

# The Relationship between Global Crises and Aggression

**Purpose:** Existing literature suggests there is a relationship between aggression and global crises as well as health pandemics. Despite previous research highlighting this relationship, research in the UK that examines this relationship, and particularly between the pandemic containment measures with aggression, has not been thoroughly examined. This pilot study investigates the aggression levels in the UK before and during the implementation measures for containing the latest global health crisis.

**Design:** For the needs of the pilot study, 149 participants (127 female and 21 males) completed an online questionnaire which measures aggression levels before and during lockdown. **Findings:** The investigation showed that aggression increased during the lockdown periods, with themes of anger and loneliness also being identified through a content analysis. This project is one of the first to examine aggression during lockdown and isolation restrictions. Further implications and limitations are discussed.

**Keywords:** Crises; Lockdown, Pandemic, Conformity, Violence; Aggression.

## Introduction

The emergence of the COVID-19 pandemic caused extreme damage to society, with not a single individual being able to avoid its detrimental effects. An extremely important issue emerging involves the increasing problems regarding the growing anxieties caused by the pandemic which are in turn triggering neglect and violent episodes. There is a current gap in the existing literature exploring the effects of the COVID-19 pandemic on aggression levels within the UK, indicating an extreme importance for this research. As this crisis is new phenomenon, it is not yet clear what its relationship with violence is, nor is there knowledge surrounding the effects of the year-long social isolation, (Usher et al., 2020). Without this knowledge, it cannot be known what issues are emerging in the privacy of people's homes, potentially suggesting that many individuals who need help are not being acknowledged. Whilst the new global crises with the energy prices has added to the existing difficulties, consequently adding to the research gap.

### *Hatred, Violence and Scapegoating*

Coverage of historical epidemics and behavioural triggers has uncovered long-held assumptions that epidemics spark animosity among societies, as adopting hatred and advocating blame to others is easily done (Cohn, 2020). However, there is evidence of anomalies existing, as the Mexican swine flu was spread due to fear of contagion, although it did not trigger mass hatred or violence, (Cohn, 2012). Similarly, yellow fever in America sparked mass compassion and increased volunteering, (Cohn, 2020).

1 Despite the counterargument within the literature, the COVID-19  
2 pandemic has proven to be no exception to the theme of hate and blame as  
3 scapegoating has transpired against various groups across the world. Due to the  
4 country of the disease's origin, blame has predominantly been directed towards  
5 Chinese individuals in the form of serious hate crimes and assaults, (Gee et al.,  
6 2020). The initial spread of misinformation resulted in widespread cases of  
7 xenophobia as Chinese individuals were connected to the disease, sparking old  
8 stereotypes by incorrectly linking race to the pandemic and distorting  
9 understanding of the disease, (Gee et al., 2020; Leung, 2008). Currently, there  
10 are growing reports that mention similar perceptions and behaviour towards  
11 Russian citizens, mainly because of the war between Russia and Ukraine, and  
12 the impact of that war on the energy prices in the western counties.

13  
14 *Social Harmony, Inclusivity and Solidarity*

15  
16 Despite surplus research suggesting that epidemics divide societies, new  
17 evidence implies that common responses include increased solidarity and  
18 social cohesion resulting from a shared compassion, (Cohn, 2018; Jedwab et  
19 al., 2019). Solidarity is often defined as a common interest in survival and  
20 safety, promoting social cohesion. During a pandemic a collective effort is  
21 made to protect others, particularly those who are vulnerable such as the young  
22 and old, (Baylis et al., 2008; Prainsack, 2020; Tomasini, 2021).

23 Societies often come together as a response to potential harm to protect  
24 their common interests and diminish the threat against them (Dawson &  
25 Verweij, 2012). The ability to recover from tragedies quickly, by adapting and  
26 overcoming vulnerabilities has been documented in the literature,  
27 demonstrating the strength and flexibility of the individuals affected (Peters,  
28 2020). Historical examples of solidarity include the outbreak of yellow fever  
29 and the 1918 Great Influenza which led to increased empathy among the  
30 masses and peaceful movements as volunteering and self-sacrifice were  
31 encouraged (Cohn, 2018).

32 The most recent pandemic, COVID-19, has overall demonstrated a better  
33 response to crises than in the past. The social violence exhibited by the current  
34 pandemic is nowhere near as serious as the violence apparent in the riots  
35 responding to the outbreak of Cholera and the Black Death (Jedwab et al.,  
36 2020). Many areas have seen a decrease in both violent and non-violent crimes,  
37 when comparing the same week, a year apart, with South Africa reporting a  
38 71% decline in homicides and 85% decline in rape because of the lockdown,  
39 (Marupeng, 2020).

40 Increased worldwide unity during this crisis has been proven to likely be a  
41 result of the whole world being affected instead of it being restricted to one  
42 area. Global solidarity and shared knowledge facilitate the avoidance of  
43 psychological conflict. In addition, complete transparency from those in power,  
44 regarding the cause of the pandemic, resulted in conspiracy theories being  
45 quickly dispelled (Jakovljevic et al., 2020; Jedwab et al., 2020). Further, as  
46 authority figures were also affected, anxieties were reduced. Despite most of

1 the world demonstrating a non-violent response to the crisis, there has been  
2 evidence of high volumes of blame, conspiracy theories and violent protests  
3 against lockdown restrictions worldwide (Jedwab et al., 2020; Loayza, 2020).

#### 4 5 *Crises and Conformity*

6  
7 Research suggests that social disconnection, uncertainty, and social  
8 fragmentation are characteristics closely linked to pandemics, which  
9 commonly increase conformity and are likely to attract individuals to those  
10 with clear or extreme norms (Abrams et al., 2021). Conformity is strongest  
11 among individuals belonging to the same unit, as acceptance is essential to fit  
12 in and develop social relationships (Cialdini & Goldstein, 2004; Packer et al.,  
13 2021). Therefore, social influence is heavily relied upon, to spread policies and  
14 to ensure each individual audience will comply, for example, the media may  
15 promote coercion and identify credible individuals such as religious leaders  
16 (Antonakis, 2021; Van Bavel et al., 2020).

17 Two common elements of conformity include normative influences,  
18 adapting to maintain social acceptance, and informational influences, adopting  
19 similar behaviour to others as this is what is accepted as appropriate, with the  
20 latter being more common among pandemics (Cialdini & Goldstein, 2004;  
21 Deutsch & Gerard, 1955). Consumer behaviour is altered radically because of  
22 crises, as rumours and false information encourage mass buying of products  
23 and labelled 'cures', even if they are not proven to be effective (Song et al.,  
24 2020). When an individual's life is threatened, which is the case during a  
25 pandemic, their behaviour becomes irrational and is heavily influenced by their  
26 peer groups opinions (Murray & Schaller, 2012). Existing literature suggests  
27 that informational conformity consumer behaviour is extremely harmful during  
28 epidemics, as it encourages price changes, impulsive buying and misallocation  
29 of resources which are all harmful to the economy and society (Dong & Zhong,  
30 2017). Demonstrations of this type of conformity have occurred during the  
31 COVID-19 pandemic, such as the demand-driven panic buying across the  
32 world which saw individuals purchasing abnormal amounts of goods from  
33 local supermarkets (Islam et al., 2021). The reason for the irrational buying  
34 was misinformation spread through media outlets and excessive information  
35 that accompanied rumours.

36 Despite this undesirable and unusual display of conformity, there has also  
37 been evidence of conformity in a positive way. Most of the world exhibited  
38 conformity during COVID-19 in the form of adherence to the lockdown rules  
39 (Van Bavel et al., 2020). Unfortunately, many individuals refused to cooperate  
40 and rebelled against the rules of social distancing, mask wearing and staying at  
41 home. Across the United States protests against quarantine and social  
42 distancing measures broke out, fuelled by their president's encouragement  
43 (Dyer, 2020; Meeker, 2020). Motivated by their beliefs of injustice and  
44 disagreement with restrictions, some global protests became violent as angry  
45 individuals wanted justice as they had become resentful towards the measures  
46 in place (Armbruster & Klotzbücher, 2020; Briscese et al., 2020). Economic

1 decline and uncertainty lead to demonstrations of frustrations and rebellion  
 2 against conformity (Justino & Martorano, 2019; Li & Coppo, 2020; Sedik &  
 3 Xu, 2020). Due to the current understanding of conformity, it is agreed that  
 4 individuals exhibiting negative behaviour can easily influence others as their  
 5 reactions are seen as acceptable. This can be particularly dangerous during a  
 6 crisis when harmful attitudes and beliefs are shared and lead to detrimental  
 7 consequences, as the threat of contagion encourages unexpected and irrational  
 8 behaviour (Robson, 2020).

### 9 10 *Pandemics and Life Satisfaction*

11  
12 A large body of literature has investigated in-depth the detrimental effects  
 13 of lifestyle changes caused by pandemics. Disasters can cause extreme damage  
 14 to society and negatively affect a variety of factors. Individuals can be affected  
 15 emotionally as loved ones may pass away and financially, as they may lose  
 16 their jobs, with both affecting life satisfaction (Barro & Ursua, 2008; Barro et  
 17 al., 2020). Further, social isolation in the form of lockdowns significantly  
 18 affects health and psychological welfare, inducing psychological stress and  
 19 depression, particularly among older adults, (Brooks et al., 2020). Negative  
 20 mood changes and discontent as a response to crisis are likely to negatively  
 21 affect life satisfaction. Quarantine measures imposed after an outbreak of  
 22 SARS in Asia and Canada over a decade ago demonstrated this and had  
 23 damaging consequences on the mental health of the individuals involved,  
 24 causing severe distress, and increasing anxieties (Hawryluck et al., 2004;  
 25 Reynolds et al., 2008). To reduce spreading of diseases, separation is required,  
 26 meaning the increased stresses and anxieties are an unfortunate accompaniment  
 27 that cannot easily be avoided.

### 28 29 *Financial, Social and Mental Effects*

30  
31 Loss of work, income and childcare has led to increasing risks of problems  
 32 within the home due to developing fears around stability (Prime et al., 2020).  
 33 Across the world, individuals have struggled immensely to continue supporting  
 34 their families during these strenuous times, as many individuals have lost their  
 35 jobs, while the remainder are expected to home school their children and work  
 36 from home simultaneously as approximately 1.37 billion children have been  
 37 unable to attend school (Cluver et al., 2020). It is anticipated that many  
 38 individuals will be unable to acquire and maintain stable work for the  
 39 foreseeable future, even after the disease has subsided (Crayne, 2020).  
 40 Financial strain is not only detrimental on a personal scale but also globally.  
 41 Many industries are at significant risk due to uncertainties surrounding the  
 42 economy and a global recession, (Fernandes, 2020), with expectations that it  
 43 will take many years for some jobs to be available again (Berman, 2020).

44 Without this affordance, an individual's wellbeing is affected negatively  
 45 as their work community and psychological support (Pratt & Ashforth, 2003) is  
 46 withdrawn. The literature suggests that individuals who have problems

1 securing employment experience extreme psychological suffering, (Dooley et  
2 al., 1996; Hamilton et al., 1993). There has been a significant decline in the  
3 mental health of individuals across the world, in comparison to before the  
4 pandemic, (Czeisler et al., 2020; Ettman et al., 2020; McGinty et al., 2020)  
5 global responses to the pandemic include suicidal ideation, depressive  
6 symptoms, insomnia, stress and anxiety, (Holmes et al., 2020; Killgore et al.,  
7 2020; Torales et al., 2020).

8 As a result of the new lifestyle changes and developing strain on mental  
9 health, there were growing concerns that such circumstances and a lack of  
10 access to services providing help would increase the risk of aggression  
11 manifesting and having detrimental repercussions (Peterman et al., 2020).  
12 These anxieties were all supported by research on previous epidemics and  
13 began manifesting on a global scale as the pandemic emerged, (Usher et al.,  
14 2020). Studies have found that there was increased intimate partner violence  
15 and sexual violence resulting from the outbreak of Ebola in 2018 (UN Women  
16 et al., 2014), related to the reduced access to health and protective services  
17 (Peterman et al., 2020). Sexual and gender-based violence in Guinea increased  
18 by 4.5% from before the outbreak of the virus and areas of Congo affected by  
19 Ebola, reported increasing sexual and domestic violence against women and  
20 children because of the crisis (Wenham et al., 2020). Despite these reports,  
21 alternative evidence found that there was a decrease in violence and  
22 exploitation (Bandiera et al., 2019), however, this research was a result of  
23 personal perceptions, meaning it is not entirely reliable.

#### 24 25 *Household Violence*

26  
27 Feelings of depression often bring out negative elements of a relationship,  
28 including hostility, blame, withdrawal and feeling unsupported (Rehman et al.,  
29 2008) which may quickly spiral into violent and uncontrollable episodes. As  
30 close relationships are a main source of comfort and support to an individual's  
31 well-being (Pietromonaco & Collins, 2017) it is understood how stress and  
32 frustrations during a crisis are often taken out on those closest to them.

33 The COVID-19 pandemic is evidence of this happening as the global crisis  
34 has been used by individuals as a way of intimidating and threatening their  
35 victims to isolate and further abuse them (National Domestic Violence Hotline,  
36 2020) Research has suggested that individuals are using social distancing  
37 measures to prevent their partners from accessing resources as their violence  
38 increases dramatically (Gupta & Stahl, 2020). Increasing displays of coercive  
39 control are being demonstrated within already abusive relationships and the  
40 threat of contagion is fuelling this danger further (Usher et al., 2020). The  
41 literature describes a horrifying surge in intimate partner violence across the  
42 world during the recent lockdowns (Roesch et al., 2020), particularly towards  
43 women as reports suggest they are affected more negatively than men due to  
44 restricted use of health services and increasing gender-based violence  
45 (Wenham et al., 2020). Much of the literature has focused on male perpetrated  
46 violence towards women and children, suggesting females are more likely to be

1 victimised (Gulati & Kelly, 2020), with discussion forums used in research  
2 being 96% female reporting (Lyons & Brewer, 2021). However, the strong  
3 emphasis on female victims is likely to be a result of existing stereotypes and  
4 underreporting from male victims. In the UK, deaths resulting from domestic  
5 abuse more than doubled in a one-month period when compared with the  
6 average rate over the previous 10 years (Grierson, 2020), and in Argentina, it  
7 was reported that every 29 hours a woman was killed by her partner (Wenham  
8 et al., 2020). Reports have also surfaced in Australia that there had been a  
9 significant increase in individuals needing help and increasing case complexity  
10 (Lattouf, 2020).

11 Links within the literature have also been identified between hostile sexist  
12 attitudes and increasing violent behaviour towards intimate partners and  
13 children after the lockdown period has ended (Overall et al., 2020). Already in  
14 Australia there has been an increased demand for services protecting women  
15 and children from violence and increasing risks for children not being able to  
16 go to school (Duncan, 2020). Important lessons can be taken from previous  
17 pandemics regarding the ignorance towards gender related effects of a crisis.  
18 Some countries made no effort to tackle the issue after the outbreak of Ebola,  
19 such as Kazakhstan where domestic violence is not illegal and therefore was  
20 not addressed. Similarly, Hungary confirmed that they would not reprimand the  
21 Istanbul Convention for their violence towards women and did not attempt to  
22 protect them from domestic violence (Klugman, 2017; Wenham et al., 2020).  
23 Despite this shocking response, it was not the case in all countries as Italy  
24 significantly increased their service provision and created more helplines for  
25 victims of domestic violence and protocols at pharmacies. Similarly, Kenya  
26 encouraged telephone counselling for victims and Australia increased funding  
27 for anti-violence organisations and provided more accommodation (Wenham et  
28 al., 2020). However, to understand which measures are the most effective in  
29 harm prevention, data collection is essential and must be encouraged.  
30 Collecting data from during and after an outbreak must be conducted and focus  
31 on the causes of violence as this is a very under-reported area.

### 32 33 *Current Study*

34  
35 This study focused on investigating the aggression levels during the global  
36 crisis in 2019-2020, through an exploration of attitudes towards lockdown rules  
37 and a comparative analysis of self-reported aggression, before and during  
38 lockdown. Although it has been proven that social harmony is a common  
39 response, an abundance of research has investigated a plethora of triggers and  
40 negative feelings that frequently arise. Often violence is encouraged by  
41 pandemics as individuals search for others to blame, turning them to their  
42 victim as an outlet to target their aggression. Research conducted across the  
43 world and from other pandemics has concluded that aggression is a common  
44 response by many and very commonly appears within households (Peterman et  
45 al., 2020; Usher et al., 2020; Van Gelder et al., 2020). Further, the lockdown  
46 conditions forcing everyone to stay at home for long periods of time and

1 isolating from loved ones provides opportunities for aggressive altercations to  
2 manifest and go unnoticed.

3 The main aim of this investigation was to achieve an understanding of  
4 whether there is a positive correlation between the Covid crises containment  
5 measures and aggression. To analyse this relationship, changes in aggression or  
6 perceived anger were examined with a comparison before and after the year of  
7 the restrictions. Another objective of this study was to examine feelings  
8 surrounding triggers of aggression linked to the pandemic to understand the  
9 reasons for potential behavioural changes. The final objective was to determine  
10 whether increasing aggression due to lockdown is a result of conformity.  
11 Understanding a link between conformity and aggression might provide an  
12 insight into how violent behaviour can be influenced by others. Two  
13 hypotheses were created for this investigation; (H1) states that individuals  
14 would report higher levels of aggression after the lockdown period and (H2)  
15 states that males are more likely to be aggressive than females. The main  
16 justification for these predictions comes directly from suggestions within the  
17 research that aggression has increased because of the pandemic, along with  
18 strains financially and mentally leading to intense irritation, mostly perpetrated  
19 by males. Further, increasing frustrations stemming from the strict restrictions  
20 are likely to lead to heightened tendencies to demonstrate violence.

21 The motivations for this research are emphasised in the literature, with the  
22 absence of a UK-based study in this area is the main driving force for this  
23 study, making this unique contribution particularly important. An  
24 understanding of the effects of lockdown on aggression will provide an insight  
25 into the reality of isolation and enable recommendations to be made for the  
26 future. Identifying triggers to violence can help pinpoint areas for improvement  
27 and highlight individuals who are likely to assert aggression or those who are  
28 potential victims. Being aware of these two groups will enable strategies to be  
29 designed to protect both from possible harm and inform future interventions.  
30 Further, the findings will contribute to the existing literature on COVID and  
31 aggression and enable a global comparison with the research conducted in  
32 other countries.

## 35 **Methodology**

### 37 *Participants*

39 The individuals in the sample were recruited through a questionnaire link  
40 disseminated on a variety of platforms. Social media pages, both personal and  
41 public, such as Facebook, Reddit, and LinkedIn, along with Sona, Survey  
42 Circle and multiple University student sites were used to promote the  
43 questionnaire and find a range of different participants to ensure  
44 generalisability. The original sample consisted of 149 participants, 21 males,  
45 127 females and one preferred not to say. 50% of the sample were aged 21-25,  
46 with 85% reporting their ethnicity as white and 58% students. However,

1 several responses had to be removed as they were unable to complete all  
2 required sections. Although some questionnaires were not completed in full,  
3 only some of the data was necessary for each analysis and therefore each test  
4 conducted had a different number of participants within the sample. In total,  
5 there was 104 participants in the before and after lockdown condition, with 116  
6 participants in the conformity variable.

### 7 8 *Design*

9  
10 The research adopted a within-subjects design as each of the participants  
11 completed all the stages of the questionnaire. This design was chosen as there  
12 were not different conditions being tested, nor were there different groups and  
13 therefore it was important that the individuals answered each section to  
14 investigate the research questions.

### 15 16 *Materials*

17  
18 A mixed method was adopted in the form of a questionnaire created using  
19 Qualtrics, consisting of four different sections. A demographic section  
20 enquired about the participant's background characteristics. The next section  
21 asked participants to describe their feelings towards a range of rules adopted  
22 during lockdown to assess triggers.

23 The third section was the Buss and Perry (1992) Aggression  
24 Questionnaire, enabling a direct comparison between participant self-reported  
25 perceptions of their own aggression before and during the lockdown period.  
26 Two 5-point scales, ranging from one (extremely uncharacteristic of me) to  
27 five (extremely characteristic of me), were used to indicate how characteristic  
28 each of the 29 statements were in describing participants and measured levels  
29 before the crisis and since. This method was chosen as it enabled a complete  
30 understanding of aggression levels and had been proven to be a valid scale.  
31 Cronbach's Alpha argued the scale possessed considerable internal consistency  
32 and reliability coefficients indicated adequate stability (Buss & Perry, 1992).  
33 The scale consisted of four factors: nine items for physical aggression, five  
34 items for verbal aggression, seven items for anger and eight for hostility. The  
35 individual subscales were calculated for before and during lockdown along  
36 with a total for each of the timescales.

37 The Goldsmith and Clarke Conformity Scale was the final component of  
38 the questionnaire, used to understand the participants' likelihood of being  
39 influenced by external sources. Seven bipolar adjectives were used to measure  
40 the tendency to conform, employing a 7-point semantic differential format,  
41 indicating which adjective they most related to (Goldsmith et al., 2005). This  
42 scale was employed as it had been tested for validity, with internal consistency  
43 indicating acceptable to good reliability. The scoring system was coded 1-7,  
44 depending on how close to each adjective on the scale they felt they related to  
45 the most. A total column was calculated to include all the items as a higher  
46 overall score indicated greater conformity.



1 *Procedure*

2

3 Individuals participating in the study were required to provide informed  
 4 consent to ensure their cooperation was voluntary. The sample was then asked  
 5 to briefly describe how a list of lockdown rules made them feel. The next  
 6 section was the aggression scale, presenting participants with 29 statements  
 7 regarding aggression and asking them to rate how characteristic each of the  
 8 statements were of themselves, before and during the lockdown. The final  
 9 section provided participants with seven pairs of opposite adjectives and asked  
 10 for an indication on the scale of which best reflected their own personality.  
 11 After this a debrief form was issued, ensuring the studies aims and participants  
 12 rights were reinforced. There were no time constraints on the sections,  
 13 however, each question forced a response so participants could not progress  
 14 until they had answered the previous question.

15

16

17 **Results**

18

19 *Descriptive Statistics*

20

21 Descriptive statistics were run on the continuous variables, aggression, and  
 22 conformity, with the results of these tests are displayed in table 1. The varying  
 23 sample sizes are a result of incomplete responses. Table 1 outlines the  
 24 descriptive statistics for the measures of central tendency and spread of the data  
 25 for the subscales and totals of conformity and aggression before and during the  
 26 lockdown. In total, before lockdown the mean aggression score for the 104  
 27 participants was 61.97 (SD = 15.38), which increased to (M = 65.53, SD =  
 28 16.03) during lockdown. Of the 116 participants in the conformity variable, the  
 29 mean score was 33.34, (SD = 4.46); this variable had a negative skew.

30

31 **Table 1.** *Descriptive Statistics of Continuous Variables*

		N	Min.	Max.	Mean	Std. Deviation
		Stat.	Stat.	Stat.	Stat.	Stat.
(Before Lockdown)	Physical Aggression	104	9.00	32.00	19.95	4.83
	Verbal Aggression	104	5.00	19.00	10.55	3.52
	Anger	104	7.00	26.00	16.38	4.33
	Hostility	104	8.00	27.00	15.10	5.26
	Total	104	29.00	101.00	61.97	15.38
(During Lockdown)	Physical Aggression	104	9.00	33.00	21.07	5.25

Verbal Aggression	104	5.00	19.00	11.13	3.56
Anger	104	7.00	28.00	17.52	4.64
Hostility	104	8.00	27.00	15.82	5.20
Total	104	29.00	101.0	65.53	16.03
Conformity	116	17.00	48.00	33.34	4.46

1

2 *Inferential Statistics*

3

4 Prior to the following analyses, the variables were tested for normal  
5 distribution and data was examined for compliance with the assumptions. The  
6 first set of tests conducted analysed the relationship between aggression and  
7 the lockdown period. The hypothesis tested was that individuals would report  
8 higher levels of aggression after the lockdown period, (H1). The self-reported  
9 results of perceived aggression before the lockdown were compared to  
10 perceived aggression during the lockdown. Each of the four subscales of  
11 aggression were analysed, along with the totals, to understand the differences  
12 in aggression. There was a statistically significant increase in verbal aggression  
13 before ( $M = 10.55$ ,  $SD = 3.52$ ) and during ( $M = 11.1$ ,  $SD = 3.56$ ),  $t = 1010$ ,  $Z = -$   
14  $4.432$ ,  $p = 0.00$ ) the lockdown. The median scores for before and during  
15 lockdown were 10 and 11, respectively, with 41 participants reporting higher  
16 levels of verbal aggression after the lockdown, whereas only seven reported  
17 higher aggression before the lockdown. There was also a statistically  
18 significant increase in hostility before ( $M = 15.09$ ,  $SD = 5.26$ ) to during  
19 lockdown ( $M = 15.82$ ,  $SD = 5.20$ ),  $t = 1195$ ,  $Z = -4.315$ ,  $p = 0.00$ . The median  
20 scores for before and during lockdown were 14 and 15, respectively, with 41  
21 participants reporting higher levels of hostility after lockdown but only 12  
22 reported higher levels before.

23 For the physical and anger subscales, along with the totals, repeated  
24 measures t-tests were conducted. There was a significant increase in physical  
25 aggression from before lockdown ( $M = 19.95$ ,  $SD = 4.83$ ) to during lockdown  
26 ( $M = 21.07$ ,  $SD = 5.25$ ), with this difference being statistically significant,  
27  $t(103) = -4.76$ ,  $0 < 0.01$ . The mean increase in physical aggression was 1.12  
28 with a 95% confidence interval ranging from -1.58 to -.65. The eta squared  
29 statistic (0.47) indicated a small effect. There was also a significant increase in  
30 anger from before the lockdown ( $M = 16.38$ ,  $SD = 4.33$ ) to during lockdown  
31 ( $M = 17.52$ ,  $SD = 4.64$ ), this difference was statistically significant,  $t(103) = -$   
32  $5.17$ ,  $0 < 0.01$ . The mean increase in anger was 1.14 with a 95% confidence  
33 interval ranging from -1.57 to -.70. The eta squared statistic (0.51) indicated a  
34 medium effect. A significant increase was identified for the totals from before  
35 the lockdown ( $M = 61.97$ ,  $SD = 15.38$ ) to during lockdown ( $M = 65.53$ ,  $SD =$   
36  $16.03$ ), this difference was statistically significant,  $t(103) = -6.07$ ,  $0 < 0.01$ . The  
37 mean increase in total aggression was 3.56 with a 95% confidence interval  
38 ranging from -4.72 to -2.39. The eta squared statistic (0.594) indicated a  
39 medium effect.

1 An additional analysis was also run on this data set to further investigate  
2 whether there were any differences in aggression between each gender. An  
3 independent samples t-test was conducted to analyse whether males were more  
4 aggressive than females. The hypothesis for this analysis stated that males are  
5 more likely to be aggressive than females, (H2). There was not a statistically  
6 significant difference in aggression between males and females before  
7 lockdown,  $t(102) = 1.94, p = 0.55$ ; ( $M = 69.00, SD = 14.55$ ) and ( $M = 60.29,$   
8  $SD = 15.28$ ) respectively. Nor was there a significant difference in aggression  
9 between males ( $M = 69.47, SD = 13.99$ ) and females ( $M = 64.87, SD = 16.33$ )  
10 during lockdown,  $t(102) = 1.03, p = 0.43$ . Therefore, the null hypothesis was  
11 accepted. A second independent samples t-test was conducted to investigate  
12 whether there was a difference in conformity between each gender. There was  
13 not a statistically significant difference in conformity between males ( $M =$   
14  $33.42, SD = 3.49$ ) and females ( $M = 33.33, SD = 4.64$ ),  $t(114) = 0.081, p =$   
15  $0.94$ . Therefore, the null hypothesis was accepted.

16 The final set of analyses conducted investigated the relationship between  
17 aggression and conformity, to see whether the former could predict the latter. A  
18 simple correlation was carried out for both aggression timescales to conclude  
19 whether the two variables were associated. There was a very weak positive  
20 correlation between conformity and aggression before lockdown, meaning the  
21 two variables increased together. However, the relationship was not  
22 statistically significant, ( $r = 0.12, p > 0.05$ ).

23 There was also a very weak positive correlation between conformity and  
24 aggression during lockdown, meaning a greater aggression score was  
25 associated with a greater conformity score. However, the relationship was not  
26 found to be statistically significant, ( $r = 0.11, p > 0.05$ ). Confirmatory analysis  
27 was then conducted on the variables in the form of a simple linear regression to  
28 predict conformity based on aggression. The results found that neither  
29 aggression pre-lockdown,  $F(1, 105) = 1.40, p = 0.24$ , nor aggression during  
30 lockdown,  $F(1, 104) = 1.33, p = 0.23$  were significant predictors of conformity.  
31 Therefore, the null hypothesis was not rejected.

### 32 33 *Content Analysis*

34  
35 The answers provided by participants to the COVID questions were  
36 subject to content analysis, to analyse feelings towards specific restrictions in  
37 place and the potential triggers of aggression. Participants were asked about  
38 different rules relating to restricted activity such as seeing loved ones,  
39 attending hospitality venues, travelling, and working from home. A common  
40 theme identified throughout was a shared understanding as participants could  
41 recognise the importance of the new rules and their benefits, however, could  
42 not help but express their concern and unhappiness. A small group of  
43 participants were unbothered by the newly implemented restrictions as they  
44 were more than happy to stay at home and did not rely on others for life  
45 satisfaction. However, from most respondents, the main themes identified were  
46 anger, loneliness, powerlessness, social deprivation, and suffocation.

1       Synonyms of anger were very commonly reported by the sample within  
2 this section, such as the repetition of the word's frustration, hate, annoyed,  
3 disappointed, and stressed was constant. There was a strong indication of  
4 irritation as participants felt extremely annoyed about the new rules and  
5 interruption to their daily routines. The restriction that generated the most  
6 anger was not being able to see loved ones and staying at home unless journeys  
7 were essential, closely followed by cancellations to leisure activities as this  
8 brought up a lot of negative feelings. Another predominant theme was  
9 loneliness. Extreme isolation brought about by being made to stay at home for  
10 long periods of time, triggered feelings of anxiety and helplessness which were  
11 strongly linked to mental health issues. Being unable to see loved ones upset  
12 and saddened many as their support and care systems were taken away from  
13 them, in a time when joining together and helping each other was essential.  
14 Further, for individuals relying on sport and attending work to improve their  
15 life satisfaction, being forced to stay at home was detrimental to their personal  
16 well-being. Participants commonly reported a loss of enjoyment for life  
17 because of the inability to make experiences and have enjoy themselves at  
18 leisure and hospitality venues, describing suffering social deprivation.  
19 Individuals relying on these settings for employment also felt extreme worry  
20 regarding financial loss and uncertainty. Feelings of alienation triggered by  
21 these rules was a key trigger to the onset depressive symptoms, especially for  
22 individuals living alone.

23       Like the strong sense of loneliness, another clear emerging theme was an  
24 overwhelming feeling of suffocation. Respondents commonly reported feeling  
25 trapped and confined in their own homes, almost like they were in prison,  
26 being reprimanded for something they were not responsible for.  
27 Disconnections from the outside world were common and the forced distance  
28 meant major life events were missed and the lack of freedom meant there was  
29 nothing to look forward to. A loss of power was also commonly reported as the  
30 last theme identified from the content analysis. The inability to control their  
31 own lives meant individuals felt weak and helpless as they could not go or do  
32 what they wanted, nor could they express themselves through their hobbies the  
33 way they usually would.

34

35

## 36 **Discussion**

37

38       The main aim of this research was to investigate the relationship between  
39 lockdown and aggression. Hypotheses were developed to investigate this  
40 relationship, stating that individuals would report higher levels of aggression  
41 after the lockdown period (H1), when compared with before, and that males  
42 were more likely to be aggressive than females (H2). The findings showed that  
43 there was an overall significant relationship between the two variables,  
44 including each of the variables' subscales. The subscale with the biggest  
45 increase in aggression was anger, closely followed by physical aggression.  
46 These results confirm H1 as aggression did increase because of lockdown. This

1 supports existing literature as research argues that pandemics commonly  
2 increase violent outbursts such as unprovoked attacks and mass violence  
3 (Cohn, 2020; Cohn & Kutalek, 2016; Esner & Nivette, 2020; Rose, 2018).  
4 Research conducted on COVID-19 in other countries also concluded that  
5 aggression has seen a dramatic increase since the introduction of lockdowns,  
6 particularly escalating family violence and hostility (Gupta & Stahl, 2020). The  
7 findings within this investigation contribute to the literature and support  
8 previous research that concluded that all types of aggression increase during  
9 times of uncertainty.

10 The second hypothesis was not met however, as there was a non-  
11 significant result between gender and aggression, meaning neither gender was  
12 more aggressive than the other. The findings within the literature suggests that  
13 males are predominantly the main perpetrators of violence and often use  
14 pandemics as a way to increase their victimisation towards women (Gulati &  
15 Kelly, 2020; Wenham et al., 2020). Due to this non-significant result, the  
16 analysis could not support the findings within the existing body of research.  
17 This may be due to limitations within the literature; as already outlined, male  
18 victimisation is extremely underreported and stereotypical gender roles mean  
19 that male victims are rarely focused on in research and go undiscovered.  
20 Therefore, it is possible that there is not a difference between female and male  
21 aggression, but this is not reflected in the main body of literature.

22 The third analysis, another investigation into gender, examined whether  
23 there was a relationship between gender and conformity. The results found that  
24 there was not a statistically significant difference in conformity between males  
25 and females. Existing research found evidence that females were more likely to  
26 conform and follow COVID-19 rules and restrictions than males, (Haischer et  
27 al., 2020). The findings within the current analysis do not support these  
28 findings in the literature. This difference may be due to the biased participant  
29 characteristics within the current investigation, or perhaps due to the strict view  
30 of gender as dichotomous within the literature and ignorance to social and  
31 psychological mechanisms as a complicated concept (Brouard et al., 2020).

32 The final analysis attempted to investigate whether there was a  
33 relationship between conformity and aggression as they have both individually  
34 been found to increase during the lockdown, in existing literature. There was a  
35 very weak positive correlation identified between conformity and aggression  
36 before and during lockdown, however, the relationships were not statistically  
37 significant. Existing literature concluded that the crisis initiated displays of  
38 conformity such as irrational panic buying, (Islam et al., 2021) and increasing  
39 obedience to traditional gender roles (Rosenfeld & Tomiyama, 2020; 2021).  
40 Research on previous pandemics also concludes that crises encourage the  
41 bandwagon effect (Wang et al., 2020) and attracts those with extreme views to  
42 join (Abrams et al., 2021). The findings within the current investigation do not  
43 support these findings as the result was non-significant. This may be due to  
44 limitations within the sample, or the method used, as comparing participant  
45 responses to adjectives does not reflect actual displays of conformity and  
46 individual imitation.

1 The themes identified within the content analysis were anger, loneliness,  
2 powerlessness, social deprivation, and suffocation. This analysis enabled an  
3 understanding of feelings towards restrictions introduced by the UK  
4 government to reduce spreading of the pandemic. It was very apparent that the  
5 overall response was extremely negative, as words and phrases used described  
6 feelings of hurt and disappointment. The literature suggests that violence is  
7 often caused by distrust and broken relationships between society and  
8 authoritative bodies in times of uncertainty, (Cohn & Kutalek, 2016), as anger  
9 and disappointment triggered by the isolation may lead to such mistrust and  
10 impairment of confidence in those in power. This could be an explanation for  
11 the growing aggression demonstrated in the dataset. Further explanations for  
12 manifesting aggression within the literature includes increasing anxieties due to  
13 a loss of control (Yang et al., 2021) and sudden economic changes leading to  
14 financial uncertainty (Jedwab, 2020). The content analysis supports this  
15 research as participants reported increasing feelings of powerlessness due to  
16 not being in control of their own lives and fears for their future over economic  
17 insecurity. This may be responsible for the increasing aggression.

18 The literature has also described how an increasing strain on mental health  
19 in past pandemics has led to aggressive episodes (Peterman et al., 2020; Usher  
20 et al., 2020; Van Gelder et al., 2020). This was a main theme identified in the  
21 content analysis, was suffocation and loneliness, which had strong links to  
22 mental health issues because of isolation and being confined at home. Such  
23 depressive symptoms may be a main cause of the apparent increasing violence,  
24 supporting previous research. Similarly, the literature concludes that lifestyle  
25 changes such as social isolation impacts psychological welfare by inducing  
26 stress and depression (Brooks et al., 2020;), which in turn can manifest into  
27 aggression. Social deprivation and missed opportunities reported by  
28 participants add to the possible growing explanations for the increase in  
29 aggression because of lockdown.

### 30 31 *Implications*

32  
33 This research area significantly lacks valid research; therefore, this  
34 investigation makes a substantial contribution. This is beneficial as it aids a  
35 comparison to other research conducted, either supporting or contrasting  
36 previous findings, enabling new information to be brought to light. There is  
37 also the ability to compare findings from this pandemic to previous outbreaks  
38 of disease to understand differences and similarities. This makes a very  
39 important contribution to the real world in terms of prevention for the future.  
40 This investigation can guide an understanding of a 21<sup>st</sup> Century pandemic and  
41 encourage crisis prevention in regard to aggressive action, so we know how to  
42 deal with future outbreaks and ways to improve what has already been done.  
43 With the current energy crisis progressing, it is advisable that the authorities  
44 should be aware of the effect of crises on aggression and particularly domestic  
45 violence. Attempts to apply the findings from this pilot study to new research  
46 related to the energy crisis should take place, in order to create preventive

1 models and policies related to crises and potential increased aggression levels  
2 due to failing measures.

3 Governing bodies can use the results to understand the positive and  
4 negative effects of the lockdown period and take this information and make  
5 new legislation. These authoritative associations can also learn whether the  
6 lockdowns were effective and worth the accompanying consequences, such as  
7 increased aggression and the onset of mental health issues. Understanding the  
8 effect of lockdowns will inspire changes to policy regarding pressure to stay at  
9 home, designing safer ways to get people out of the house. Support and health  
10 services can also use this knowledge to identify at risk individuals and  
11 understand how to redesign and distribute their resources to be most beneficial.  
12 Services created to protect children from abuse or neglect and prevent domestic  
13 or family violence can be improved to reduce cases of exploitation and  
14 maltreatment. Similarly, facilities designed to support those perpetrating the  
15 violence due to the pandemic can be developed to find such individuals and  
16 help them to channel their anger differently.

### 17 18 *Limitations*

19  
20 There were elements of the study restricting success that were evident  
21 from the onset. When designing the study, it was accepted that honesty could  
22 not be guaranteed as the investigation relied on self-report data and therefore,  
23 participants could choose to either conceal information they were embarrassed  
24 about or not tell the truth to finish the questionnaire quicker. It was also  
25 understood that individuals may not recognise that they had been more  
26 aggressive from before the lockdown meaning their answers would also not be  
27 completely accurate. Further, when designing the questionnaire, the rules  
28 regarding lockdowns kept changing meaning there were multiple lockdowns  
29 and therefore participants may have been answering about a previous one.  
30 Similarly, as the data collection period was over a couple of months the area an  
31 individual lived in may not have been made to isolate in that period; more  
32 lenient restrictions at the time may have influenced participants to judge each  
33 rule more compassionately.

34 After the data had been collected, limitations regarding the dataset and  
35 sample were also made apparent. The sample size was less than desirable and  
36 was further reduced as many responses were incomplete. The length of time  
37 available and lengthy questionnaire contributed to this limitation as many  
38 participants began the survey but gave up halfway through. Another issue  
39 identified was that the sample was not representative of the general population,  
40 as the demographics showed that the group was predominantly young, female,  
41 university students. Future research could increase the sample size to avoid  
42 such issues.

43 Other limitations that require consideration were that lockdown might not  
44 have been the cause of the apparent increase in aggression. A range of  
45 unconnected life events could have led to this change, such as personal or  
46 health problems. Further, emotional responses to the lockdown restrictions

1 depended heavily on an individual's priorities. For example, participants with  
2 children's concerns would be primarily focused on the wellbeing of their  
3 family and financial uncertainty, however, younger participants would have  
4 predominantly been concerned about not being allowed to attend festivals or go  
5 out with friends. Therefore, obtaining a sample that was representative of  
6 individuals in each stage of life was essential, so all feelings were considered  
7 and analysed.

#### 8 9 *Future Research*

10  
11 An in depth understanding of the test results and discussion of the  
12 limitations enabled suggestions to be made regarding future research and  
13 potential recreation of this investigation. To amend the problems with the  
14 sample size and demographics, a more thorough recruitment process could be  
15 conducted; participants could be enrolled through alternative methods such as  
16 through the post or on the telephone which would guarantee a more diverse  
17 group and greater participation. A larger sample would afford a more  
18 generalisable conclusion and more accuracy. Further, to address concerns over  
19 honesty, the Brief Social Desirability Scale could have been included to  
20 uncover whether participants were answering to adhere to socially desirable  
21 expectations. This would enable an understanding of whether participants were  
22 being honest and therefore increase validity of the results.

#### 23 24 25 **Conclusion**

26  
27 To conclude, it is evident that this investigation was very beneficial as it  
28 provided a significant contribution to the existing knowledge of the pandemic  
29 and accompanying measures. The analysis conducted enabled the main aim to  
30 be answered and confirmed that there was a positive relationship between  
31 aggression and the lockdown period. This finding provides validation to  
32 existing research by supporting the arguments made by other researchers who  
33 have also recognised this relationship. The analysis also facilitated a thorough  
34 understanding of triggers to aggression as feelings of anger and frustration  
35 were quoted frequently as a response to newly imposed regulations. Due to the  
36 nature of the pandemic's growth being so quick, little is known within this area  
37 meaning it was essential to fill the gap within the knowledge, meaning this  
38 study will hold substantial weight in the academic field. The benefits have not  
39 only been within academic circles, however, as this research has highlighted  
40 the extreme importance of making changes to responses to the pandemic by the  
41 government and existing services in the real world, such as those helping  
42 victims of violence. This step is essential to protect vulnerable individuals and  
43 rehabilitate perpetrators.

44  
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