Abstract: In times of uncertainty and hardship, war metaphors simplify issues and avert misunderstandings. Within political and medical discourse, they are overused and commonplace. During the Coronavirus pandemic, politicians have pursued a militarized method of characterising the struggle against COVID-19 within their hybrid of political-medical discourse. An analysis of the war metaphors used by Conservative and Labour UK MPs in the "*Pandemic Twitter Corpus*" reflects marginal polarization, with Conservative MPs using war metaphors slightly more than Labour MPs. However, in the longitudinal data from the 1970-1979 sub-section of the Hansard Corpus, this same polarization was not observed, with Labour MPs previously using more war metaphors than Conservative MPs. The UK MPs were shown to use war metaphors in predictive grammatical frames across both corpora. The war metaphors are frequently used in main clauses and with abstract target domains. Empirical research would suggest that items in the grammatical frames of the war metaphors can have significant semantic implications on an interpreter. Similarly, MPs' use of war metaphors may have adverse effects on public attitudes and behaviours. These implications could be even more harmful within the context of the Coronavirus pandemic, especially when used on a highly influential social media platform like Twitter. With COVID-19 potentially becoming a permanent presence in our everyday lives, it is a wonder if the fight against Coronavirus will ever truly be won.

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1. Introduction

War metaphors are commonly used to represent unusual situations, especially in political and medical discourse. At the beginning of the Coronavirus pandemic, Donald J. Trump conveyed the novel Coronavirus using war metaphors in his online discourse (see Bates, 2020). Political discourse in the United States was shown to be highly polarized, which may have adversely influenced public attitudes towards COVID-19 and government policies (see Green *et al.*, 2020). The following study primarily investigates the use of war metaphors in the online discourse of UK MPs during the pandemic.

The existing scholarly context mainly focuses on the conceptual nature of metaphors, primarily benefitting cognitive linguistics. As stated by Cameron and Deignan, the publication of Lakoff and Johnson's *Metaphors We Live By* (1980) may have caused a shift in focus from linguistic analyses of metaphors to conceptual analyses (Cameron & Deignan, 2006: 671). Therefore, more investigation is needed into the linguistic nature of metaphors. By looking at the grammatical frames of the UK MPs' war metaphors, following Steen's (1999) framework, this study also aims to assess whether the metaphors are used in predictive frames. As an extension of Steen's (1999) framework, the semantic implications of these grammatical frames have been evaluated using empirical research.

Another objective of this study is to assess whether a consistent polarization can be observed from UK MPs' use of war metaphors over time. If polarization is observed in the online discourse of the MPs during the pandemic, then the partisanship may have influenced how the general public responded to COVID-19 in the UK. This is because of how influential MPs' online discourse can be and the social implications of the metaphors. A "*Pandemic Twitter Corpus*" was compiled to observe the war metaphors used in Conservative and Labour UK MPs' Twitter feeds during a three-month period of the pandemic.

Assessing the polarization and grammatical frames of war metaphors used in the 1970-1979 sub-section of the Hansard Corpus provides further insight into the nature of MPs' war metaphors. If polarization is observed longitudinally, this may show just how influential MPs'

polarized linguistic cues may have been over time. The predictability of the grammatical frames may also reveal how war metaphors have been conventionally structured and interpreted.

Lakoff and Johnson's (1980) Gestalt Structure of War exemplifies how a war metaphor can be any entailment of the war gestalt, alongside a direct war metaphor (Lakoff & Johnson, 1980).

For example, Lisa Nandy used a direct metaphor of war in her online discourse, as exemplified in (1), whereas Yasmin Qureshi used the entailment battle in her online discourse.

(1)   [1]"He's trying to ignite a culture _war_ over aid".

(2)   [2] "Serving on the frontline in the _battle_ against Covid-19".

Battle is an entailment of war because it is denoted by the overall gestalt of war (see Lakoff and Johnson, 1980). Other entailments include _fight, defences_, and weaponry.

Whether a direct metaphor or an entailment is used, the same experiential gestalt of war is still conveyed. For some, this may be a general understanding of a prototypical war. For others, this could be harrowing first-hand experiences. This is why war metaphors may have positive and negative implications.

Following a distributional analysis of the tweets produced by UK MPs between May-August 2020, polarization is somewhat observed, showing Conservative MPs to use more war metaphors than Labour MPs. However, this polarization was marginal and was not observed in the Hansard. Object type and clause type were shown to be predictive in the grammatical frames of MPs' war metaphors in both corpora.

The following background section outlines the gestalt of war using Lakoff and Johnson's (1980) framework and details the overuse of war metaphors within medical and political discourse. Empirical research on polarization and war metaphors used by politicians during the Coronavirus pandemic is then evaluated. The research questions and hypotheses are then outlined, followed by an explanation of how the data in this study was collected, extracted, and encoded. The results are presented, followed by a discussion of the social implications of

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[1] The title page quote was retrieved from Prime Minister Boris Johnson's Twitter account, and example (1) was retrieved from Labour MP Lisa Nandy's Twitter account in December 2020.
[2] Example (2) was retrieved from Labour MP Yasmin Qureshi's Twitter account in December 2020.

war metaphors and their grammatical frames. The conclusion is then presented, readdressing the objectives and hypotheses, and the scope for future research into the nature of war metaphors.

2. Background

2.1 *The gestalt of War*

The conceptual nature of metaphor is an integral part of understanding what a war metaphor is. Lakoff and Johnson define *metaphor* as the conceptual mapping of one object/experience (a source domain) onto another object/experience (a target domain), which forms the fundamental metaphoric connection *A is B* (Lakoff & Johnson, 1980: 195). Lakoff and Johnson use the term *entailments* to describe the concepts representing an object/experience that map onto another object/experience (Lakoff & Johnson, 1980: 197). For example, *battle, weapons,* and *soldiers* are entailments of the source domain of war because they represent elements of the experience of war (Lakoff & Johnson, 1980: 201). During the pandemic, war entailments have been used to represent the Coronavirus. For example, "*fight over lockdowns*"[3] connects the entailment *fight* to the target domain *lockdown*. This forms the metaphoric connection *A is B* by denoting that LOCKDOWN is FIGHT, and thus CORONAVIRUS is WAR.

Lakoff and Johnson's (1980) Gestalt Structure of War is presented in Figure 1 to exemplify the entailments of the source domain of war.

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[3] *"Fight over lockdowns*" was retrieved from Walters (2021).

Lakoff and Johnson's Gestalt Structure for War (Lakoff & Johnson, 1980: 202-203):

1. Participants: People or groups of people playing the role of ADVERSARIES.

2. Parts:

a. The two POSITIONS

b. Planning STRATEGY

c. ATTACK

d. DEFENCES

e. RETREAT

f. MANOEUVERING

g. COUNTERATTACK

h. STALEMATE

i. TRUCE

j. SURRENDER/VICTORY

3. Stages:

a. INITIAL, CONDITIONS, PARTICIPANTS have different POSITIONS. ONE orBOTH wants the other to surrender, etc.

b. BEGINNING: one ADVERSARY ATTACKS

c. MIDDLE: combinations of DEFENCE, MANOEUVERING, RETREAT, etc.

d. END: TRUCE or STALEMATE or SURRENDER/VICTORY

e. FINAL STATE: PEACE, VICTOR HAS DOMINANCE

4. Linear Sequence:

RETREAT after

ATTACKDEFENCE

after ATTACK

COUNTERATTACK after ATTACK, etc.

5. Causation: ATTACK results in DEFENCE or COUNTERATTACK or RETREAT,

etc.

6. Purpose: VICTORY

Figure 1 - Lakoff and Johnson's Gestalt Structure for War (Lakoff & Johnson, 1980: 202-203).

Each entailment listed in Lakoff and Johnson's (1980) framework relates to the concept of war. This is why the entailments *battle*, *fight,* and *defences* can be classed as war metaphors. Although they do not directly reference war, they are part of the gestalt structure.

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Lakoff and Johnson believe that the way a war metaphor is interpreted is dependent on an interpreter's prior knowledge (Lakoff & Johnson, 1980: 201). For example, when an interpreter receives the input war, many connotations are immediately perceived. Flusberg *et al.* argue that a common perception of war is based on the depiction of prototypical war in films, books, documentaries, and news (Flusberg *et al.*, 2018: 4). Even if an interpreter has never experienced war, they will have a general understanding of it. Lakoff and Johnson define this as an *experiential gestalt* (Lakoff & Johnson, 1980: 201). They believe that the mapping A is B projects the experiential gestalt of the source domain onto the target domain (Lakoff & Johnson, 1980: 202). Bates expands on this, stating that cognitive targets are connected to war metaphors, triggering a cluster of associations that maps the gestalt of the source onto the target (Bates, 2020: 2).

Following Bates (2020), Table 1 presents the different war metaphors used by the UK MPs in the *Pandemic Twitter Corpus* (see section 5.1.1 for information on the corpus) and how they construct the CORONAVIRUS is WAR mapping through cognitive targets.

Entailments:	Cognitive Targets:		Examples:
FIGHT	A fight is required against the virus. A fight between the general public and the virus. A fight between front-liners/key workers and the virus. A fight between politicians and the virus.		"Thank you for all you are doing to ***fight*** this virus" (Boris Johnson). "Let's continue to ***fight*** this virus by staying alert" (Boris Johnson). "You are the pillars of society in the ***fight*** against coronavirus" (Boris Johnson).
BATTLE	A battle is required in the same way that a fight is required. A battle against the virus. A battle between the general public/key workers/politicians against the virus.		"Today marks an important moment in our country's ***battle*** with coronavirus" (Priti Patel). "This is a ***battle*** that needs to be fought and won" (Stephen Kinnock). "Why aren't we working to ***beat*** coronavirus together?" (Lisa Nandy).
BEAT	The war against the virus requires victory. The UK will beat the virus. The vaccines will beat the virus.		"Together we will ***beat*** the Coronavirus" (Amanda Milling). "We can ***beat*** this virus together" (Boris Johnson). "We will ***beat*** this virus and be reunited with our friends" (Boris Johnson).

CAPTURE	In a similar sense as beating the virus, the UK will capture the virus. The lockdown measures and government restrictions will capture the virus. The vaccines will capture the virus. The government will capture support schemes and funding.	"Reflecting the economic impact of coronavirus, *capturing* the full benefits of trade deals" (Elizabeth Truss). "It *captures* the thoughts of the nation" (John Healey).
RAID	The Coronavirus measures in the UK will raid the virus. The vaccines will raid the virus. The front-liners/key workers will raid the virus. The virus raids homes and businesses. The virus raids public funds.	Refusing to rule out a tax *raid* on people's homes and savings" (Amanda Milling).
SURVIVAL	The UK will survive the virus. The front-liners/key workers will survive the virus. The economy will survive the virus. Small businesses will survive the virus.	"Small to medium-sized businesses, where *survival* depends on it" (Emily Thornberry).
DEFEAT	In a similar sense as beating the virus, and the war requiring victory, the UK will defeat the virus. The vaccines will defeat the virus. The general public/key workers/politicians will defeat the virus. The lockdown measures and restrictions will defeat the virus.	"*Defeating* COVID-19 here means *defeating* it across the world" (Lisa Nandy). "We can only *defeat* coronavirus by our collective discipline" (Boris Johnson). "A crucial development in our efforts to *defeat* this virus" (Amanda Milling).
MISSION	The UK is on a mission to control and defeat the virus. The front-liners/key workers are on a mission to help and protect the general public against the virus. The politicians are on a mission to control and defeat the virus.	"This government's *mission* to protect the most vulnerable" (Robert Jenrick). "We have a *mission* to unite and level up our country" (Boris Johnson).
ARMY	The UK will form an army against the virus. The front-liners/key workers have formed an army against the virus. Members of the public have formed an army to help the vulnerable.	"We need a land *army* to help feed the nation" (Therese Coffey).

JOIN FORCES	The UK will join forces with other countries for advice on lockdown measures and restrictions.	"Thanks for **joining forces** with me on this" (Elizabeth Truss).
	The politicians will join forces with the general public to achieve victory against the virus.	"All national governments to **join forces** in a coordinated international response" (Lisa Nandy).
	Politicians will join forces to put in place recovery schemes and defences against the virus.	
DEFENCES	The lockdown measures and restrictions are functioning as defences against the virus.	"Leaving a huge gap in our **defences** against the virus" (Yasmin Qureshi).
	Personal protective equipment is a defence against the virus.	"Highlight this huge hole in our **defences**" (Lisa Nandy).
	Vaccines are defences against the virus. Politicians are developing further defences against the virus.	

Table 1 - The cognitive targets and examples of the war metaphors used by the UK MPs in the *Pandemic Twitter Corpus.*

In sum, war metaphors do not always directly reference war. They can be any entailment of war's gestalt structure, depicted in Lakoff and Johnson's (1980) framework. This explains why *battle*, *fight*, and *defences* are war metaphors. War metaphors can be conceptualised differently dependent on an interpreter's experiential gestalt. This is why a war metaphor may be perceived either positively or negatively. Further justification for the war metaphors included in this study is provided in section 5.2.

2.2 *War metaphors in medical and political discourse*

War metaphors are frequently used in medical discourse to represent illnesses, with cancer and HIV being two of their most common target domains (Periyakoil, 2008). For example, Gwyn discusses the representation of cancer patients as *fighters* and the description of chemotherapy as *chemical warfare* (Gwyn, 1999: 203). Similarly, Sontag notes the frequent use of *invasion*, *pollution*, and *contamination* during the early discourse of HIV (Sontag, 1978). Periyakoil believes that war metaphors are a permanent feature of *Medspeak*, which clinicians use to discuss fatal illnesses with patients (Periyakoil, 2008: 842). While these metaphors can help to externalise a disease, they may also create a sense of fear and hopelessness (Gwyn, 1999: 205).

War metaphors in political discourse can have similar social implications. In his (2006) publication *Politicians and Rhetoric*, Charteris-Black analyses the metaphors used by Winston Churchill, Margaret Thatcher, and Tony Blaire (Charteris-Black, 2006). War metaphors were one of the most common metaphors used by the politicians, with Charteris-Black quoting

Thatcher's objective of *fighting unemployment* (Charteris-Black, 2006: 91). Stelzner similarly discusses former president Gerald Ford's war metaphors, quoting his description of inflation as *public enemy number one* and his declaration of a *battle against inflation* (Stelzner, 1977: 284). Lakoff believes that politicians use war metaphors to construct figurative villains, victims, and heroes to justify their political rationale (Lakoff, 1991: 7).

Evidently, war metaphors are common in medical and political discourse. This is important to consider when hypothesising the volume at which MPs may use war metaphors, especially during the pandemic. Coronavirus has brought about a hybrid of medical-political discourse. MPs may have similarly constructed the virus to the way cancer and AIDS have been represented, to simplifying the disease to the general public while also rationalising their political agenda during the pandemic.

3. Literature review

With the Coronavirus situation still unfolding, few linguistic studies on language use during the pandemic have been conducted. Initial research cannot yet be supported or refuted by similar studies regarding the pandemic. These first studies have primarily focused on the representation of the virus in political discourse, especially by politicians in the United States. While these studies may not be entirely applicable compared to British political discourses, they still reveal what type of linguistic analyses have been conducted during the early stages of the pandemic and what initial observations have been made, revealing subsequent gaps in the scholarly context.

3.1 Scholarly context of war metaphors and polarization

Green *et al.* (2020) investigated the social impact of United States Congress members' tweets during the pandemic. They concluded that the linguistic cues observed in Congress members' tweets featured significant polarization, which hindered the public's response to the pandemic (Green *et al.,* 2020: 1). They suggest that the politicians' polarized linguistic cues influenced the public's responses to government health advice (Green *et al*., 2020: 1). They believe that the Congress members should have generated a bipartisan response earlier in the pandemic, as the public would have been more likely to follow safety measures and recommendations (Green *et al.,* 2020: 4).

Green *et al*. used an innovative approach to collect a corpus of Congress members' tweets, following several steps to ensure their data was valuable (Green *et al.,* 2020: 1). Due to the validity of Green *et al*.'s approach, these steps were replicated in this study (detailed further in section 5.1.1). They clearly outlined their method, meaning that the same approach could be accurately repeated in this study. Their research is very topical and up to date, making their conclusions relevant and comparative with this investigation. Green *et al*. (2020) also note the social implications of polarized political discourse.

Additionally, Green *et al*. discuss the positive correlation between the volume of Congress members' tweets with the cumulative number of COVID-19 cases and deaths in the United States between February-April 2020 (Green *et al*., 2020: 2). The Congress members were shown to issue more tweets as cases and deaths increased (Green *et al*., 2020: 2). This shows the significance of politicians' online discourse during the pandemic's peaks and troughs. Therefore, it would be interesting to see if the volume of tweets issued by UK MPs correlated with the number of COVID-19 cases and death rates in the UK.

However, while Green *et al*.'s approach is effective in theory, their data and discussions lack reliability. Green *et al*. state that the number of tweets issued by the Congress members is unbalanced, with the Democrats issuing more tweets than the Republicans (Green *et al*., 2020: 2). These imbalances raise questions about the normalisation and validity of their calculations and conclusions. While Green *et al*.'s method was still repeated in this study, greater care was taken to ensure that the Conservative and Labour MPs' total word counts were equal and normalised.

Overall, Green *et al*. offer an interesting discussion of the social implications of polarized political discourse during the pandemic. With their study focusing on American political discourse, it is questionable whether a similar polarization could be observed from UK MPs' online discourse and whether public attitudes towards the pandemic in the UK may have been similarly influenced. However, before any direct comparisons are made between Green *et al*.'s conclusions and political discourse in the UK, it is essential to note that the ideologies of Democrat and Republican are not the same as Conservative and Labour. While previous studies sub-group them together, with Democrat and Labour being left/liberal and Republican and Conservative being right/conservative (see Peterson & Spriling, 2018, for example), the British and American political philosophies are different and should not be equally equated.

Therefore, hypotheses about the polarization of British political discourse should not be based on Green *et al.*'s literature alone.

Following Green *et al.*'s study, it was helpful to further research political polarization. Green *et al.* define *polarization* as "the degree to which one can correctly classify the partisanship of a speaker based on a *unit of speech*" (Green *et al.*, 2020: 1). In comparison, Peterson and Spirling define it as "the difference between positions of the two main parties who have held Prime Ministerial office in modern times" (Peterson & Spirling, 2018: 2). The term *party polarization* differs slightly, with Valle *et al.* defining it as "the degree to which interactions [mentions] in [Dutch MPs'] Twitter network[s] occur only among the members of a parliamentary group" (Valle *et al.*, 2021: 2). In comparison with Green *et al.*'s explanation, the other two definitions assume that linguistic cues may be used exclusively by specific political parties. It would be unrealistic to expect war metaphors to be used exclusively by members of only one political party. Therefore, Green *et al.*'s (2020) definition of polarization was more applicable for this study.

Furthermore, Bates' (2020) study inspects Donald J. Trump's use of war metaphors during the pandemic (Bates, 2020). Bates concluded that Trump used war metaphors in his press conferences and online discourse to shape public understanding of the virus (Bates, 2020: 1). He believes that Trump's war metaphors were rhetorically incoherent, which resulted in the general public rejecting government policies and lockdown restrictions in the United States (Bates, 2020: 10-11).

Similarly to Green *et al.*, Bates explains how war metaphors can shape and hinder public responses towards crises (Bates, 2020: 1). While Bates' article effectively analyses Trump's war metaphors using Lakoff and Johnson's (1980) framework, weaknesses in his methodology make his conclusions somewhat unjustifiable. Firstly, Bates only observed Trump's speeches and online discourse from the 13th to the 23rd of March 2020 (Bates, 2020: 4). While Bates justifies this by stating that the Administration's first sustained response to the pandemic occurred in these ten days (Bates, 2020: 4), this data collection period is relatively short and therefore limiting. Bates states that this 10-day period "offers a consistent preferred metaphoric vehicle" (Bates, 2020: 4). While it may be true that Trump frequently used war metaphors in these ten days, there is no way of comparing this to another period. A more extended data collection period may have shown whether Trump's use of war metaphors was sustained over time. If more of Trump's war metaphors were analysed, this could have provided

further insight into how the metaphors were structured, what they were used to represent, and how they further impacted public attitudes. Judging Trump's entire rhetoric on such a short period makes Bates' conclusions somewhat unconvincing.

Additionally, although Bates structures his article using Lakoff and Johnson's (1980) framework, he offers little justification for the war metaphors included in his data extraction process. In his methodology, Bates states that 'the critic' identifies Trump's war metaphors from his discourse (Bates, 2020: 4). While 'the critic' may have used Lakoff and Johnson's (1980) framework to identify the metaphors, Bates never states this in the methodology. This suggests that 'the critic' may have judged the war metaphors in Trump's discourse solely on their experiential gestalt. While 'the critic' may have deemed certain items as war metaphors dependent on their experiential gestalt, other 'critics' replicating Bates' method may exclude the same items based on their experiential gestalt. Therefore, Bates' data extraction process may have been influenced by personal perceptions of the metaphors. Bates could have used a metaphor identification procedure, like Charteris-Black's (2004) framework or Mason's algorithm of identifying selectional restriction (see Charteris-Black, 2004 & Mason, 2004) to limit the influence of personal experiential gestalts on the data extraction process. This way, his methodology could be more replicable, and further studies could make better comparisons by extracting the same tokens.

In sum, initial research into linguistic phenomena during the onset of the pandemic has observed the use of war metaphors to characterise the virus and has observed polarization in politicians' linguistic cues. Both war metaphors and polarization are said to influence public attitudes and behaviours. However, the existing literature has predominantly focused on American political discourse. It would be advantageous to assess whether UK politicians have similarly used war metaphors during the pandemic and whether their use of the metaphors could be observed as polarized. If polarization was observed, it could be suggested that the UK politicians' linguistic choices may have influenced public attitudes during the pandemic, similarly to the social implications discussed in Green *et al*. (2020) and Bates' (2020) studies.

3.2 Scholarly context of linguistic analyses

Flusberg *et al.* provide an extensive account of the social implications of war metaphors when used in different contexts such as politics, business, and diseases (Flusberg *et al.,* 2018). Although their conclusions are drawn solely on secondary research and only discuss the use of

war metaphors in American media and discourses, the implications discussed in their study are equally applicable to British political discourses. Most importantly, Flusberg *et al.* suggest that further research should be conducted into the nature and power of war metaphors (Flusberg *et al.,* 2018: 12).

Cameron and Deignan (2006) similarly encourage further research into the linguistic nature of metaphors. They believe that following the publication of Lakoff and Johnson's *Metaphors We Live By* (1980), analyses have mainly focused on the conceptual nature of metaphors rather than the actual linguistic structures mapping source domains to target domains (Cameron & Deignan, 2006: 671). This may explain why further research is needed into the nature of war metaphors. Although Cameron and Deignan note that focus was diverted back into the linguistic nature of metaphors in the late 1990s and 2000s (Cameron & Deignan, 2006: 672), the scholarly context shows the subsequent lack of empirical research on the structure of metaphor mappings. Cameron and Deignan conclude that metaphor mappings are constrained by grammatical structures and patterns (Cameron & Deignan, 2006: 677). They also conclude that the grammar of a specific language can influence the way metaphors are perceived (Cameron & Deignan, 2006: 675). Therefore, linguistic analyses of metaphor mappings could reveal how interpreters may perceive war metaphors differently due to their structures.

Cameron and Deignan importantly recognise how metaphor perceptions can differ between languages, and they discuss the complexities of studying metaphor in online discourse (Cameron & Deignan, 2006: 677). However, some of Cameron and Deignan's conclusions are based on observations of metaphor perceptions in intimate, relaxed contexts, where participants were very familiar with each other (Cameron & Deignan, 2006: 676). The metaphor perceptions may have been influenced by the situational context and formality of these environments. While this may reveal how metaphors can be naturally perceived, their conclusions may only apply to particular, situational contexts. Nevertheless, Cameron and Deignan importantly emphasise the need for further investigation into the lexico-grammatical forms and restrictions of metaphor mappings (Cameron & Deignan, 2006: 677).

Based on Flusberg *et al*. (2018) and Cameron and Deignan's (2006) studies, linguistic analyses of metaphors are shown to be an effective way of understanding how they may be perceived differently due to their lexico-grammatical forms and structures. However, due to

the disadvantages of Flusberg *et al.* (2018) and Cameron and Deignan's (2006) methodologies, alternative ways of analysing the structures of metaphors were researched and pursued.

In Cameron and Low's *Researching and Applying Metaphor* (1999), Steen outlines a framework for metaphor analysis (Cameron & Low, 1999). Along with a comprehensive guide for conceptual and communicative analyses, Steen outlines how a linguistic analysis of metaphors could focus on metaphor vocabulary and focus and frame grammar (Steen, 1999: 93). For this study, an analysis of the war metaphors' frame grammar was more beneficial. This method examines the grammatical categories, sentence and object types, and the positioning of entailments in metaphor mappings (Steen, 1999: 93). With the evident lack of research into the linguistic nature of metaphors, Steen's (1999) framework could help guide a linguistic analysis to understand the structure of war metaphors better.

Although Steen's (1999) framework is a helpful guide, he offers little explanation as to why the grammatical frames of metaphors should be analysed. As shown in Cameron and Deignan's (2006) study, lexico-grammatical units in grammatical frames can influence metaphor perception. Similarly, Kranjec *et al.* discuss the impact of spatial prepositions paired with abstract target domains on the perception of metaphors (Kranjec *et al.*, 2010: 112). Therefore, an expansion of Steen's (1999) framework using empirical research would be beneficial to assess the significance of grammatical frames on metaphor perception.

4. Research questions and hypotheses

Based on the existing literature, the following research questions are raised: Is polarization observable from the war metaphors used by UK Conservative and Labour MPs longitudinally? Do the Conservative and Labour UK MPs' war metaphors occur in predictive grammatical frames longitudinally?

Two hypotheses were formulated to answer these questions:

Hypothesis 1: Polarization will be present in the war metaphors used by UK MPs, showing one political party to use more war metaphors than the other party consistently across both corpora, potentially influencing public attitudes and responses.

Hypothesis 2: The grammatical frames of the war metaphors used by Conservative and Labour MPs will be shown as predictive across both corpora, with the lexico-grammatical units potentially influencing the interpretation of the metaphors.

The social implications of polarized political discourse and war metaphors have been summarised in the existing literature. Investigating whether polarization can be observed from the UK MPs' use of war metaphors simultaneously inspects whether the politicians' linguistic cues may have influenced public attitudes during the pandemic in the UK.

While Steen's (1999) framework is a helpful guide for investigating the grammatical frames of metaphors, little explanation is offered as to why the frame grammar of metaphors should be studied. Therefore, by analysing the grammatical frames of the UK MPs' war metaphors and evaluating them with empirical research, the influence of their lexico-grammatical units on metaphor perception is assessed.

Inspecting the use of war metaphors by UK MPs in the Hansard Corpus will show whether the grammatical frames of the metaphors have been shown as predictive longitudinally. This data will also reveal whether the UK MPs' war metaphors can be observed as polarized over time. If these hypotheses are supported in the longitudinal data, then the predictability of the grammatical frames of the war metaphors and their long-term polarization will be confirmed.

5. Data and methodology

5.1.1 *Data collection from Twitter*

In Green *et al*.'s (2020) study, it was beneficial to observe polarization from the politicians' Twitter accounts. Politicians' online discourse can be incredibly influential because of how accessible social media is to the various social stratum within the general public. Jackson and Lilleker suggest that politicians use Twitter to manage public perceptions (Jackson & Lilleker, 2011: 86), and Newman states that Twitter is a core method of communication amongst political elites (Newman, 2010: 3). Therefore, because of Twitter's significance, Green *et al*.'s approach of studying politicians' tweets was repeated in this study.

The *Pandemic Twitter Corpus* compiled for this study consists of over 81,000 words, collected from the tweets of twenty Conservative and Labour MPs between the 1st of May to

the 1st of August 2020. The Conservative sub-section of the corpus includes 40,824 words, and the Labour sub-section includes 41,957 words. It was essential to ensure the total word counts were equal and normalised between the sub-sections so that the total frequency calculations and comparisons between the two parties were valid and measurable. The MPs were stratified by political party.

Following Green *et al.*'s approach, a list of current Conservative and Labour UK MPs with active Twitter accounts was compiled. Unverified accounts and accounts labelled as being externally managed were excluded. Green *et al.* also advised the exclusion of Twitter accounts that were 'flagged' as government sources (Green *et al.*, 2020: 1). Since data collection, Twitter has flagged Boris Johnson's account as a government source. However, his tweets were still included as his account still complied with Green *et al.*'s approach at the time of data collection. Finally, MPs were only included if they produced an average of one tweet per day. It would have been helpful to include MPs with corresponding constituency services between political parties, as they may have discussed similar subjects. However, this was not possible when following Green *et al.*'s approach, and it was not crucial to the validity of the data. As a result of Green *et al.*'s (2020) approach, 10 Conservative MPs and 10 Labour MPs were applicable for the study.

5.1.2 Data collection from the Hansard

The Hansard Corpus[4] (British Parliament), consisting of over 1.6 billion words, is a compilation of transcripts of every speech given in parliament between 1803 to 2005. The 1970-1979 sub-section of the Hansard was used in this study because it was relatively equally split into five years served per Conservative and Labour government (albeit not a continuous run of five years each). After conducting a trial in which four war metaphors were searched for in the 1990-2000 sub-section of the Hansard (a decade predominantly led by a Conservative government), it was clear that Conservative MPs gave more parliamentary speeches, influencing the data. Therefore, to ensure both parties had equal opportunities to speak in parliament, the 1970-1979 sub-section was used.

Hiltunen *et al.* note that previous studies have not regarded the data from the Hansard as natural, spoken discourse (Hiltunen *et al.*, 2020: 3). They believe this because the speeches are of an almost written-to-be-spoken, conversational register (Hiltunen *et al.*, 2020: 2).

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[4] The Hansard Corpus was accessed via Mark Davies' English Corpora (Davies, 2015).

Therefore, while the Hansard data has been considered as spoken discourse in this study, this could be debated.

5.2 Data extraction

As previously outlined in section 2.1, the source domain of war has numerous entailments, including *battle*, *fight*, and *defence*. Therefore, the classification of a war metaphor is relatively undetermined. One interpreter may consider a particular term to be a war metaphor based on their experiential gestalt. In contrast, other interpreters may reject the same term as a war metaphor based on their experiential gestalt. The war metaphors included in Sznajder's (2010) research were used as tokens in this study to ensure the tokens could be justified as definite war metaphors. Sznajder investigated the use of war metaphors in English business textbooks (Sznajder, 2010: 36). Her metaphors were analysed using the Wordsmith Tools 04 concordancer and Charteris-Black's Metaphor Identification Procedure (Sznajder, 2010: 34 & Charteris-Black, 2004). It could be argued that Sznajder's war metaphors were initially chosen because of their prominence in business discourse, potentially making them unsuitable for this study. However, because of Lakoff and Johnson's (1980) Gestalt Structure of War, the war entailments are the same across different fields and discourses (Lakoff & Johnson, 1980:200). Sznajder's list of war metaphors was used only as a secondary justification for this study's war metaphors. Because Sznajder's metaphors had been identified study using Charteris-Black's (2004) Metaphor Identification Procedure, they had been justified and categorized as definite war metaphors. This method prevented the metaphors from being included solely because of a personal experiential gestalt of war, making them more valid and justifiable.

As a final justification for the war metaphors included in this study, the etymologies of the metaphors were researched using the University of Glasgow's MetaphorIC website (University of Glasgow, 2021). All the metaphors included are featured in the MetaphorIC's mapping of armed hostility metaphors.

Therefore, following Sznajder's (2010) approach, the 40 war metaphors presented in Figure 2 were searched for in the *Pandemic Twitter Corpus* (as well as the topic metaphor *war*).

Aggressor	Kill	Army	Siege	Blitz
Fight	Weapon	Territory	Join Forces	Tank
Battle	Raid	Bomb	Battlefield	Action
Fire	Survival	Withdraw	Defences	Bombard
Campaign	Defeat	Beleaguer	Defenses	Arsenal
Beat	Tactic	Inroads	Bloodbath	Retaliate
Attack	Ally	Casualty	Invade	Mobilize
Capture	Mission	Troops	Shipwreck	Counter Offence

Figure 2 - The 40 war metaphors searched for in the *Pandemic Twitter Corpus*, following Sznajder (2010).

Although *defenses* is an American-English variant, it was still included to account for any variability in spelling across both corpora. The past, present, and infinitive forms of the metaphors were also extracted. For example, the present participle *fighting,* and the past tense *fought* were extracted as tokens of the infinitive *fight*. The tokens were extracting using Anthony's (2020) AntConc software (version 3.5.9) so that the keyword in context (KWIC) lines where the war metaphors were used could be analysed for the second hypothesis. The tokens were then encoded following the coding schema (detailed in section 5.4).

5.2.1 Data extraction from the Hansard

Due to the size of the 1970-1979 sub-section of the Hansard (163,585,176 words), tokens were only extracted for the metaphors *raid*, *beat*, *defeat* and *capture*. These four metaphors were among the most used in the *Pandemic Twitter Corpus*. The tokens were then extracted directly from the Hansard within their KWIC lines and were encoded following the coding schema (section 5.4). Although it would have been beneficial to have searched for all 40 war metaphors in the Hansard, it was not possible within the time restrictions.

5.3 Variable (context)

Metaphors can be automatically identified in large corpora. Neuman *et al*. state that this can be completed using Word Sense Disambiguation and Categorization methods (see Birke & Sarkar, 2007 & Neuman *et al*., 2013), such as Mason's algorithm of selectional restrictions (Mason, 2004) and Turney *et al*.'s Concrete-Abstract algorithm (Turney *et al*., 2011). However, these

methods may be more applicable within cognitive linguistics. Therefore, it was more suitable and reliable to manually extract metaphors from both corpora.

Following a preliminary analysis of the prior research, some tokens in variable contexts were excluded. Firstly, literal tokens were excluded. Then, following Hashimoto and Kawahara, tokens in common, idiomatic phrases were excluded, as exemplified in (3) (Hashimoto & Kawahara, 2009).

(3) [5]"*Beat* around the bush"

While these tokens could be considered as metaphors, Hashimoto and Kawahara differentiate metaphors from idioms (Hashimoto & Kawahara, 2009). Neuman *et al.* state that metaphors are much more identifiable than idioms due to their components (Neuman *et al.*, 2013: 3). Therefore, tokens in idiomatic phrases were excluded.

Tokens included in quotatives were also excluded because they do not resemble the MPs' actual war metaphor use. Finally, ambiguous tokens were excluded.

Metaphor	War		Fight		Battle		Beat		Capture		Raid		Survival		Defeat		Mission		Army		Join Forces		Defences		
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	**Total**
	2	2%	45	44.1%	4	3.9%	13	12.7%	6	5.8%	5	4.9%	2	2%	12	11.8%	4	3.9%	5	4.9%	2	2%	2	2%	102

Table 2 - The number of tokens extracted from the *Pandemic Twitter Corpus*, expressed also as percentages of the total number of tokens extracted.

Following the exclusion of ineligible tokens, 102 tokens and twelve different war metaphors were retained from the *Pandemic Twitter Corpus*. There were no instances of the remaining 29 metaphors in the corpus.

In comparison, 1401 tokens of *raid*, *beat*, *defeat* and *capture* were extracted from the sub- section of the Hansard.

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[5] Example (3) was retrieved from the 1970-1979 sub-section of the Hansard in January 2021.

Metaphor	Raid		Beat		Defeat		Capture		
	N	%	N	%	N	%	N	%	Total
	78	5.60%	285	20.30%	844	60.20%	194	13.80%	1401

Table 3 - The number of *raid, beat, defeat* and *capture* tokens extracted from the 1970-1979 sub-section of the Hansard, expressed also as a percentage of the total number of metaphors extracted.

5.4 Coding schema

All tokens were encoded with the predictor levels of Conservative or Labour to test whether polarization could be observed from both corpora.

The tokens were then encoded with five internal predictors to assess the predictability of their grammatical frames across both corpora. Firstly, the tokens were encoded with the predictor of sentence type, including the predictor levels of simple, compound, complex and interrogative sentences. For example, (4) was encoded as a complex sentence.

(4) [6]"As we put together plans to ***fight*** the looming recession, those with the broadest shoulders should except to make the biggest contribution".

Secondly, the tokens were encoded with the type of clause they were used in, with the predictor levels of main, coordinate, and subordinate clauses. For example, *beating* in example (5) was encoded as being used in a subordinate clause.

(5) [7]"Whilst we are all rightly focused on ***beating*** coronavirus, we cannot lose sight..."

The tokens were then encoded with the object type of their target domains, including the predictor levels of concrete or abstract. For example, (6) was encoded as having an abstract object because beating has been applied to the abstract noun *Coronavirus*.

(6) [8]"We all have a role to play in *beating* **coronavirus**".

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[6] Examples (4) was retrieved from Labour MP Emily Thornberry's Twitter account in December 2020.
[7] Example (5) was retrieved from Prime Minister Boris Johnson's Twitter account in December 2020.
[8] Example (6) was retrieved from Labour MP John Healey's Twitter account in December 2020

Pronouns included in the grammatical frames of the metaphors were encoded with the predictor levels of first-person plural (*we, us*), first-person singular (*I*), second-person singular (*you*), third-person singular (*she, he*), third-person plural (*they*) and NULL (no pronoun(s) in the grammatical frame). For example, (7) was encoded as having a third-person plural. Second-person plurals would have been encoded; however, there were no instances of these pronouns in the grammatical frames across both corpora.

(7) [9]"**They've** combined their grief with the *fight* for justice and safe homes".

Finally, the items immediately after the war metaphors in the grammatical frames were encoded. All items were encoded, resulting in the main predictor levels of definite articles (*the*), demonstrative pronouns (*this, that*), prepositions (*with, on, against*), and NULL (for tokens at the end of a sentence). Only one token from Twitter was encoded with an extra predictor level of possessive determiners (*it*). Some tokens in the Hansard were encoded with (other) as a predictor level, consisting of possessive determiners (*it, their*), quantifiers (*any*), and indefinite articles (*a, an*).

For example, (8) was encoded as having a preposition following the metaphor *fight*.

(8) [10]"Those who have done do much in the *fight* **against** Covid-19".

A distributional analysis was then conducted to see whether polarization could be observed from the UK MPs' use of war metaphors and to examine whether the grammatical frames of the metaphors were shown to be predictive in the longitudinal data. Ideally, a regression analysis would have been conducted to analyse the combined effect of polarization and predictive grammatical frames on the UK MPs' use of war metaphors. However, due to the differences between the *Pandemic Twitter Corpus* and the Hansard, the two corpora were too different for a regression analysis to be worthwhile.

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[9] Example (7) was retrieved from Prime Minister Boris Johnson's Twitter account in December 2020.
[10] Example (8) was retrieved from Prime Minister Boris Johnson's Twitter account in December 2020.

6. Results

Sections 6.1-6.2 present the results for the distributional analyses.

6.1 *Polarization in the Pandemic Twitter Corpus*

Table 4 shows the number of war metaphor used by the ten Conservative and the ten Labour MPs in the *Pandemic Twitter Corpus*.

Political Party	War N	War %	Fight N	Fight %	Battle N	Battle %	Beat N	Beat %	Capture N	Capture %	Raid N	Raid %	Survival N	Survival %	Defeat N	Defeat %	Mission N	Mission %	Army N	Army %	Join Forces N	Join Forces %	Defences N	Defences %	Total
Conservative	0	0	25	42.30%	2	3.40%	12	20.30%	4	6.80%	5	8.50%	0	0	6	10.20%	4	6.8%	1	1.70%	0	0	0	0	59
Labour	2	4.70%	20	46.50%	2	4.70%	1	2.30%	2	4.70%	0	0	2	4.70%	6	13.80%	0	0	4	9.20%	2	4.70%	2	4.70%	43

Table 4 - The number of war metaphors used by the ten Conservative and the ten Labour MPs, expressed also as percentages of the total metaphors used per political party in the *Pandemic Twitter Corpus.*

From Table 4, the Conservative MPs are shown to use more war metaphors than the Labour MPs. While this does reflect slight polarization, the difference is relatively marginal. The Labour MPs are shown to use a greater variety of metaphors, with the Labour MPs using ten different entailments, compared to the Conservative MPs only using eight different entailments. The direct metaphor of war was used only twice by Labour MPs.

Political Party	Corpus Size	War N	War NF	Fight N	Fight NF	Battle N	Battle NF	Beat N	Beat NF	Capture N	Capture NF	Raid N	Raid NF	Survival N	Survival NF	Defeat N	Defeat NF	Mission N	Mission NF	Army N	Army NF	Join Forces N	Join Forces NF	Defences N	Defences NF	Total
Conservative	40824	0	0	25	6.1	2	0.4	12	2.9	4	0.9	5	1.2	0	0	6	1.4	4	0.9	1	0.2	0	1.2	0	0	14.4
Labour	41957	2	0.4	20	4.7	2	0.4	1	0.2	2	0.4	0	0	2	0.4	6	1.4	0	0	4	0.9	2	0.2	2	0.4	10.2

Table 5 - The number of war metaphors used by the Conservative and Labour MPs in the *Pandemic Twitter Corpus*, expressed also as normalised frequencies per 10,000 tweeted words.

Table 5 shows the normalised frequencies[11] for each war metaphor used by the Conservative and Labour MPs. The Conservative MPs would be expected to use *fight* 6.1 times in every 10,000 words tweeted. In comparison, the Labour MPs would be expected to use *fight* 4.7 times in every 10,000 words tweeted. When the total war metaphors per political party are normalised, the Conservative MPs would be expected to use one of their eight metaphors 14.4 times per 10,000 words tweeted. In comparison, the Labour MPs would be expected to use one

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[11] All normalised frequencies included in this study were calculating using The Grammar Lab's normalisation calculator (The Grammar Lab, 2021).

of their ten metaphors 10.2 times per 10,000 tweeted. Therefore, the Conservative MPs would be expected to produce more war metaphors per 10,000 words than the Labour MPs. However, the differences between the normalised frequencies are relatively marginal again, showing a lack of polarization.

6.1.2 Polarization in the Hansard

Table 6 shows the number of *raid*, *beat*, *defeat* and *capture* metaphors used by Conservative and Labour MPs in the sub-section of the Hansard.

	Raid		*Beat*		*Defeat*		*Capture*		
Political Party	N	%	N	%	N	%	N	%	**Total**
Conservative	25	4.30%	116	20.10%	346	60.10%	89	15.50%	576
Labour	53	6.40%	169	20.50%	498	60.40%	105	12.70%	825

Table 6: The number of *raid*, *beat*, *defeat* and *capture* metaphors used by Conservative and Labour MPs, expressed also as percentages of the total metaphors used per political party in the sub-section of the Hansard.

Table 6 shows that the Labour MPs used more war metaphors than the Conservative MPs, with the Labour MPs using 249 more metaphors than the Conservative MPs. Although this reflects polarization, it is opposite to the marginal polarization reflected in the *Pandemic Twitter Corpus*.

Furthermore, Table 7 shows the number of *raid*, *beat*, *defeat,* and *capture* metaphors used by Conservative and Labour MPs and the normalised frequencies of these metaphors per 1,000,000 words spoken by all MPs in a decade in the sub-section of the Hansard.

	Raid		Beat		Defeat		Capture		
Political Party	**N**	**NF**	**N**	**NF**	**N**	**NF**	**N**	**NF**	**Total**
Conservative	25	0.15	116	0.71	346	2.11	89	0.54	3.52
Labour	53	0.32	169	1.03	498	3.04	105	0.64	5.05

Table 7 - The number of *raid, beat, defeat* and *capture* metaphors used by Conservative and Labour MPs, expressed also as normalised frequencies per 1,000,000 words spoken by all MPs in the sub-section of the Hansard.

With the 1970-1979 sub-section of the Hansard comprising of 163,341,175 words, the number of tokens per metaphor used per political party were normalised by 1,000,000. From Table 6, it could be predicted that Labour MPs would use *defeat* 3.04 times in every 1,000,000 words spoken in parliament in a decade. In comparison, it could be predicted that the Conservative MPs would use *defeat* 2.11 times in every 1,000,000 words spoken in parliament in a decade. The normalisation of the total of all four war metaphors per political party predicts that the Conservative MPs would use one of the four metaphors 3.52 times in every 1,000,000 words spoken in parliament in a decade. In comparison, Labour MPs would be predicted to use one of the four war metaphors 5.05 times in every 1,000,000 words spoken in parliament in a decade. Therefore, the adverse polarization can be marginally observed again in the normalised frequencies, with the Labour MPs using more war metaphors than the Conservative MPs.

6.2 Results assessing grammatical frame predictability

6.2.1 Results from the Pandemic Twitter Corpus

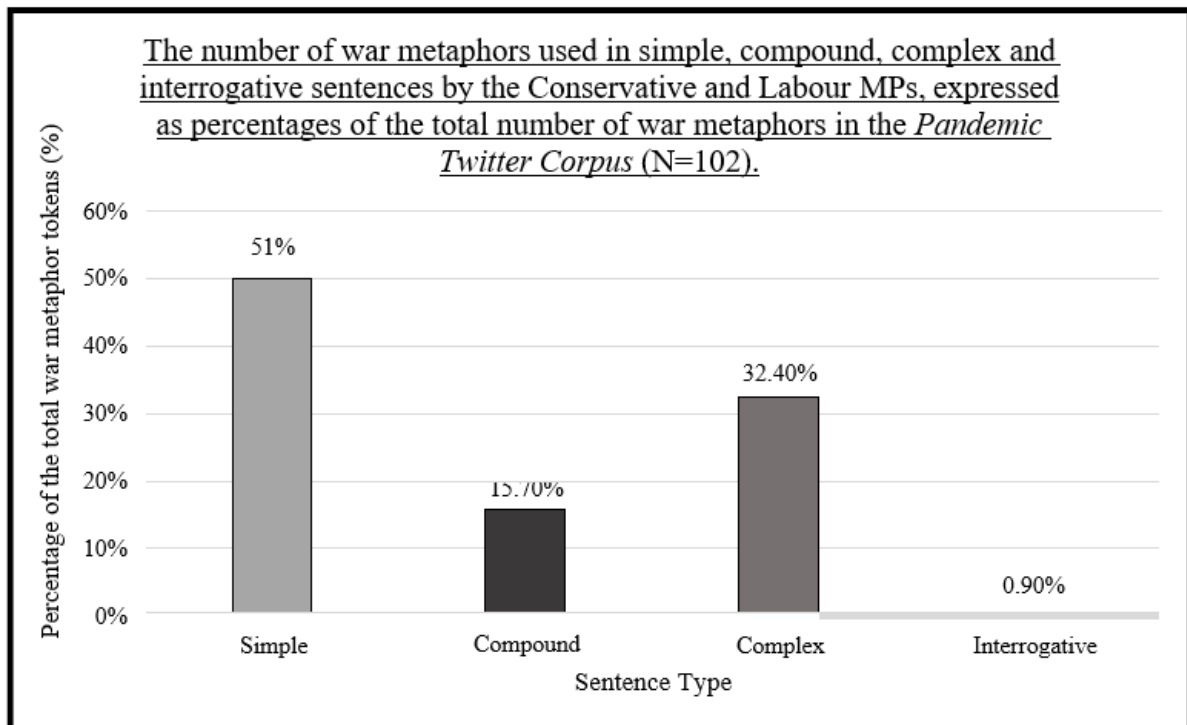Figure 3 shows the number of war metaphors used per sentence type in the *Pandemic Twitter Corpus.*

The number of war metaphors used in simple, compound, complex and interrogative sentences by the Conservative and Labour MPs, expressed as percentages of the total number of war metaphors in the *Pandemic Twitter Corpus* (N=102).

Figure 3 - The number of war metaphors used per sentence type, expressed as percentages of the total war metaphors used in the *Pandemic Twitter Corpus* (N=102).

Figure 3 shows that over half of the metaphors were used in simple sentences. Only one token was used in an interrogative, which has been exemplified in (9).

(9) [12]"We aren't we working to *beat* coronavirus together?"

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[12] Example (9) was retrieved from Labour MP Lisa Nandy's Twitter account in December 2020.

Furthermore, Figure 4 shows the number of war metaphors used per clause type in the *Pandemic Twitter Corpus.*
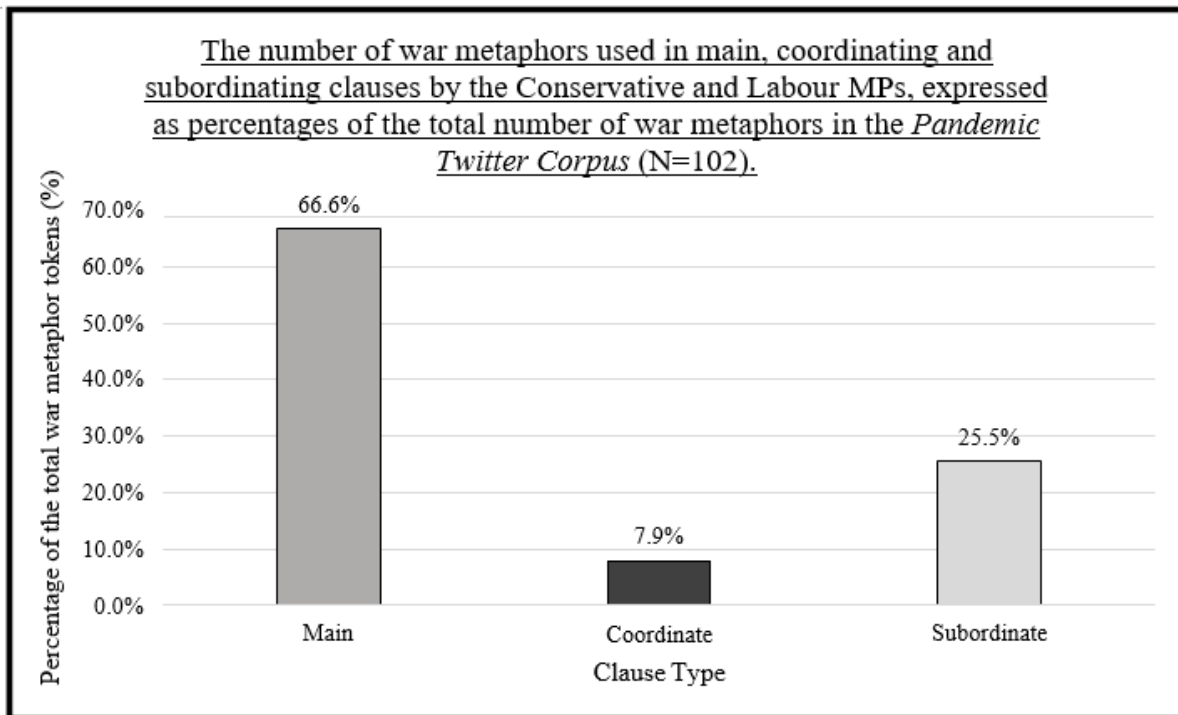
Figure 4 - The number of war metaphors used per clause type, expressed as percentages of the total war metaphors used in the *Pandemic Twitter Corpus* (N=102).

Figure 4 shows that the war metaphors were used the most in main clauses. In comparison, the metaphors were used the least in coordinate clauses, and just over a quarter were used in subordinate clauses.

Figure 5 shows the different type of pronouns included in the grammatical frames of the war metaphors used in the *Pandemic Twitter Corpus.*

The number of war metaphors used with different pronoun types or no pronouns (NULL), expressed as percentages of the total number of war metaphors in the *Pandemic Twitter Corpus* (N=102).
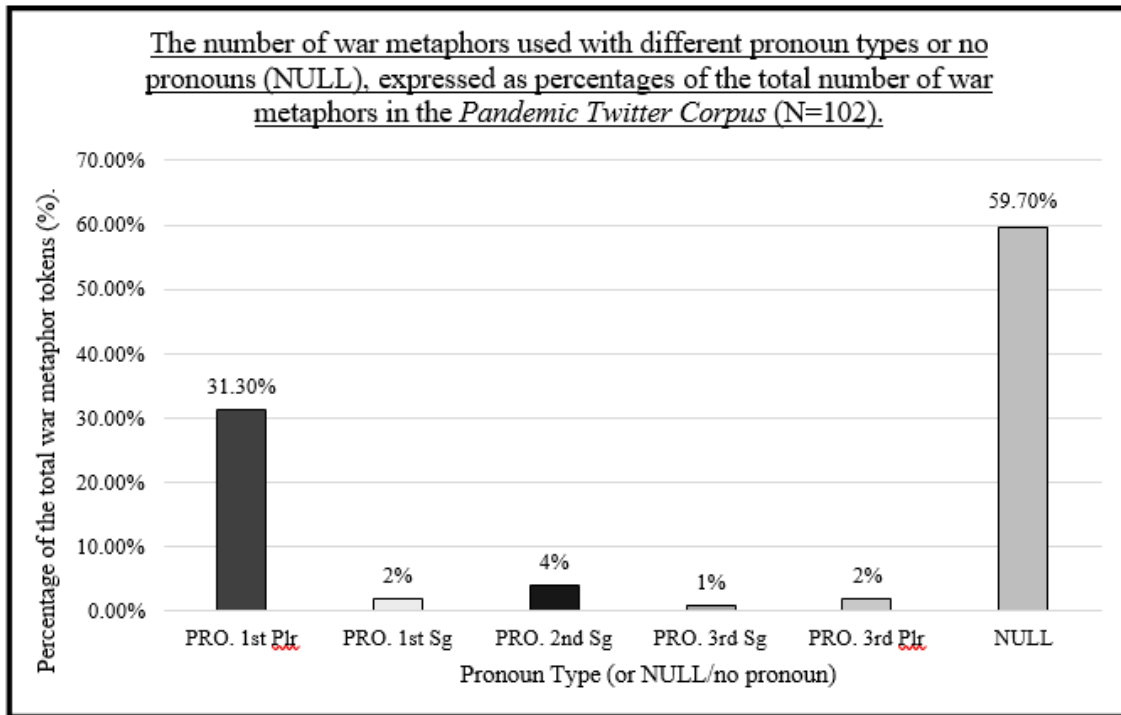
Figure 5 - The number of different pronouns included in the war metaphor grammatical frames, expressed as percentages of the total war metaphors used in the *Pandemic Twitter Corpus* (N=102).

Figure 5 shows that the war metaphors were mainly used without pronouns in their grammatical frames, as exemplified in (10).

(10)   [13]"The UK will come out of this crisis *fighting*".

The remaining 40.3% of the metaphors were used with pronouns in their grammatical frames, with first-person plurals (*we, us*) being used the most. Twenty-six tokens were used with *we* and four were used with *us*. In comparison, third-person singular pronouns (*she, he*) were used the least in the grammatical frames.

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[13] Example (10) was retrieved from Conservative MP Grant Shapps' Twitter account in December 2020.

Furthermore, Figure 6 shows the type of items that immediately followed the war metaphors in their grammatical frames in the *Pandemic Twitter Corpus.*
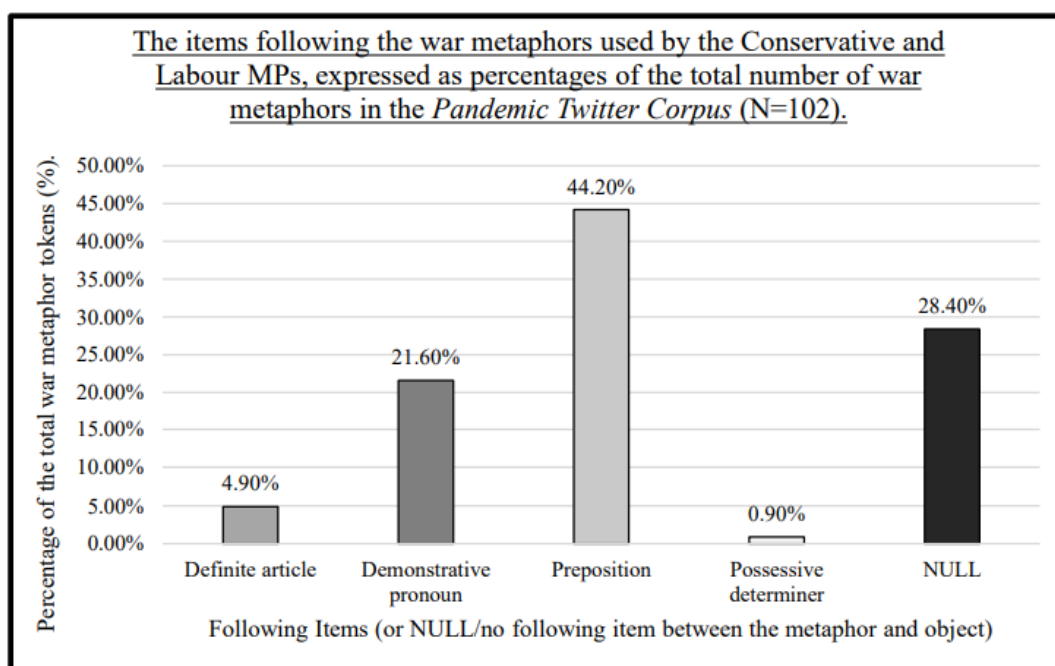

Figure 6 - The type of items immediately following the metaphors in their grammatical frames, expressed as percentages of the total war metaphors used in the *Pandemic Twitter Corpus* (N=102).

Figure 6 shows that the war metaphors were most often followed by a preposition, as exemplified in (11).

(11)   [14]"Today marks an important moment in our country's *battle* with coronavirus".

Just over a quarter were used at the end of a sentence, with NULL/no following item, as exemplified in (12).

(12)   [15]" The UK shows international leadership in this *fight*".

In comparison, only one token was followed by a possessive determiner (*it*), as exemplified in (13).

(13)   [16]"Defeating COVID-19 here means *defeating* **it** across the world"

Finally, Figure 7 shows the object types of the war metaphor target domains used in the *Pandemic Twitter Corpus.*
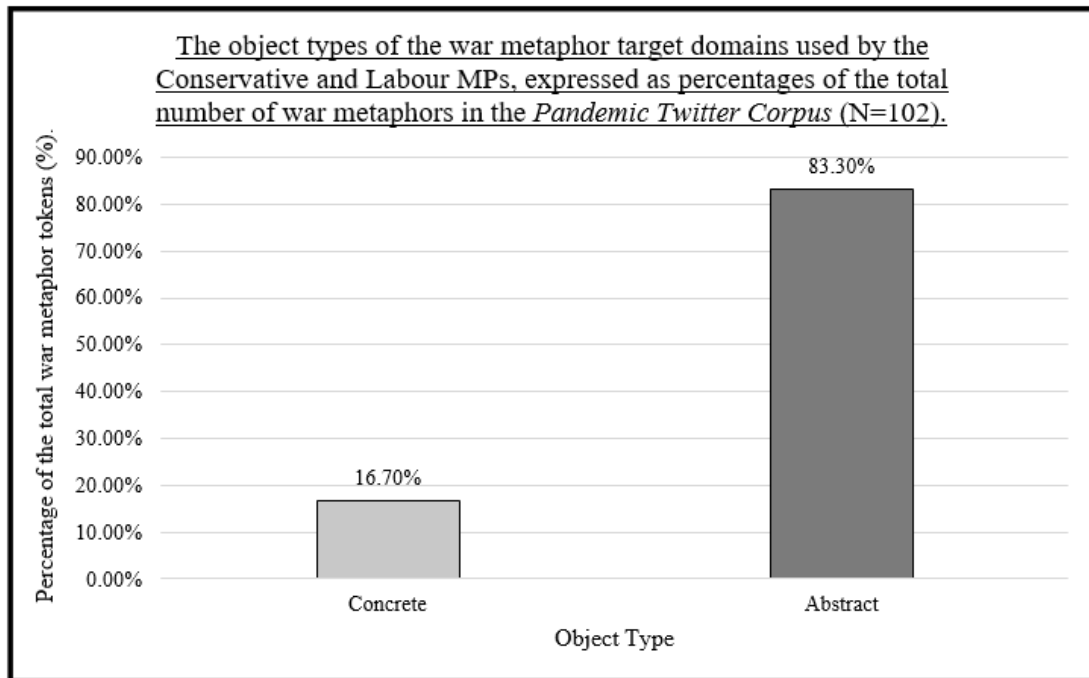

Figure 7 – The object types of the war metaphor target domains, expressed as percentages of the total war metaphors used in the *Pandemic Twitter Corpus* (N=102)

Figure 7 shows that the majority the war metaphor target domains were abstract objects. This may be obvious due to *Coronavirus* being an abstract noun. However, only 44 tokens in the corpus had *Coronavirus/COVID-19* or *virus/disease* as a target domain. As Jones usefully explains, discourse about the Coronavirus is not restricted to just the virus (Jones, 2021: 3). He states that the pandemic also invites discussions about enterprise, power, cultural identity, racism and inequality (Jones, 2021: 3). Therefore, the object types of the target domains would not have been constrained by the context of the pandemic.

6.2.2 Results from the Hansard

Figure 8 shows the number of war metaphors used per sentence type in the Hansard.

The number of war metaphors used in simple, compound, complex and interrogative sentences in the 1970-1979 sub-section of the Hansard Corpus, expressed as percentages of the total tokens (N=1401).
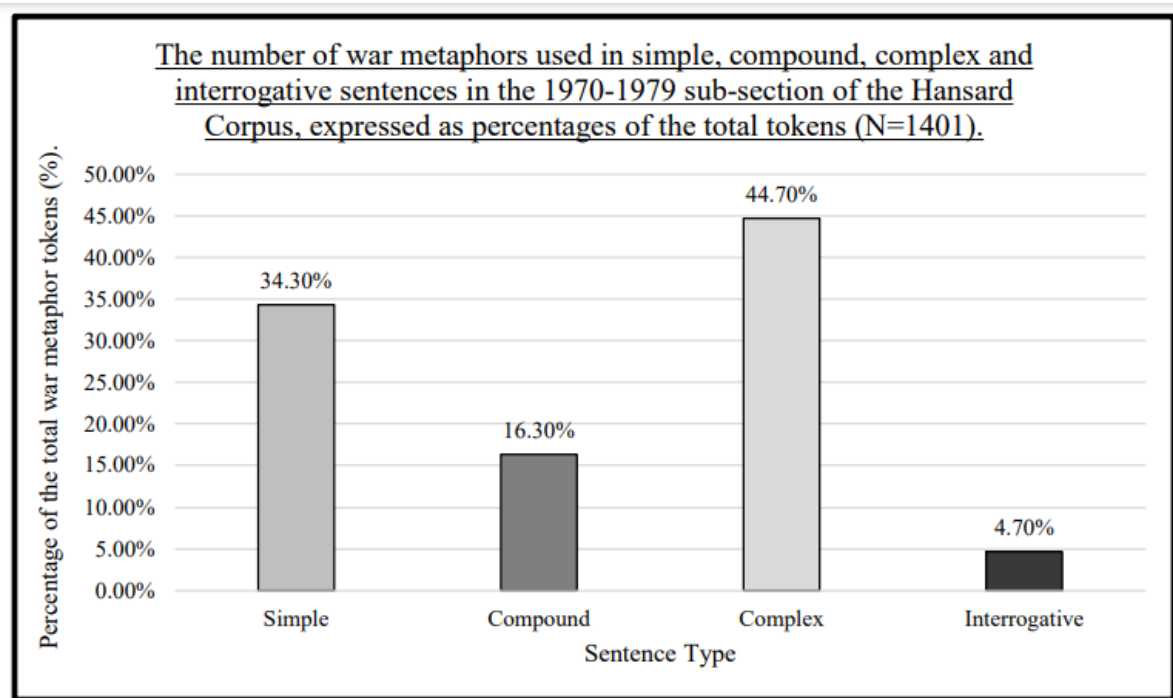
Figure 8 - The number of war metaphors used per sentence type, expressed as percentages of the total tokens in the Hansard (N=1401).

Figure 8 shows that the war metaphors were used the most in complex sentences and the least in interrogatives in the Hansard.

Furthermore, Figure 9 shows the number of war metaphors used per clause type in the Hansard.

The number of war metaphors used in simple, coordinate and subordinate clauses in the 1970-1979 sub-section of the Hansard Corpus, expressed as percentages of the total tokens (N=1401).
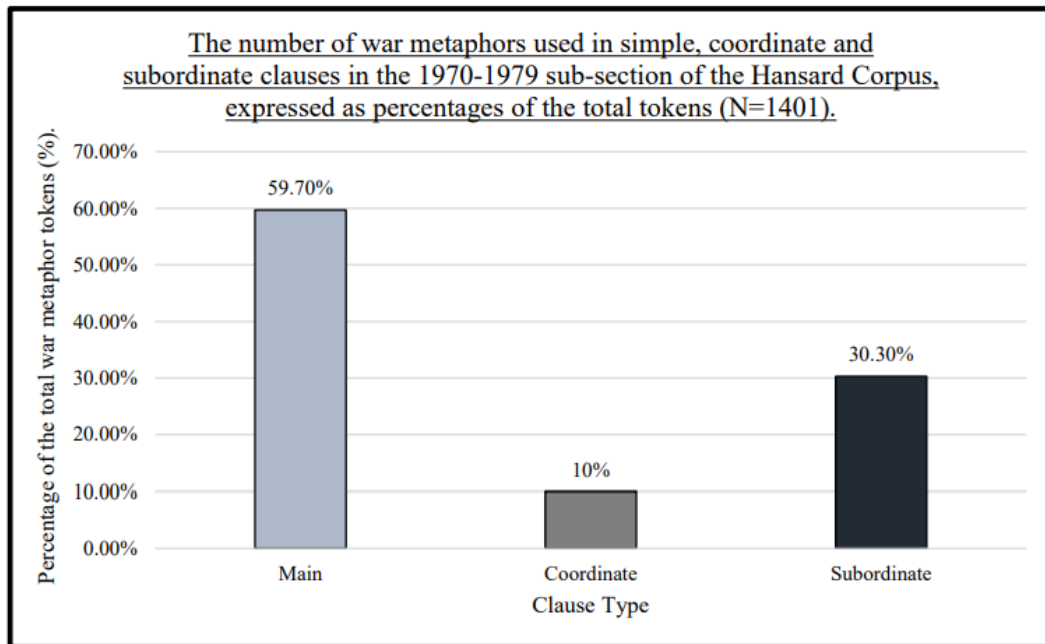
Figure 9 - The number of war metaphors used per clause type, expressed as percentages of the total tokens in the Hansard (N=1401).

Figure 9 reveals that the war metaphors were used the most in main clauses and the least in coordinate clauses in the Hansard.

Moreover, Figure 10 shows the different type of pronouns included in the grammatical frames of the metaphors used in the Hansard.
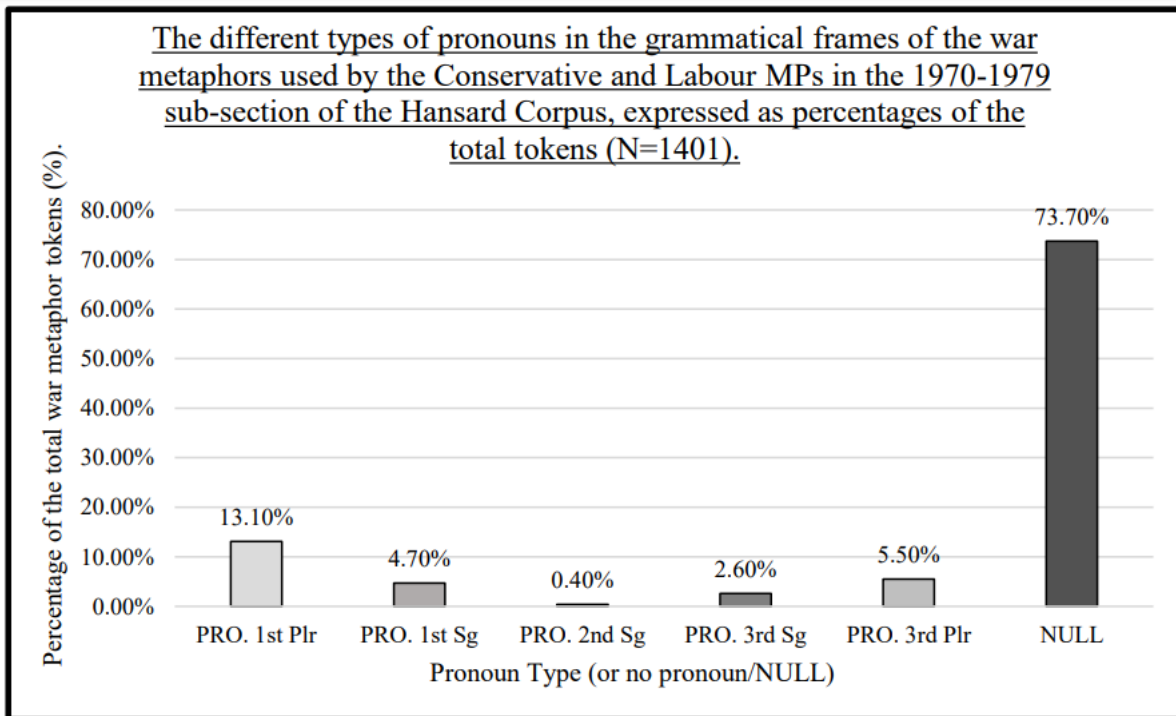

The different types of pronouns in the grammatical frames of the war metaphors used by the Conservative and Labour MPs in the 1970-1979 sub-section of the Hansard Corpus, expressed as percentages of the total tokens (N=1401).

Figure 10 - The different types of pronouns included in the grammatical frames of the war metaphors used in the Hansard, expressed as percentages of the total tokens (N=1401).

Figure 10 shows that nearly three-quarters of the total war metaphors were used without pronouns in their grammatical frames in the Hansard. With regard to the remaining 26.3% of metaphors, first-person plurals (*we, us*) were used the most in their grammatical frames and second-person singulars (*you*) were used the least.

Figure 11 shows the type of items immediately following the war metaphors in their grammatical frames in the Hansard.

The items following the war metaphors used by Conservative and Labour MPs in the 1970-1979 sub-section of the Hansard Corpus expressed as percentages of the total number of tokens (N=1401).
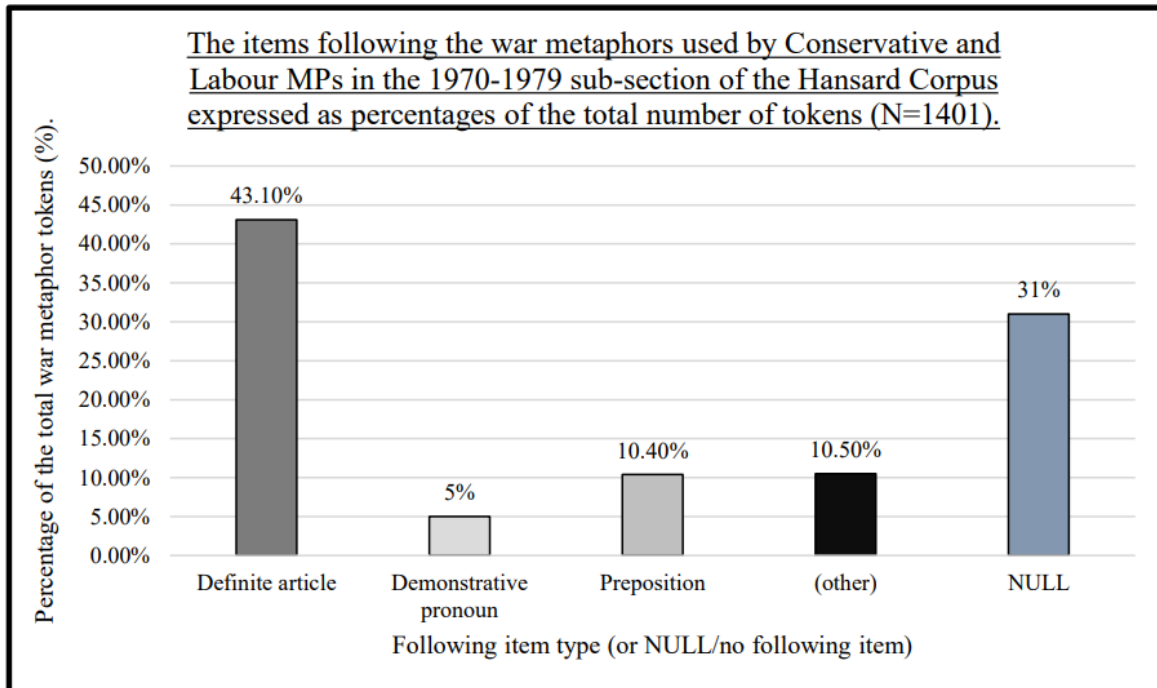
Figure 11 - The type of items immediately following the war metaphors used in the Hansard, expressed as percentages of the total tokens (N=1401).

Figure 11 shows that the war metaphors were most often followed by definite articles. In comparison, only 10.4% of the tokens were followed by a preposition. A similar proportion of the tokens were followed by (other), which consisted of possessive determiners (*it, their*), quantifiers (*any*) and indefinite articles (*a, an*). The metaphors were only rarely followed by demonstrative pronouns.

Finally, Figure 12 shows the object types of the target domains used in the Hansard.

The object types of the war metaphors target domains used with the Conservative and Labour MPs in the 1970-1979 sub-section of the Hansard Corpus, expressed as percentages of the total number of tokens (N=1401).
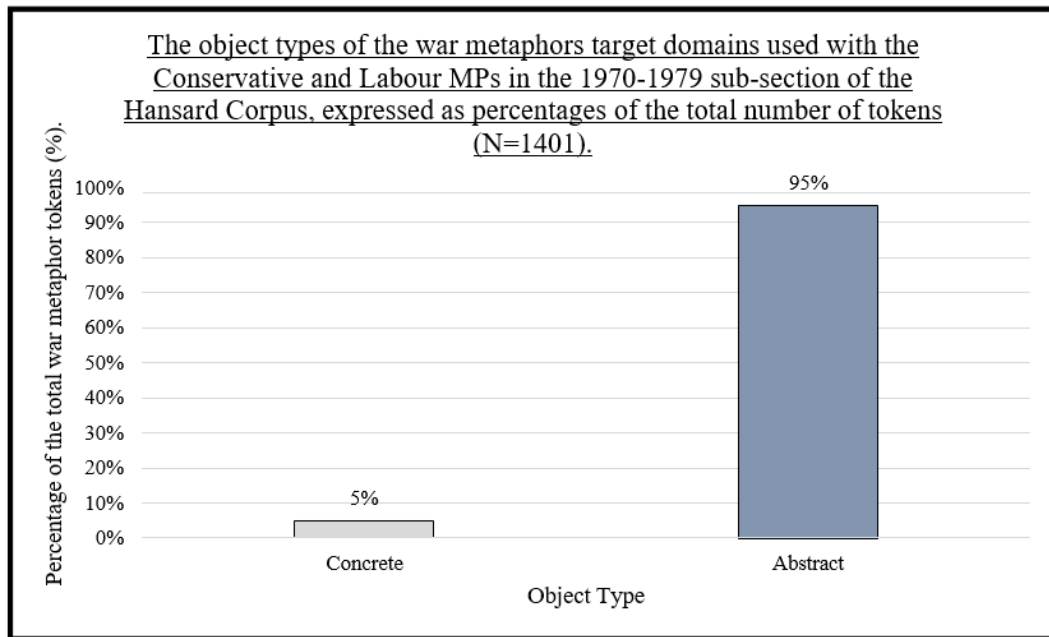
Figure 12 - The object types of the war metaphor target domains used in the Hansard, expressed as percentages of the total tokens (N=1401).

Figure 12 shows that almost all of the war metaphors were used with abstract target domains in the Hansard. Only 5% of the metaphors had concrete target domains.

7. Discussion

Following the distributional analyses and Green *et al.*'s approach, polarization is only marginally observed from the Conservative and Labour MPs' war metaphors in the *Pandemic Twitter Corpus*. The token and normalised frequencies show that the ten Conservative MPs used slightly more war metaphors than the ten Labour MPs. In contrast, the token frequencies from the Hansard show that the Labour MPs used the four war metaphors more than the Conservative MPs, contradicting the polarization observed in the *Pandemic Twitter Corpus*. Similarly, although the normalised frequencies reflected a marginal difference between the Conservative and Labour MPs' war metaphor use in the Hansard, the opposite polarization was still somewhat observable. Therefore, the first hypothesis has been refuted. The same polarization was not sustained across both corpora, suggesting that UK MPs may offer bipartisan responses with only minor differences in their linguistic cues.

Before the first hypothesis is completely refuted, it is beneficial to consider the volume of tweets produced per political party. Green *et al.* stated that polarization was present in their

data because the Democrat Congress members issued more tweets than the Republican Congress members (Green *et al*., 2020: 2). Tables A-C in Appendix 1 show the positive correlation between the number of war metaphors and tweets issued by the Conservative and Labour MPs in the *Pandemic Twitter Corpus* with the number of COVID-19 cases and deaths in the UK over the three-month data collection period. From Tables A-C, it is clear that both the Conservative and Labour MPs issued fewer tweets and war metaphors as cases and deaths reduced in the UK. The Labour MPs were shown to sustain their volume of tweets across May and June more so than the Conservative MPs.

In contrast, the war metaphors used by the Conservative MPs were shown to follow a U-curve across the three months. Their metaphor uses temporarily decreased in June but seemingly increased again in July. Following the easing of lockdown restrictions in July 2020, the Conservative MPs may have increased their use of war metaphors to reaffirm the severity of the virus as a way of minimizing the impact that relaxing the lockdown measures could have had on cases and death rates. Based on Green *et al*.'s approach, polarization cannot be observed from Tables A-C. Although the volume of tweets and war metaphors differ slightly between each party per month, this was only marginal. If polarization had been present, one political party would have issued more tweets and metaphors than the other party in correlation with the number of COVID-19 cases and deaths. Therefore, the first hypothesis is further refuted.

Several factors may account for this. As previously stated, little research has been conducted into the use of war metaphors by UK politicians. The empirical research was predominantly focused on polarization and war metaphor use in American political discourse. Lakoff and Johnson claim that ARGUMENT IS WAR is a metaphor that Americans live by (Lakoff & Johnson, 1980). Therefore, war metaphors may be less significant and less suited to the British public and political discourses than American political discourses. It could be argued that the war metaphors were not used enough by the UK MPs to reflect any significant polarization.

Although the first hypothesis was refuted, it is still beneficial to discuss the significance of the UK MPs' use of war metaphors in their bipartisan responses over time. Their presence alone in political discourse could have positive and negative social implications, especially during the pandemic.

Firstly, Flusberg *et al.* note that war metaphors in political discourse can simplify atypical situations (Flusberg *et al*., 2018). At the time of data collection, the Coronavirus was

still an unusual and worrying situation to the general public. Flusberg *et al.* believe that war metaphors function as a conceptual model that can better clarify ill-defined, nuanced issues to help the general public better understand usual concepts or threats (Flusberg *et al.*, 2018: 3). They believe that the prototypical gestalt makes war metaphors easy to understand and interpret (Flusberg *et al.,* 2018: 4).

Additionally, Flusberg *et al.* note that portraying situations as war can lead to further research and government funding (Flusberg *et al.,* 2018: 6). During the pandemic, the war metaphors used in MPs' discourses may have encouraged further developments into vaccines, treatments, and testing facilities.

Therefore, the UK MPs' use of war metaphors may have helped the general public understand the urgent threat of the virus on public health. Without this representation, the public's response to government advice and restrictions may have been more delayed and relaxed, based on Green *et al.'s* conclusions (Green *et al.*, 2020).

However, politicians should be conscious of their war metaphor use. Flusberg *et al.* believe that militarizing a non-war situation can result in a panicked response from the general public, which can reiterate negative stereotypes within the community and reinforce the political dimensions of disease (Flusberg *et al.*, 2018: 3). For example, Flusberg *et al.* note that mimicking of war often divides communities into Us or Me (good) and Them or It (bad) (Flusberg *et al.*, 2018: 9). These divisions may have resulted in blame-shifting on specific communities and individuals during the pandemic. For example, young people were often blamed in the media for the tightening of lockdown restrictions (see Appendix 2 Images A and B). Therefore, war metaphors may heighten existing tensions within communities and reinforce negative stereotypes.

Flusberg *et al.* also note that politicians' use of war metaphors may cause the general public to disengage with certain situations, preventing and delayaying adequate precautions from being taken (Flusberg *et al.* 2018: 10). Interestingly, Flusberg *et al.* note that this can vary across age groups (see Flusberg *et al.* 2018: 12 & Kensinger *et al.* 2006). Similarly, Haddad notes that war metaphors reaffirm negative associations and experiences for individuals in marginalised communities who have directly experienced war (Haddad, 2020). Although Haddad mainly discusses the recent use of war metaphors by Australian politicians, her arguments are still applicable. With the UK MPs' Twitter accounts being highly accessible and publicised, the MPs' war metaphors will almost always reach individuals from marginalised

communities. Haddad notes that when we liken COVID-19 to war, we ignore the disproportionate impact of conflict on marginalised communities (Haddad, 2020). As previously mentioned, the prototypical gestalt of war is often glorified in films, books, and the media. For example, Jaworska notes that the UK media has responded to the pandemic using the *Blitz spirit*, encapsulating the positive attributes of strength, unity, and patriotism often associated with WW2 (Jaworska, 2021: 35). However, individuals from marginalised communities may not conceptualise war with positive connotations. Therefore, politicians' use of war metaphors may not always have the intended positive effect on the general public because of the vast schematic knowledge associated with war.

Moreover, following Steen's (1999) framework, the war metaphors used by the Conservative and Labour MPs can be shown to occur in predictive grammatical frames to a degree over time. Abstract target domains and main clauses were shown to favour the war metaphors in both corpora. Although sentence type, pronoun type, and the following items were shown to be unpredictable in the grammatical frames, the second hypothesis is still supported to an extent. As an extension of Steen's (1999) framework, the grammatical frames of the war metaphors can be analysed in terms of how their lexico-grammatical units may influence metaphor perception.

Firstly, the frequent use of abstract target domains may constrain preposition use in the grammatical frames, influencing the semantic denotations of the war metaphors. For example, Kranjec *et al.* studied the influence of spatial prepositions on the metaphoric perception of space and time (Kranjec *et al*., 2010). They found that although spatial prepositions are typically functional elements of the grammatical frame, they may influence how an interpreter perceives paired temporal concepts (Kranjec *et al*., 2010: 115). Kranjec *et al*. believe that pairing prepositions with abstract objects can influence how interpreters perceive and respond to metaphors (Kranjec *et al*., 2010: 115). Similarly, as cited by Kranjec *et al.,* Evans believes that the semantic characteristics of spatial prepositions, particularly *at*, *on*, and *in*, can relate to certain psychological states (Kranjec *et al*., 2010: 112 & Evans, 2010). In the *Pandemic Twitter Corpus*, 44.2% of the war metaphors were followed by a preposition. Therefore, the frequent inclusion of abstract target domains with prepositions in the grammatical frames of war metaphors may influence how the metaphors are perceived.

Furthermore, although Steen recommends an analysis of metaphor clause types (Steen, 1999: 93), the significance of clause type and sentence type on metaphors perception may be

irrelevant. Firstly, the MPs would have been restricted to using the war metaphors in simple sentences and main clauses in their online discourse because of Twitter's character limit for tweets (140 characters). Additionally, Lakoff notes that even if a metaphor is used in a main clause, the target domain will often occur in a subordinate or coordinate clause (Lakoff, 1996: 134). He believes that unless the target domain is included in the same clause or a prepositional phrase, no lexical material is present to make the metaphor meaningful (Lakoff, 1996: 134). Although the four war metaphors were used most often in main clauses in the Hansard, 44.7% had been used in complex sentences. This means that their target domains were likely in subordinate clauses, making their presence in the main clause irrelevant to the perception of the metaphors. Therefore, although clause type was predictive in the grammatical frames of the war metaphors, studying them may have been a futile task. Following Lakoff's arguments (Lakoff, 1996: 134), an analysis of the inclusion of target domains in prepositional phrases may be more beneficial to understand how they may have been conceptualised.

Moreover, the war metaphors were used most often without pronouns in their grammatical frames in both corpora, with 59.7% of the war metaphors from the *Pandemic Twitter Corpus* and 73.7% of the metaphors from the Hansard having no pronouns in their grammatical frames. However, when pronouns were used in the grammatical frames, the war metaphors were most often used with first-person plural pronouns (*we, us*) in both corpora, which can have significant semantic functions and interpretations. For example, Scheibman argues that *we* often denotes group membership and participant alignment (Scheibman, 2004: 380). Similarly, Bull and Fetzner found that politicians use first-person plurals as a way of encouraging solidarity (Bull & Fetzner, 2006: 6). During the Coronavirus pandemic, the UK MPs may have used these pronouns with the war metaphors to encourage unity and solidarity with the general public. Proctor *et al*. note that the purpose of political discourse can influence pronominal use (Proctor *et al*., 2011: 3265). Therefore, the underlying purposes of the MPs' online discourse during the pandemic and their parliamentary speeches may have influenced the pronominal choice. Similarly, first-person plurals may have been used with the war metaphors in both corpora to serve the MPs' political and rhetorical goals (see Tabakowska, 2002).

Similarly, Bull and Fetzner also note that politicians may use personal pronouns to identify supporters and enemies for their political agenda (Bull & Fetzner, 2006: 6). As previously mentioned, Flusberg *et al*. believe that the war metaphors used by politicians often construct the representation of Us or Me (good) and Them or It (bad) within a community

(Flusberg *et al.,* 2018: 9). Bates also cites Lakoff *et al.* (Bates, 2020: 12), who argue that war metaphors are easier to understand when an enemy is constructed (Lakoff *et al*., 1991: 176). Therefore, the pairing of the war metaphors with the first-person plurals may have caused further divisions within the general public. Because of the deictic function of first-person plurals, the MPs can align themselves with specific groups of individuals when they use these pronouns, which places them as a force against the opposition in the metaphor mapping of war. This oppositional force in the pandemic could be the virus itself, the opposing political party, or a specific social stratum of society (like the stereotypical representation of young people exemplified in Appendix 2 Images A-B). Therefore, MPs may use war metaphors with first-person plurals to create group membership and participant alignment while also formulating an 'enemy' to serve the rhetorical goals of their political discourse.

Furthermore, 21.6% of the metaphors in the *Pandemic Twitter Corpus* and 5% of the metaphors in the Hansard were followed by demonstrative pronouns. While previous studies have suggested that demonstrative pronouns have semantic value in context, others have deemed these units completely functional and non-referential. For example, Wolter (2005) found that demonstrative pronouns and definite articles can achieve semantic meaning dependent on their context (Wolter, 2005). In contrast, Maclaran claims that demonstratives cannot be described in semantic or pragmatic terms, stating that demonstrative are only used to instruct an interpreter to conceptualise a specific entity in context; it is not the actual demonstrative that has semantic value (Maclaran, 1982). Therefore, while some elements of the grammatical frames of the war metaphors may be meaningful in terms of semantic perception, the conflicting research somewhat limits the significance of the linguistic analysis.

Investigating the five internal predictors in the grammatical frames of the war metaphors, and debating their semantic significance using empirical research, has provided further insight into how war metaphors can be perceived and how their grammatical structures may serve the rhetorical goals of politicians. The longitudinal data has shown the slight predictability of the grammatical frames of war metaphors, which supports the second hypothesis. While Steen's (1999) framework was a helpful guide for the linguistic analysis of the war metaphors, it was valuable to expand on his approach using empirical research. This allowed for the considerations of how interpreters may perceive the metaphors differently due to their common structures, not only during the Coronavirus pandemic but in general political discourse.

8. Conclusion

To summarise, consistent polarization was not observed from the war metaphors used by Conservative and Labour UK MPs in the *Pandemic Twitter Corpus* and the 1970-1979 sub-section of the Hansard. Although polarization was marginally shown in the *Pandemic Twitter Corpus*, with the Conservative MPs using more war metaphors than the Labour MPs, an opposite polarization was observed from the Hansard, with the Labour MPs using the four war metaphors *raid*, *beat*, *defeat*, and *capture* more than the Conservative MPs. Therefore, the same polarization was not observed longitudinally, and the first hypothesis was refuted. Nevertheless, the bipartisan use of war metaphors by the MPs could have positive and negative social implications in any form of political discourse. In terms of the pandemic, the war metaphors may have simplified the unprecedented crisis while also emphasising the political dimensions of the disease by constructing 'heroes' and 'enemies' out of the situation.

Furthermore, main clauses and abstract target domains are the only elements of the grammatical frames of the war metaphors that were shown to be predictive across both corpora. Therefore, the second hypothesis was somewhat supported. Although sentence type, pronoun type, and the items following the metaphors were shown to vary across both corpora, analysing these lexico-grammatical units with empirical research revealed how the grammatical frames of the war metaphors could be perceived differently because of these units. While main clauses and simple sentences may be insignificant on metaphor mappings, the frequent pairing of spatial prepositions with abstract targets may have influenced how the metaphors were interpreted. Similarly, while the frequent pairing of the war metaphors with first-person plural pronouns may have helped the MPs establish unity and alignment with the general public, they may have further emphasised divisions within the community.

Replicating Green *et al*.'s (1999) method was a valuable way of observing the MPs' online discourse during the pandemic. Twitter is a highly influential platform that MPs can use to distribute information and achieve their rhetorical goals. From Tables A-C in Appendix 1, the volume of the MPs' tweets and war metaphors were shown to correlate with the peaks and troughs of the pandemic during the three-month period. Twitter was clearly an effective way for the MPs to distribute crucial information and encouragements during crucial times of the pandemic. The presence of war metaphors in their online discourse may have been highly instrumental.

However, a significant disadvantage of the method in this study was the comparison of online political discourse with spoken political discourse. The differences between the Hansard and the *Pandemic Twitter Corpus* meant that war metaphors used across both corpora might have been conditioned by different factors, such as formality and audience. Comparing the two contrasting corpora also prevented a regression analysis from being conducted. Therefore, if this study were to be repeated, it would be more beneficial to observe the longitudinal use of war metaphors by politicians across similar discourses and corpora. This would have made the comparisons more valuable, providing a clearer insight into the structure and nature of war metaphors used in a singular discourse.

This study has also been limited by time and resources. With additional resources, a more cognitive approach could have been taken to assess how interpreters may have cognitively perceived the MPs' war metaphors. For example, Kranjec *et al*. monitored interpreters' mental frames of reference during metaphor perceptions (Kranjec *et al*., 2010: 113). Although it was essential to analyse the metaphors linguistically, further analyses of the cognitive influences of the metaphors would have been beneficial.

Similarly, interviews could have been conducted to see how interpreters may have directly responded to the war metaphors. For example, participants could have been asked whether they thought the MPs' war metaphors were intentional and appropriate. The participants could have also shared their salient knowledge and experiential gestalt of war to understanding further how some interpreters may perceive the metaphors. However, this was unachievable due to Coronavirus restrictions at the time of data collection. Alternatively, Steen's Deliberate Metaphor Theory (DMT) could have been used to assess whether the war metaphors were used intentionally by the MPs over time (Steen, 2015, 2017). However, Flusberg *et al*. note that DMT has not yet been supported with empirical literature (Flusberg *et al*., 2018: 12).

As noted previously, metaphor perceptions have been shown to vary across different age groups (Flusberg *et al*. 2018: 12, see Kensinger *et al*., 2006). Future research could investigate the influence of age on the perception of war metaphors.

To conclude, while polarization may not be observable from the use of war metaphors by MPs over time, their predictive grammatical frames and their presence alone in political discourse could significantly influence public attitudes and perceptions. With most of the empirical research being focused on the nature of war metaphors in American political

discourse, this study has attempted to expand the topic by analysing the structure and nature of war metaphors used by MPs in British political discourse. The hybrid of political-medical discourse during the Coronavirus has further shown how overused war metaphors are.

Much like the conceptualisation of an 'enemy', Lakoff *et al.* believe that a complete application of the war metaphor can only be achieved by constructing a 'victory' (Lakoff *et al.*, 1991). If COVID-19 is to become a permanent feature of our everyday lives, how will the metaphor of war, and the fight against Coronavirus, ever truly be won?

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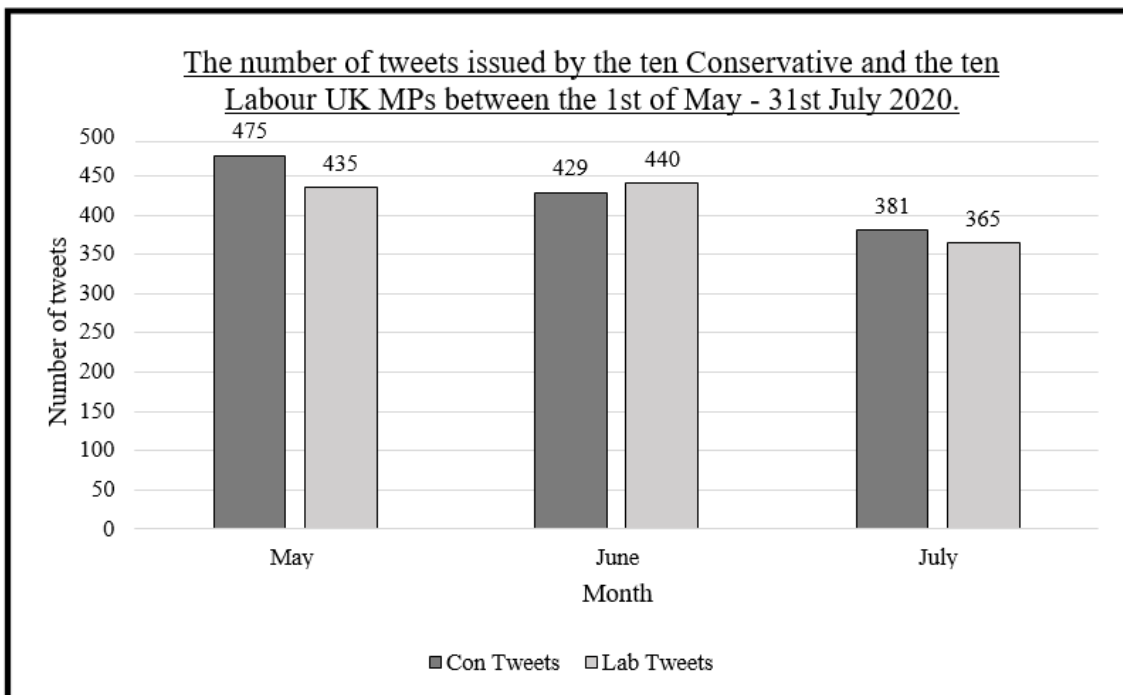
10. Appendices

APPENDIX 1: Figures A-C

Figure A - The number of tweets issued by the Conservative and Labour UK MPs during the 1st of May - 31st of
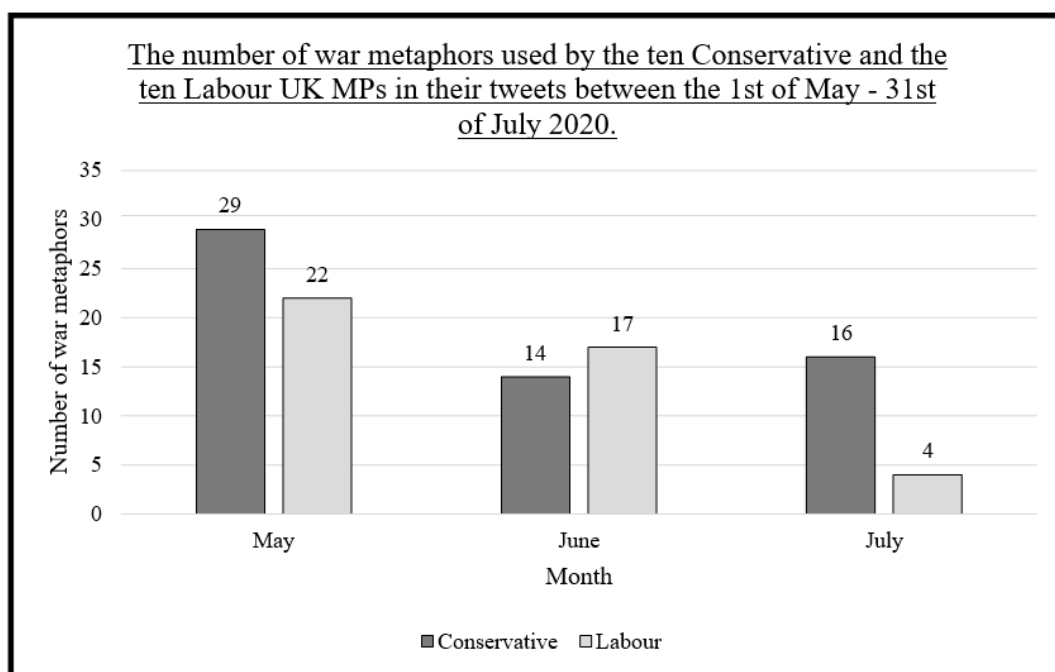
July 2020

Figure B - The number of war metaphors used by the Conservative and Labour MPs in the *Pandemic Twitter Corpus* between the 1st of May – 31st of July 2020
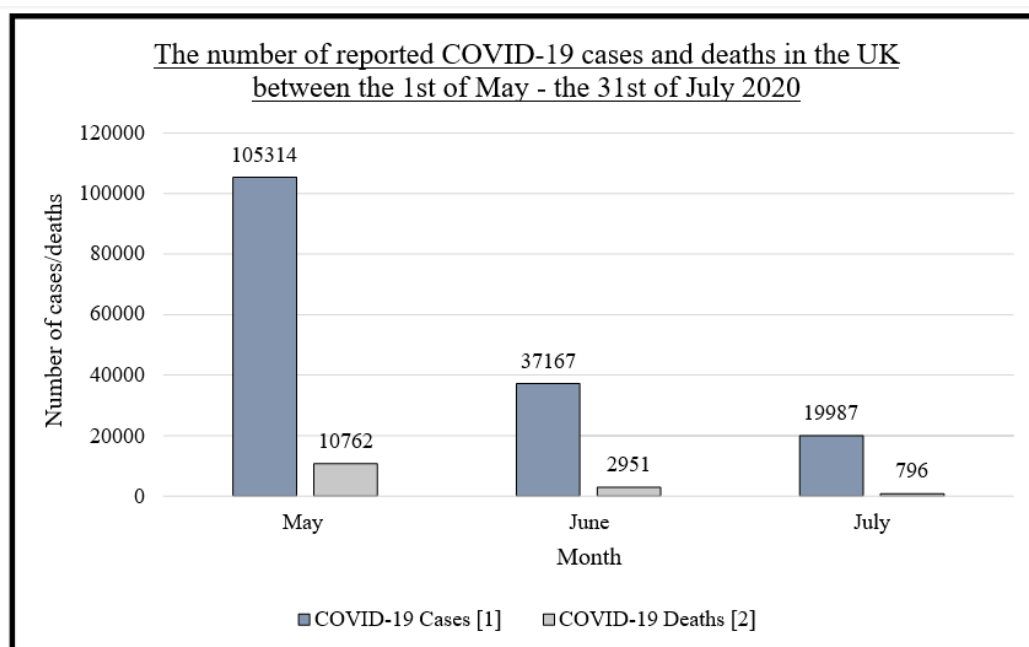

Figure C - The number of COVID-19 cases and deaths in the UK between the 1st of May- 31st of July 2020. (GOV.UK [1], 2021 & GOV.UK [2], 2021).

APPENDIX 2: Images A-B

Image A - A recent Metro article discussing the possible link between young people and the rise in COVID-19 cases in the UK (Elvin, 2020).

Image B - A recent Sky News article questioning the possible link between young people and the rise in COVID-19 cases in the UK (Whiteside, 2020).