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# Did Covid-19 lead to an increase in hate crimes towards Chinese people in London?

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**Abstract**

There is a long history of research that shows how world events can influence attitudes and behaviours towards whole groups of nations, religions, ethnicities and racial groups. In this paper we examine whether Covid-19, which at the time of writing was widely believed to have originated in China, negatively affected the environment for Chinese people in London leading to an increase in hate crimes towards this group relative to others. We test our hypothesis using data from the Metropolitan Police for the whole of the Metropolitan area of London. We use a difference-in-differences approach to examine what happened to hate crimes against Chinese people in London in the months before (Oct 2019-Dec 2019) and the months after the Covid-19 pandemic (Jan-Mar 2020) relative to other ethnic groups, to other crimes and to other time periods. Our methodology utilises the fact that Covid-19 came as an unexpected shock, which very quickly changed the environment for crime, and did so differentially across ethnicities. We argue that this shock is likely to negatively impact on attitudes and behaviours towards Chinese people, but have no effect on other ethnicities. Our results show that in the months after Covid-19 there was an increase in hate crimes against Chinese people in London, but this increase was not seen amongst the other ethnic groups examined, other non-hate crimes, nor in any other time period. This leads us to conclude that Covid-19 lead to an increase in hate crimes against Chinese people in London.

**Keywords**: Covid-19, hate crimes, victimisation, Chinese, London
**JEL Codes:** B41, B55, C01, C12, C25, C52, K42

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## Introduction

Coronavirus disease (or Covid-19), although not officially named by the World Health Organisation (WHO) until February 2020, first appeared at the end of 2019, with a number of people showing pneumonia like symptoms in Wuhan, China. The disease quickly spread beyond China, so by the time the world knew it as coronavirus the disease had already spread to other countries. The World Health Organisation intentionally gave the virus a generic name, that does not refer to a geographical area, an individual, or group of people to avoid any stigmatisation.[3] The WHO made a conscious decision not to reference the disease by its virus strain SARS-CoV-2, to avoid creating unnecessary fear of Asia which was worst affected by the SARS outbreak in 2003.[4] Despite this, the fact that the pandemic is widely believed, at the time of writing, to have originated in Wuhan, China, and is commonly believed to be associated with Chinese wet markets, it was not long before we started to see reports of Chinese people being discriminated against, subject to abuse and even violence in a number of different countries. In the UK, the most well publicised is the case of Jonathan Mok a student from Singapore who was attacked in Oxford Street, London on February 24th by perpetrators who shouted 'coronavirus' at him (Independent, Feb, 2020; Guardian, Feb, 2020).[5]

In this paper, we explore the impact of Covid-19 on hate crimes against Chinese people on a much larger scale, using data from the Metropolitan Police for

[3] https://www.cnbc.com/2020/03/18/who-officials-warn-us-president-trump-against-calling-coronavirus-the-chinese-virus.html - accessed 18/05/2020.
[4] https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/naming-the-coronavirus-disease-(covid-2019)-and-the-virus-that-causes-it – accessed 18/05/2020.
[5] See Chiu, A. (2020, March 20) in the Washington Post for similar stories in the US https://www.washingtonpost. com/nation/2020/03/20/coronavirus-trump-chinese-virus/ - accessed 04/07/2020 and the Asian Pacific Policy and Planning Council http://www.asianpacificpolicyandplanningcouncil.org/stop-aapi-hate/. See also Gover et al. (2020), Tessler et al. (2020) and Vachuska (2020) for examples of anecdotal evidence of hate crimes against Chinese people in Post-Covid-19 US.

the whole of the Metropolitan area of London. We use a difference-in-differences (D-in-D) approach to examine what happened to hate crimes against Chinese people in London before and after the Covid-19 pandemic relative to other ethnic groups, other crimes and other time periods. Using this methodology allows us better to establish a causal link between the Covid-19 pandemic and hate crimes against Chinese people in London.

**Background**

Hate crime is a crime directed at a particular group because of their membership of that group. A lot of research has used this idea to empirically examine crimes against the LGBT community (Berrill and Herek, 1992 ), different racial or ethnic groups (Hanes and Machin, 2014), religious groups (Abu-Ras and Suarez, 2009; Ivandic et al., 2020) or generate theories that focus on hate crimes as violence directed towards marginalised groups (Perry, 2009; Chakraborti, 2010; Walters, 2010). Prior to Covid-19, research has tended not to focus on hate crimes against Chinese people who, as a group, have often been referred to as a 'model minorities' both in the UK (Gilborn, 2008) and US (Wong et al.,1998). Overall, the Chinese community in the UK has a record of high academic achievement, and the second highest household income among demographic groups in the UK, after British Indians (UK gov, 2020).

However, it is clear that world events can influence views of, and attitudes towards, racial groups (Sheridan and Gillett, 2005). Indeed, history has shown us that particular events have led to the stigmatization or whole groups of nations, religions, ethnic, racial or other identifiable groupings. Studies of the aftermath of wars show unfavourable attitudes and behaviours to the losing sides (Dudycha,

1942; Zelig, 1954;Sinha and Upadhyaya, 1960; Poynting, 2002) and studies of acts of terrorism show unfavourable treatment of people of the same race, religion or nationality as the terrorists (Newell, 1990; Hage, 1991; Bar-Tal and Labin, 2001; Swahn, et al., 2003; Poynting and Nobel, 2004; Panagopoulos, 2006; Hanes and Machin, 2014; Ivandic et al.,2020). Research on the HIV/AIDS epidemic identify links with the vilification of gay men (Herek and Glunt, 1988; Herek and Capitanio, 1993); and while we could find no empirical evidence on the 2003 SARS epidemic, there are newspaper reports that link SARS with an increase in racists behaviour towards Chinese people in North America (Sorenson, 2003; Washington Post, 2003). And, Muzzatti (2005) offers a good discussion of how xenophobia has historically increased after pandemics. Especially when the pandemics involve major loss of life.

Disha et al. (2011) argue that in instances such as these, a specific event triggers intergroup prejudice and in some cases even violence. It does so because when people are anxious or under threat they fall back on stereotypical beliefs and attitudes (Bodenhause,1993; Smith,1993), which they apply without careful consideration and assessment (Bar-Tel and Labin, 2001). Importantly, the stereotyping and social judgements are not made at the individual level but to whole groups (Hamilton, 1981) who are somehow seen as responsible for the event. A type of collective blaming that holds all members of a group responsible (Lickel et al., 2003) and transforming them into convenient targets for retribution (Lickel et al., 2006), justifying any negative behaviour towards that group as a whole, which is now seen as a type of justifiable revenge or ‘vicarious retribution’ (Lickel et al., 2006).

Drawing on this evidence we argue that the unexpected event created by Covid-19 might alter the situation for Chinese people in the UK raising the possibility that they would experience an increase in hate crimes. As the virus escalates,

receives more media coverage[6] and claims more lives in the UK, we hypothesise that hate crimes against Chinese people will increase, until lockdown is instigated in the UK on 24th March 2020. However, very importantly, Covid-19 only changes the environment for Chinese people and has no effect on the environment for other ethnic groups. This provides us with a control group against which we can measure the impact of Covid-19 (the treatment) on the Chinese (the treated). To pre-empt the results this is exactly what the analysis finds: Covid-19 leads to an increase in hate crimes against Chinese people in London, rising across the first three months on 2020, until lock down was initiated. But Covid-19 has no impact on hate crimes against other ethnic groups.

**Covid-19 time frame to UK lockdown.**

To help us think about when we would expect to see a rise in crimes against Chinese people as a result of Covid-19 it helps to consider a time-line of events, starting from the 31st of December 2019 when China, reported a cluster of cases of pneumonia in Wuhan, Hubei Province, through the worldwide spread of Covid-19 until March 24th when the UK went into lockdown.

On 31st Dec 2019 Wuhan Municipal Health Commission, China, reported a cluster of pneumonia-like cases in Wuhan, Hubei Province. The next day (1st January, 2020) the WHO set up the Incident Management Support Team, putting the organization on an emergency footing for dealing with the outbreak. By 4th January, 2020 the WHO reported on social media that there was a cluster of pneumonia cases – with no deaths – in Wuhan, Hubei province.[7] The first death occurred on

[6] See Gentzkow and Shapiro, 2004 or Ivandic et al. (2020) for a recent analysis of the role media representation plays in fuelling hate crimes and Vachuska (2020) for an analysis of google trends linking Covid-19 to anti-Chinese sentiment in the US.

[7] https://www.who.int/news-room/detail/27-04-2020-who-timeline---covid-19

January 11th 2020. By the end of January the virus had spread to Taiwain, Japan, South Korea, Thailand and the UK and US. The first two people (both Chinese nationals) tested positive for Covid-19 in the UK on January 29th, their positive test results were publicly announced on January 30th. On the same day the WHO declared a global health emergency amid thousands of new cases in China. By February 4th, the UK directs its citizens to leave China if possible and on 11th the first British victim dies of coronavirus onboard the Diamond Princess and UK authorities confirm that the first case of the illness has been passed on inside the country.

In early March, cases of Covid-19 begin to surge in the UK. By the 10th March, Nadine Dorries, a junior health minister, becomes the first MP to test positive for coronavirus and by this time 6 people in the UK have now died of the illness. By the 11th March the WHO declares the virus a pandemic, stock markets plunge and UK Chancellor Rishi Sunak announces a £12bn package of emergency support to help the UK cope with the fall out from the coronavirus. By March 13th a number of UK sporting events announce their postponement including the London Marathon and Premier League football matches are suspended.

Prime Minister Boris Johnson begins daily Covid-19 press briefings on 16th March, urging everybody in the UK to work from home and avoid pubs and restaurants to give the NHS time to cope with the pandemic. By now the UK's death toll has by risen to 55. On the same day, US President Donald Trump stops referring to the disease as coronavirus and starts calling it the Chinese virus.[8] Back in the UK on 17th March Rishi Sunak adopts the largest package of emergency state support

[8] [8] https://www.washingtonpost.com/gdpr-consent/?next_url=https%3a%2f%2fwww.washingtonpost.com%2fnation%2f2020%2f03%2f20%2fcoronavirus-trump-chinese-virus%2f

for business since the 2008 financial crash, including £330 billion of government-backed loans and more than £20 billion in tax cuts and grants for companies threatened with collapse. By March 18th the UK government announces most schools across England will be shut down from Friday until further notice. This is closely followed by announcements that schools in Wales and Scotland will also be closed. By 20th March all pubs, restaurants, gyms and other social venues across the country are told to close and the chancellor announces the government will pay up to 80 percent of wages for workers at risk of being laid off. On March 23rd Boris Johnson institutes lockdown; Britons should only go outside to buy food, to exercise once a day, or to go to work if they absolutely cannot work from home. People breaking these new rules will face police fines.

Drawing on this timeline we would expect to see little change in the hate crime victimisation of Chinese people in the early days of Covid-19, by February we might expect to see a small increase in hate crimes against Chinese people, but we hypothesise that, as set out in this timeline for the UK most of the Covid-19 escalation happens in March 2020, so this is the month we would expect to see the largest increase in the victimisation against Chinese people in London.

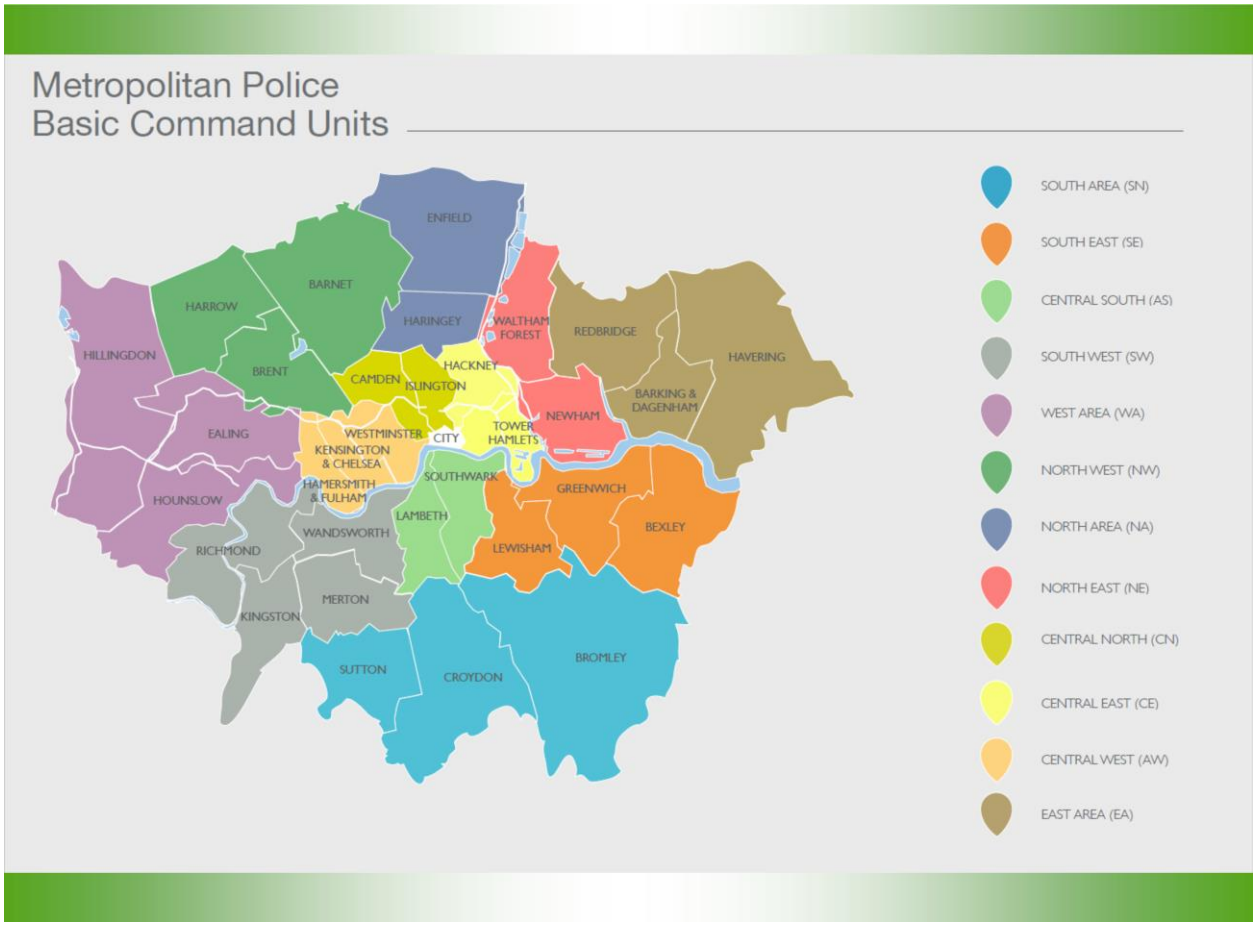
**Data**

The data we use follows what happens to hate crimes against Chinese people in London across the timeline detailed above (Jan 1st, 2020-Mar 24th, 2020). In a double differenced framework we compare it to hate crimes against Chinese prior to Covid-19 (Oct 1st, 2019 - end of Dec, 2019) and compared to other ethnic groups across the same time frame. We also look at non-hate crimes over this period as we want to make sure any rise in crime against Chinese people during this period is

restricted to hate crimes. Finally, we set up a placebo test to ensure any differences we find are not due to seasonal trends in crime by comparing hate crimes against Chinese people and other ethnicities across the same months in the previous year (Oct 1st, 2018 - end March 2019).

The data we use come from the Metropolitan Police Crime Reporting Information System (CRIS) data, which are all recorded crimes within the Metropolitan Police Area of London. The area covered by the Met is shown in Figure 1, which identifies the London Boroughs in the Metropolitan area and the 12 Basic Command Units that the Metropolitan Police area is divided into.

**Figure 1. The area covered by the Metropolitan Police**




(Source – London Metropolitan Police)

Crimes can be reported in a number of ways[9] and are recorded as crimes by the responding officers. If the way the crimes are recorded changes over the period we examine and does so in a way that would differentially affect ethnic groups this would pose a problem for our difference-in differences approach. However, we can see no reason why policing or the recording of the crimes would change over the six month period we examine. Policing prioritises clearly change once lockdown starts (24th April March 2020), but our analysis is prior to this period. Even in the situation where there is some pre-emptive change in policing procedures and/or priorities in the build up to lockdown there is no clear reason why this would affect the reporting or recording of crimes differentially by ethnicity of the victim.

The data are recorded crimes, by the day, by crime type, by London Borough, and for the majority of observations, by the ethnicity, gender and age of victim. We analyse only data where the ethnicity of the victim in known.[10] The group we are particularly interested in are identified as 'Oriental' in the dataset, for the remainder of the paper we refer to this group as Chinese. The 'Oriental' category in the dataset will include individuals from areas of East Asia outside of China but this does not compromise our analysis as we are concerned with the ethnic group the victim is perceived to belong to by others.

We examine these data in monthly periods with three months before and after Jan 1st 2020,[11] which we use as the start date of Covid 19 as this is the date the

[9] CRIS reports can come from: 1) Automated alarm message to police (covers all alarm calls); 2) Reports direct to officer on duty and away from police building; 3) reports by person calling at police building; 4) discovered by police (i.e come across a shop lifter whilst out on duty); 5) Online reporting; 6) Reports to police by social services; 7) reports to police by school/education authority; 8) reports to police by dr/hospital; 9) Any report from Health Clinic sexual assault unit; 10) Reports by means other than above (letter/fax etc); 11) Phone call to police (999/101); 12) Report by email; 13) Crime transferred in from another force; 14) Reports received from third party report sites; 15) Reports to police by fire brigades.

[10] But we exclude Asians due to the possible overlap of Chinese and Asian. And we also exclude 'dark European' as the sample size is small.

[11] We use March 23rd as are last date in March as after this the UK went into lockdown, which changed the environment for crime again.

WHO was put on emergency footing to deal with the situation that prior to January 2020 had been confined to Wuhan, China and after January 1st 2020 things very quickly escalated. We compare the trends in hate crimes across these periods in a number of different ways. We compare the change in the probability of being a victim of hate crime for Chinese people in the months before and after Covid-19. We compare this to changes in hate crimes against other ethnic groups that we expect not to be affected by Covid-19 – those of White, Black and Arab ethnicity.[12] As robustness checks we later compare the situation with non-hate crimes against Chinese people and hate crimes against the different ethnic groups the year prior to Covid-19 (October 2018-March 2019). This way be are more convinced that any patterns we are seeing over the Covid-19 period are really attributable to an increase in hate crimes against Chinese people due to Covid-19.

In various models we add controls that account for the demographic characteristics of the victim (age, ethnicity and gender), these data are part of the CRIS data. In some specifications we also include crime fixed effects and area fixed effects using dummy variables for crime types and the 12 Basic Command Unit areas using the CRIS data. Additionally, we add in area level controls which include the percentage of males under 25, the percentage of the population with no qualifications, the percentage of the population economically active and the percentage of the population who are non-white which come from the Office of National Statistics[13] at London borough level which we aggregate to the 12 Basic Command Unit areas.[14]

[12] We deliberately do not focus on people of Asian ethnicity due to the possibility of Chinese victims being categorised as Asian rather than Oriental.
[13] Downloaded from https://data.london.gov.uk/ on 4/6/2020.
[14] The 12 areas are: "Central East" 2 "Central North" 3 "Central South" 4"Central West" 5 "East Area" 6"North" 7 "North East" 8 "North West" 9 "South" 10 "South East" 11 "South West" 12 "West Area". We aggregate to this level for the area controls as there are too few hate crimes to analyse the data at Borough level.

During the initial 6 month period we examine (October 2019-March 2020) there are 4825 recorded hate crimes against the ethnic groups we examine in the London Metropolitan area. The Metropolitan Police record hate crimes on the grounds of race, faith or religion, transphobia, homophobia or disability. Most hate crimes are race related. In this period there are 3855 race related hate crimes committed against people of Chinese, White, Black and Arab ethnicity in the London Metropolitan area. On average, race related hate crimes make up almost 80 percent of all hate crimes. But this varies by ethnicity, with race related crimes accounting for a higher percentage of total hate crimes committed against Chinese people than other groups. This is due to the fact that hate crimes against Chinese people on the grounds of faith or religion, transphobia, homophobia or disability are very rare (<5 cases in any category for the period we are examining). The majority of both hate crimes and race crimes are violent (94% and 92% respectively). Table 1 shows that Chinese victims only account for 5.2 percent of all hate crimes and 6.3 percent of all race crimes across the 6 month period we are looking at. But when we examine the crimes as rates per 1000 people of the same ethnicity in the London Metropolitan area the rates, while slightly lower than other non-white groups (1.62 and 1.55 crimes per 1000 of the pop), are considerably higher than the rates of crimes against whites (0.42 and 0.27 respectively).

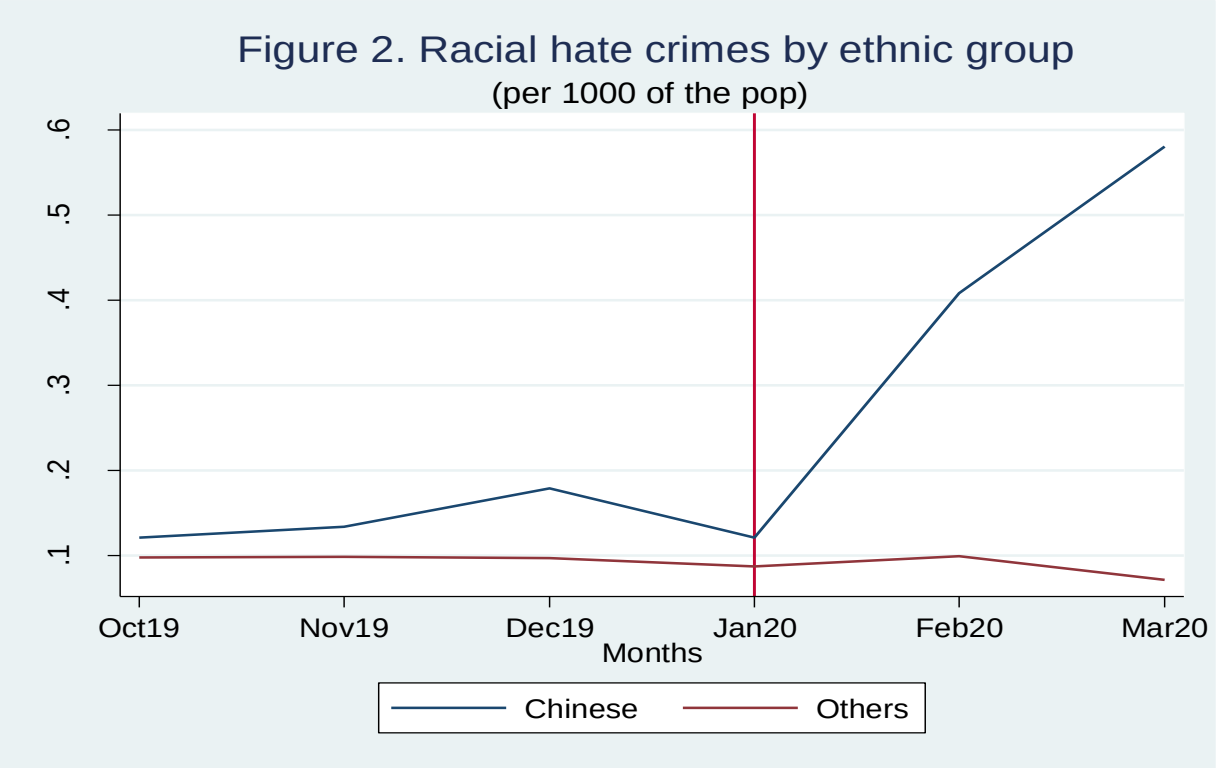
**Table 1. Numbers of hate and race related crimes in the London Metropolitan area between 1st Oct 2019-24th March 2020 by ethnicity and crime type (with rates per 1000 of the population in parentheses).**

| | Hate Crime | Race Crimes | Race Crimes (as a % of all hate crimes) |
|---|---|---|---|
| Total | 4825 | 3855 | 79.9 |
| **By ethnic group:** | | | |
| Chinese | 253 (1.62) | 242 (1.55) | 96.8 |
| White | 2,139 (0.42) | 1,398 (0.27) | 65.4 |
| Black | 2,183 (1.77) | 2,027 (1.64) | 92.9 |
| Arab/Middle Eastern | 250 (1.70) | 188 (1.28) | 65.4 |
| **By offense:** | | | |
| Assault with Injury | 304 | 239 | |
| Common Assault | 705 | 553 | |
| Harassment | 3,279 | 2,672 | |
| Other violence | 100 | 86 | |
| Serious wounding | 123 | 86 | |
| Burglary | 21 | 14 | |
| Criminal Damage | 157 | 120 | |
| Theft | 106 | 65 | |
| Other offense | 30 | 20 | |

Notes: Number of victimisations, with rates per 1000 of the population within the same ethnicity in parentheses. Metropolitan Police CRIS data from 1st Oct 2019-24th Mar 2020.

What we are really interested in is whether Covid-19 lead to an increase in race related hate crimes (referred to as hate crimes for the rest of the paper) against Chinese people relative to other groups. We examine this descriptively in Figure 2 which plots the number of victims of hate crime amongst Chinese people compared to the other ethnic groups. We can see very clearly that hate crimes against Chinese people go up to almost .6 hate crimes per 1000 of Chinese people population compared to a relatively flat but slightly declining rate of victimisation for all other ethnic groups after January 2020.

**Figure 2. Number of hate crimes per 1000 of the population for Chinese compared to other ethnic groups**




## Methodological approach

The graph suggests that hate crimes against Chinese people increased post-Covid-19, but the victimisation of other groups did not. To test this more formally we employ a difference-in-differences approach which utilises the fact that Covid-19 came as an unexpected shock, or a 'treatment' which very quickly changed the environment for crime, and did so differentially across ethnicities. In this scenario, Chinese people become a 'treatment' group, those we expect to be affected by Covid-19 and other ethnicities the 'control' group, whose victimisation rates we expect to remain unaffected by Covid-19.

Our model takes the simple form of:

$$\Pr(Y=1)_{it} = \beta_i(\text{Chinese}*\text{treatment}) + \alpha_i + \gamma_t + \varepsilon_{it}$$

Where Y is the probability of being a victim of hate crime, $\alpha_i$ is a dummy variable where 1 indicates whether the victim is Chinese, $\gamma_t$ is the time treatment dummy

variable =1 in the 3 months after Covid-19 compared to the 3 months prior to that. $\beta_i$ is the interaction between our treated group (Chinese) and the treatment dummy (after). The interaction essentially captures the effect of the treatment (Covid-19) on the treated (Chinese victims), or the causal impact of Covid-19 on Chinese hate crimes as long as there is nothing else going on at the same time that would impact on hate crimes against Chinese people. What we are looking for is whether the coefficient on the interaction is positive and significant in the post-period, indicating that hate crimes against Chinese people rose relatively compared to crimes against other ethnic groups over this period.

We run this model and show the average marginal effects of being a victim of hate crime in the months before and after Covid-19 in Table 2. The results show quite clearly that for Chinese people, the probability of being a victim of hate crime increases significantly in the months after Covid-19, increasing by 5.2 percentage points. But for the other ethnic groups there is no significant change in the probability of being a victim of hate crime across the 6 months before and after Covid-19.[15]

**Table 2. Average marginal effects on the probability of being a victim of hate crime for Chinese people compared to other ethnicities before and after Covid-19**

| | AME (dy/dx) |
|---|---|
| After (Jan1st 2020-Mar 24th 2020)<br>Base = Before(Oct 1st 2019-Dec 31st 2019) | |
| Chinese*After | 0.052***<br>(0.006) |
| Other ethnicities*After | -0.001<br>(0.001) |
| *N* | 108711 |
| Pseudo R squared | .003 |

Notes: Coefficients are interactions between our treatment (a dummy indicating the period post Covid-19) and a dummy variable indicating being Chinese (Chinese=1, other ethnicities=0). They are average marginal effects from a probit model. Robust standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

[15] This is true if we use specific ethnic groups as the base line and/ or include Whites in the specification.

The initial results suggest that Covid-19 lead to an increase in hate crimes against Chinese people but not other ethnic groups, however, our hypothesis is also concerned with the timing of events, predicting that Covid-19 would have a heterogenous impact on hate crimes against Chinese people in the months after January 2020, increasing after January 1st 2020 until lockdown on March 24th 2020. So we expand our model specification from a simple before and after Covid-19, to allow Covid-19 to have a differential impact on hate crimes in each of the 3 months before and after January 2020. For the remainder of the analysis, the D-i-D specification is generalised into an event study featuring three pre- and post-Covid-19 time periods. We exclude the last month prior to Covid-19 as the base in our amended models.

Using this approach rather than having one before and after group allows us to see differences in the timing of events after Covid-19 as it is likely the impact on Chinese victims will not be immediate, but will increase over the post-period as Covid-19 has a greater impact on the UK. Referring back to the timeline above, during most of January Covid-19 had little impact in the UK. February saw the first death of a UK citizen on board the Diamond Princess, but it was not until March that cases began to escalate within the UK and the lives of residents began to be affected by the closure of schools, sporting events and stock market falls.

The results of a probit model of the probability of being a victim of hate crime in the months before and after Covid-19 for Chinese people compared to other ethnicities are shown in Table 3. The table is read chronologically from left to right. The base period is the last pre-Covid-19 month (December 2019) and the predicted probabilities for being a victim of hate crime for Chinese people in this month is .031 and for all other ethnicities it is .037. The top panel of the table shows coefficients on

the treatment effects on the treated (the interactions between month and being Chinese), while the lower panel shows the treatment effects on the non-treated (the non-Chinese ethnicities).

Reassuringly, none of the pre-trend coefficients are statistically significant indicating that in the pre-Covid-19 periods the trends in hate crime victimisation for Chinese people and non-Chinese groups are not statistically significant, which satisfies the pre-trend assumption required for D-i-D estimates to be credible. But a clear pattern emerges in the post-Covid-19 period. For the Chinese group the increase we were seeing in the after period in Table 2 is not spread evenly across the post Covid-19 months, instead what we see here is that there is no significant increase in hate crime towards Chinese people in January 2020, but by February the probability of being a victim of hate crimes increases by 4 percentage points. During March 2020 the increase is even higher at 13 percentage points compared to December 2019. This means that for Chinese people the probability of being a victim of hate crime increases after Covid-19 from around 3 percent to just over 7 percent in February 2020 and to over 16 percent in March 2020. However, there is no significant increase in hate crime against other ethnic groups after Covid-19. In fact, for these groups there is a very slight decrease (of 0.6 of a percentage point) in hate crimes in January 2020.

**Table 3. Average marginal effects of being a victim of hate crime in the months before and after Covid-19 for Chinese compared to other ethnicities**

| Prior to Covid-19 | | Post Covid-19 | | |
|---|---|---|---|---|
| Oct 2019 | Nov 2019 | Jan 2020 | Feb 2020 | Mar 2020 |
| Chinese | | | | |
| -0.011 | -0.0067 | -0.0068 | 0.040*** | 0.132*** |
| (0.007) | (0.008) | (0.008) | (0.010) | (0.017) |
| Other ethnic groups | | | | |
| -0.003 | -0.002 | -0.006*** | 0.000 | -0.001 |
| (0.002) | (0.002) | (0.002) | (0.002) | (0.002) |
| *N* | | | | 108711 |
| Pseudo $R^2$ | | | | 0.006 |

Notes: Coefficients are interactions between month dummies and a dummy variable indicating being Chinese. They are average marginal effects from a probit model. Robust standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

*Incorporating other controls and crime and area fixed effects*

The results so far indicate that hate crime victimisation against Chinese people increased in the second and third months after Covid-19 first appeared. However, our model does not control for demographic differences in the victims such as age, gender and ethnicity nor differences in crime types or differences across the areas that make up the London Metropolitan crime area. So in Table 4, we run the same model as Table 3, but this time controlling for other demographic characteristics of the victim (gender, ethnicity, age and age squared) (model A), crime fixed effects (model B), area level demographics (percentage of males in the are under 25, percent with no education, percent non-white, percent economically active) and area fixed effects (model C) and all controls are included in the final model (D). Model A allows us to consider different characteristics of the victim and model B takes into account differences in crime type. Model C, which controls for differences across areas in terms of the population and area fixed effects, allows us to control for all things that affect the area crime rates that don't change across time. So for example, for historical reasons different areas of London have different crime rates which will be captured in this model. We also expect that other things that may influence crime

like education, population, ethnicity and unemployment if not captured in the area controls will be picked up in the fixed effects as, while not exactly constant, they are likely to change very little over the short period of time we are examining here. The results, which are now read chronologically down the rows of the table, show that including these other characteristics does make some difference to the results in terms of magnitude of effects but not to the statistical significance. In these models, February 2020 sees an increase in the probability of being a victim of hate crime for a Chinese person of between 3 and 6 percentage points depending on model specification, while March 2020 sees an increase of between 10 and 13 percentage points compared to the pre-Covid-19 period.

**Table 4. Average marginal effects of being a victim of hate crime for those who are Chinese controlling for demographics of victim and area and crime and area fixed effects across the Covid-19 period**

| | Victim demo (A) | Crime FEs (B) | Area controls and FE (C) | All controls (D) |
|---|---|---|---|---|
| | | Prior to Covid-19 | | |
| Oct 2019 | -0.008 | -0.023 | -0.011 | -0.016 |
| | (0.005) | (0.015) | (0.008) | (0.012) |
| Nov 2019 | -0.005 | -0.020 | -0.007 | -0.015 |
| | (0.006) | (0.015) | (0.009) | (0.015) |
| | | Post Covid-19 | | |
| Jan 2020 | -0.005 | -0.017 | -0.007 | -0.012 |
| | (0.006) | (0.016) | (0.008) | (0.010) |
| Feb 2020 | 0.0306*** | 0.0605*** | 0.0392*** | 0.049*** |
| | (0.008) | (0.017) | (0.009) | (0.012) |
| Mar 2020 | 0.100*** | 0.117*** | 0.131*** | 0.101*** |
| | (0.013) | (0.020) | (0.018) | (0.014) |
| Victim demographics | Yes | No | No | Yes |
| Crime FEs | No | Yes | No | Yes |
| Area controls and FEs | No | No | Yes | Yes |
| *N* | 108711 | 108711 | 108711 | 108711 |
| pseudo $R^2$ | 0.072 | 0.169 | 0.007 | 0.219 |

Notes: Coefficients are interactions between month dummies and a dummy variable indicating being Chinese. They are average marginal effects from a probit model. Demographic controls include gender of victim, age of victim and age squared and ethnicity dummies. Crime FE control for crime type, area controls are % white, % males <25, % economically active, % no qualifications and area Fes include area dummies. Robust standard errors clustered at the area level in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

*Comparing to non-hate crimes*

The results indicate that Covid-19 is associated with an increase in race related hate crimes against Chinese people in London, but that it had no or limited impact on other ethnicities over this time. But we need to make sure that the increase in hate crimes against Chinese people does not reflect a general increase in crimes against Chinese people over this period. To test this Table 5 examines the likelihood of being a victim of crime, where crime is defined as the same crime types as those identified as race crimes in Table 1 but this time focusing on only those crimes that are not recorded as hate crimes to do with race. Otherwise the model is the same as previously, controlling for victim and area demographics as well as crime and area fixed effects. Like Table 3, this table in laid out horizontally rather than vertically so the coefficients are read chronologically from left to right across the columns of the table. What we are concerned with is that if the post-Covid-19 period also sees an increase in other crimes against Chinese people, our results may reflect a general upturn in all types of crimes against Chinese people and not as a result of our hypothesized increase in hate towards Chinese people as a result of Covid-19. However, when we look at the results in Table 5, we can see this is not the case. In fact, there is a decline in non-hate crimes towards Chinese people across most of the period we are looking at. The significant negative coefficient in November 2019 indicates that the decline started prior to Covid-19 and shows this model violates the parallel trends assumption behind difference in differences methodology. So while this decline is not associated with Covid-19 these results highlight that the post-covid-19 increase in hate crimes against Chinese people that we have identified in this paper is a rise confined only to hate crimes against Chinese people.

**Table 5. Average marginal effects of being a victim of crime (not classified as race crimes) for Chinese people before and after Covid-19 controlling for victim and area characteristics, crime and area fixed effects**

| Prior to Covid-19 | | Post Covid-19 | | |
|---|---|---|---|---|
| Oct 2019 | Nov 2019 | Jan 2020 | Feb 2020 | Mar 2020 |
| 0.009 | -0.031 | -0.028 | -0.076*** | -0.173*** |
| (0.010) | (0.016) | (0.016) | (0.008) | (0.017) |
| Victim demographics | | | | Yes |
| Crime FEs | | | | Yes |
| Area controls and FEs | | | | Yes |
| *N* | | | | 108711 |
| Pseudo $R^2$ | | | | 0.167 |

Notes: Coefficients are interactions between month dummies and a dummy variable indicating being Chinese. They are average marginal effects from a probit model. Controls include gender of victim, ethnicity, age of victim and age squared, % white, % males <25, % economically active, % no qualifications and crime and area fixed effects. Robust standard errors clustered at the area level in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

*Comparing to previous time periods*

The results point to significant rises in hate crimes against Chinese people relative to other groups and in line with our hypothesis that the probability of them being a victim of hate crime would increase over the post-Covid-19 period as hatred increased as the virus spread in the UK. But what if such a relationship existed in periods prior to Covid-19? Our finding would turn out to be spurious if the same kind of link did exist. Indeed, were it the case that crime against Chinese people also rose in relative terms and by a similar magnitude in time periods when Covid-19 was not present, then our results could not be attributed to Covid-19. To examine this possibility we run the same model but for an earlier time period that was not subject to Covid-19. Thus, Table 6 shows the same analysis as our full model(D) in Table 4 but this time examining the exact same months in the previous year. We can think of this as a placebo test, examining a before and after period when no treatment existed. If the results show an increase in crimes against Chinese people in the January – March period in 2019 relative to the months prior then the results we have

seen for the post-Covid-19 period in 2020 may reflect some seasonal trends rather than the results of a changed crime environment due to Covid-19. Examining Table 6, we can see this is not the case. Our placebo test shows no significant difference in the probability of being a victim of hate crimes for Chinese people in the three months after December 2018. There is a decrease in Oct 2018 compared to the December but no significant change from the November 2018-March 2019. Therefore, we can be confident that the results showing increases in hate crimes against Chinese people seen over the Covid-19 period relative to other ethnic groups can be attributed to Covid-19.

**Table 6. Average marginal effects of being a victim of hate crime in the year prior to Covid-19 for Chinese, controlling for victim and area demographics and crime and area fixed effects.**

| Placebo Before | | Placebo After | | |
|---|---|---|---|---|
| Oct 2018 | Nov 2018 | Jan 2019 | Feb 2019 | Mar 2019 |
| Chinese | | | | |
| -0.029** | -0.011 | -0.008 | -0.010 | -0.006 |
| (0.012) | (0.016) | (0.010) | (0.006) | (0.007) |
| Victim demographics | | | | Yes |
| Crime FEs | | | | Yes |
| Area controls and FEs | | | | Yes |
| *N* | | | | 108711 |
| Pseudo $R^2$ | | | | |

Notes:Coefficients are interactions between month dummies and a dummy variable indicating ethnicity. They are average marginal effects from a probit model Controls include ethnicity, gender of victim, age of victim and age squared, % white, % males <25, % economically active, % no qualifications and crime and area fixed effects. Robust standard errors clustered at the area level in parentheses. $^{*}$ $p < 0.05$, $^{**}$ $p < 0.01$, $^{***}$ $p < 0.001$.

## Summary

This paper set out to test the hypothesis that Covid-19 may fuel hostility towards Chinese people resulting in an increase in hate crimes towards this group. To do so we utilise the fact that Covid-19 came as an unexpected shock, which very quickly changed the environment for crime for Chinese people yet left the crime environment

for other groups unchanged. This provides us with a difference-in-differences methodological approach where those of Chinese ethnicity become a ‘treatment’ group, those we expect to be affected by Covid-19 and other ethnicities the ‘control’ group, whose victimisation rates we expect to remain unaffected by Covid-19. This methodology lets us better attribute  any changes in hate crimes to the causal impact of Covid-19.

The results show that hate crimes against Chinese people did indeed increase between January and March 2020, after the emergence of Covid-19 and up to the national lockdown. However the model is defined, whether it is the simple before and after, an event type structure or whether the models control for the demographics of the victims or areas, or include crime and area fixed effects (Table 4) the coefficients remain robustly similar, indicating that the probability of being a victim of hate crime for Chinese people increases by between 3 and 6 percentage points during February 2020 and by between 10-13 percentage points during March compared to the pre-Covid-19 period. These are sizable changes, taking the probability of being a victim of hate crime from around 3-4 percent prior to Covid-19 up to 10 percent in February and to over 16 percent in March 2020. There is no increase in hate crimes after Covid-19 for any other group nor for other (non-hate) crimes against Chinese people. When we examine changes over the same months but in the previous year (when Covid-19 did not exist) we find no equivalent increase in hate crimes against Chinese people. This allows us to conclude that Covid-19 is associated with an increase in hate crimes against Chinese people in London during the first three months of 2020.

These findings are in line with other research that suggests world events have the power to change the way particular groups are seen (Sheridan and Gillett, 2005)

and empirical work that shows that after an event whole groups of nations, races or religions become subject to hate (Poynting, 2002; Sorenson, 2003; Poynting and Nobel, 2004; Newell, 1990; Hage, 1991; Bar-Tal and Labin, 2001; Swahn, et al., 2003; Poynting and Nobel, 2004; Panagopoulos, 2006; Hanes and Machin, 2014; Ivandic et al., 2020). In addition, these results, while not a direct test of the theories, may also indicate that the theoretical work suggesting that people fall back on stereotypical views of groups in times of fear (Bodenhause,1993; Smith,1993; Dish et al., 2011) may be have played a role here in the transmission of prejudice that ultimately resulted in the increase in hate crimes we have seen.

**References**

Abu-Ras, W. and Suarez, Z. (2009) Muslim Men and Women's Perception of Discrimination, Hate Crimes, and PTSD Symptoms Post 9/11. *Traumatology*; 15(3): 48-63.

Bar-Tal, D. and Labin, D. (2001) The effects of a major event on stereotyping: Terrorist attacks in Israel and Israeli adolescents' perceptions of Palestinians, Jordanians and Arabs. *European Journal of Social Psychology*, 31: 265–280.

Berrill, K. and Herek, G. (1992) Primary and secondary victimization in anti-gay hate crimes: Official response and public policy in G. Herek and K. Berrill (Eds.) Hate crimes: Confronting violence against lesbians and gay men (p. 289–305). Sage Publications, Inc.

Bodenhausen, G. (1993) Emotions, arousal and stereotypic judgements: A heuristic model of affect and stereotyping. In: D. Mackie and D. Hamilton, (Eds.) Affect, Cognition and Stereotyping pp. 13–37. San Diego, CA: Academic Press.

Chakraborti, N (2010) Crimes against the 'other': conceptual, operational and empirical challenges for hate studies. *Journal of Hate Studies* 8(1): 9-28.

Chakraborti, N. and Garland, J. (2010) Reconceptualizing hate crime victimization through the lens of vulnerability and 'difference'. *Theoretical Criminology*, 16(4): 499-514.

https://doi.org/10.1177/1362480612439432.

Chiu, A. (2020). Trump has no qualms about calling the coronavirus the 'Chinese Virus.' That's a dangerous attitude, experts say. The Washington Post, March 4th 2020. https://www.washingtonpost. com/nation/2020/03/20/coronavirus-trump-chinese-virus/. Accessed 4 July, 2020.

Disha, I., Cavendisg, J., and king, R. (2011) Historical Events and Spaces of Hate: Hate Crimes against Arabs and Muslims in Post-9/11 America. *Social Problems*, 58(1): 21-46.

Dudycha, G. (1942) The attitudes of college students toward war and the Germans before and during the second World War. *Journal of Social Psychology*, 15: 317–324.

Gentzkow, M. and Shapiro, J. (2004) Media, Education and Anti-Americanism in the Muslim World. *Journal of Economic Perspectives*, 18: 117–133.

Gillborn, D. (2008) Racism and education: coincidence or conspiracy? London, Routledge.

Gover, A., Harper, S. and Langton, L. (2020) Anti-Asian Hate Crime During the COVID-19 Pandemic: Exploring the Reproduction of Inequality *American Journal of Criminal Justice*, published on line July 7th 2020. https://link.springer.com/article/10.1007/s12103-020-09545-1

Guardian Newspaper (Feb, 2020) https://www.theguardian.com/uk-news/2020/mar/03/police-investigate-alleged-coronavirus-linked-attack-on-london-student-jonathan-mok (accessed 18/05/2020).

Hage, G. (1991) Racism, Multiculturalism and the Gulf War. *Arena*, 96: 8-13.

Hamilton, D. (1981) Cognitive processes in stereotyping and intergroup behavior. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Hamilton, D. and Sherman, S. (1996) Perceiving persons and groups. *Psychological Review*, 103: 336–355.

Hanes, E., and Machin, S. (2014). Hate Crime in the Wake of Terror Attacks: Evidence From 7/7 and 9/11, *Journal of Contemporary Criminal Justice*, 30(3): 247–267. https://doi.org/10.1177/1043986214536665

Herek, G. and Glunt, E. (1988) An epidemic of stigma: Public reactions to AIDS. *American Psychologist,* 43(11): 886–891. https://doi.org/10.1037/0003-066X.43.11.886.

Herek, G. and Capitanio, J. (1993) Public Reactions to AIDS in the United States: A Second Decade of Stigma. *American Journal of Public Health*, 83(4): 574-577.

Independent Newspaper (Feb 2020) https://www.independent.co.uk/news/uk/crime/coronavirus-racist-attack-arrest-oxford-street-singapore-china-jonathan-mok-a9381736.html (accessed 18/05/2020)

Ivandic, R., Kirchmaier, T. and Machin, S (2020) Jihadi Attacks, Media and Local Hate Crime. Mimeo.

Lickel, B., Rutchick, A., Hamilton, D. and Sherman, S. (2006) Intuitive theories of group types and relational principles. *Journal of Experimental Social Psychology*, 42: 28–39.

Lickel, B., Schmader, T. and Barquissau, M. (2004) The evocation of moral emotions in intergroup contexts: The distinction between collective guilt and collective shame. In N. Branscombe and B. Doosje (Eds.) Collective guilt: International perspectives (pp.

35–55) New York: Cambridge University Press.

Lickel, B., Schmader, T., Curtis, M, Scarnier, M. and Ames, D. (2005) Vicarious shame and guilt. *Group Processes and Intergroup Relations*, 8: 145–158.

Lickel, B., Miller, N., Stenstrom, D and Schmader T (2006) Vicarious Retribution: The Role of Collective Blame in Intergroup Aggression, *Personality and Social Psychology Review*,10 (4): 372–390.

Muzzatti, S. (2005) Bits of falling sky and global pandemics: Moral panic and severe acute respiratory syndrome (SARS). *Illness, Crisis and Loss,* 13(2): 117–128.

Oh, D. and Zhou, W. (2012) Framing SARS: A Case Study in Toronto of a Mainstream Newspaper and a Chinese Ethnic Newspaper, *Atlantic Journal of Communication*,20(5): 261-273, DOI: 10.1080/15456870.2012.728113.

Newell, P. (1990) Migrant Experience of Racist Violence: A Study of Households in Campbelltown and Marrickville. Sydney: Human Rights and Equal Opportunities Commission.

Panagopoulos, C. (2006) The polls-trends: Arab and Muslim Americans and Islam in the aftermath of 9/11. *International Journal of Public Opinion Quarterly*, 70: 608-624.

Perry, B. (2001). In the name of hate: Understanding hate crimes. New York: Routledge.

Perry, B. (Ed.). (2009a). Hate crimes (Vol. 1). London: Praeger.

Perry, B. (2009b). The sociology of hate: Theoretical approaches. In B. Perry (Ed.), Hate crimes (Vol. 1). London: Praeger.

Poynting, S. (2002) Bin Laden in the Suburbs: Attacks on Arab and Muslim Australians before and after 11 September, *Current Issues in Criminal Justice*, 14(1): 43-64.

Poynting, S. Noble, G., Tabar, P. and Collins, J. (2004) Bin Laden in the Suburbs: Criminalising the Arab Other Sydney: Institute of Criminology/Federation Press.

Poynting, S (2004) Living with Racism: The experience and reporting by Arab and Muslim Australians of discrimination, abuse and violence since 11 September 2001. Report to The Human Rights and Equal Opportunity Commission.

Schmader, T., and Lickel, B. (2006) Stigma and shame: Emotional responses to the stereotypic actions of one's ethnic ingroup. In S.Levin and C. van Laar (Eds.) Stigma

and group inequality: Social psychological approaches (pp. 261–285). Mahwah, NJ:Lawrence Erlbaum Associates, Inc.

Sheridan, L. and Gillett, R. (2005) Major world events and discrimination, *Asian Journal of Social Psychology*, 8: 191–197.

Sinha, A. and Upadhyaya, O. (1960) Change and persistence in the stereotypes of University students toward different ethnic groups during Sino-Indian border dispute, *Journal of Social Psychology*, 52: 31–39.

Smith, E. (1993) Social identity and social emotions: Towards conceptualisations of prejudice. In: D. Mackie and D. Hamilton, (Eds.) Affect, Cognition and Stereotyping, pp. 297–315. San Diego, CA: Academic Press.

Sorenson, C. (2003) Chinese Canadians feeling backlash. Toronto Star, April 4, p. A06.

Swahn, M., Mahendra, R., Paulozzi, L., Winston, R., Shelley, G., Taliano, J., Frazier, L. and

Saul, J. (2003) Violent attacks on Middle Easterners in the United States during the month following the September 11, 2001 terrorist attacks, *Injury Prevention*, 9: 187–189.

Tessler, H., Choi, M. and Kao, G. (2020) The Anxiety of Being Asian American: Hate Crimes and Negative Biases During the COVID-19 Pandemic. *American Journal of criminal Justice*

Published on-line on June 10th https://link.springer.com/article/10.1007/s12103-020-09541-5 (accessed 04/07/2020).

UK gov (2020) https://www.ethnicity-facts-figures.service.gov.uk/work-pay-and-benefits/pay-and-income/household-income/latest (accessed 22/05/2020)

UK gov (2020b) https://www.ethnicity-facts-figures.service.gov.uk/summaries/chinese-ethnic-group (accessed 05/06/2020).

Vachuska, K. (2020) Initial effects of the coronavirus pandemic on racial prejudice in the United States: Evidence from Google trends. https://doi.org/10.31235/osf.io/bgpk3.

Walters, M (2011) A General *Theories* of Hate Crime? Strain, Doing Difference and Self Control. *Critical Criminology* 19: 313–330. https://doi.org/10.1007/s10612-010-9128-2.

Washington Post (2003) The SARS epidemic: Asian-Americans in US: Fear Is Spreading Faster Than SARS. April 17th,Section A,

Page 1, ytimes.com/2003/04/17/world/the-sars-epidemic-asian-americans-in-us-fear-is-spreading-faster-than-sars.html (accessed 05/06/2020).

Wong, P., Lai, C., Nagasawa, R., and Lin, T. (1998) Asian Americans as a Model Minority: Self-Perceptions and Perceptions by other Racial Groups. *Sociological Perspectives*, 41(1): 95–118. https://doi.org/10.2307/1389355

Zeligs, R. (1954) Races and nationalities most and least liked by children, *Journal of Educational Research*, 48: 1–14.