The non-financial costs of violent public disturbances: Emotional responses to the 2011 riots in England

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ABSTRACT

The August of 2011 saw the largest riots in the United Kingdom in decades. Half of London's boroughs, as well as neighborhoods in several other cities, were impacted through the more than 200 individual riot events that caused £200 ($300) million in property damage. Despite widespread media coverage at the time, we know little about what citizens experienced during the riots. This paper bridges that gap using daily response panel data (from the Mappiness smartphone application) to estimate the beyond-monetary costs of the riots. Based on the difference-in-differences estimation, the disturbances substantially increased unhappiness and stress in areas they affected. This negative effect was even more pronounced in areas with the biggest proportion of Black residents, and it also reached a national scale, as even neighborhoods without riots experienced a pronounced wellbeing loss. The negative effects persisted beyond the end of the disturbances, at least until the end of the summer. Citizens changed their behavior in response to the events, respondents in neighborhoods with riots started seeking information and communicating more, which manifested in higher levels of TV watching, texting, email, and social media use. The English riots form part of a larger trend in current social tensions—with a marked wellbeing loss for the majority of Brits.

1. Introduction

Riots are a series of violent acts against the existing social order (Lachman, 1996). Over the course of five August days in 2011 in the United Kingdom (UK), a total of 224 locations—shops, streets, squares—experienced rioting. Many businesses were severely affected, and property damage was widespread. The citizens of Great Britain lived through these days either directly experiencing the riots in their neighborhood, or through watching the news as the events unfolded on TV. The riots had direct monetary costs in terms of extra policing and the substantial addition of cases in the judicial system. However, the riots also had beyond-monetary costs – the negative, non-financial costs citizens experienced living through the time of heightened social tension.

Using Mappiness (MacKerron, 2012), a smartphone application that collects data on happiness and stress levels, I provide an estimation of the direct, in-process emotional impact of riots on citizens for the first time in large-scale applied research. Happiness, with levels that can change daily in a meaningful manner, is well fitted to assess the effect of short, powerful events that slower changing or less often measured indices couldn't capture. In the context of the riots, focusing on unhappiness and stress also allows the consideration of all regions of the United Kingdom, as opposed to monetary costs, such as property damage, that are inevitably localized to where riots took place.

Intangible costs, such as fear and anxiety, have been documented to be associated with local crime levels (Dustmann and Fasani, 2016; Braakmann, 2012; Ross and Mirowsky, 2001; Jackson and Stafford, 2009), but due to the unpredictability of riots, associations between mental health and exposure to riots are much harder to measure. Exploiting the data's panel structure, the exact geographic location of each riot event, and each response for each individual, I attempt to estimate a causal relationship between riots and mental wellbeing. I find that the disturbances substantially increased unhappiness and stress throughout the UK. The negative effect didn't remain localized to areas with riots, but functioned as a blanket coverage throughout the entire country, with especially pronounced effects in the treated areas. In areas with riots, the events had a similar effect to Christmas Eve being cancelled; more specifically, the riots had the equal effect in the negative direction as Christmas Eve has in the positive one for the average citizen. The negative effect persisted until the end of the summer, and 'placebo riots' imposed at various earlier times in the same summer show that the impact was unique to the actual treatment time.

Local neighborhood characteristics were associated with a heterogeneity in the effect of the treatment. Respondents in areas with riots and with the highest proportion of Black residents were even more strongly negatively impacted, and the size of the effect was beyond

double to other treated areas. Meanwhile, areas with the highest levels of skills deprivation had the opposing effect; they had an uptick in their happiness levels. In qualitative research conducted in the aftermath of the riots (Lewis et al., 2011), participants gave differing motivations for joining in, but one of the key patterns that emerged was their sense of lack of opportunities and of inequality that barred them from moving forward in life. Consequently, people in these skills deprived areas might have been sympathetic to the riots.

Similarly to the effect of crime, the riots also induced behavioral change. TV watching grew substantially, along with personal communication, such as texting, email, and social media use. The time newly devoted to these activities was likely taken away from computer games, as gaming heavily decreased during the riots. Overall, the English riots of 2011 brought about substantial unhappiness and stress, along with altered behavior for the majority of Brits. The non-financial costs were widespread and included those further from the riots as well, leading to a nation-wide negative, beyond-monetary impact.

2. Background

Personally experienced violence has long-lasting, beyond-monetary impacts on the individual, such as on the education performance for pupils (Sharkey et al., 2014). However, violence that is not individually encountered can have repercussions too. The 9/11 terrorist attacks in the United States, beyond greatly affecting Americans, even caused a wellbeing loss in the British population (Metcalfe et al., 2011). Similarly to the terrorist attacks in the USA, the London subway bombings in 2005 increased the stress levels of Londoners, with people also reporting changes in their behavior (Rubin et al., 2005). Riots, due to their unpredictability and rarity in occurrence are sparsely studied in terms of their impact on individuals. One exception is Hanson et al.'s (1995) study analyzing the aftermath (though surveying only 6 months after the events took place) of the 1992 Los Angeles riots, which finds that people in the areas affected experienced extensive psychological distress and, specifically, post-traumatic stress disorder.

The English riots of 2011 took place 6–10 August, marking a week of violence that affected half the boroughs of London and another 20 cities in England. Starting in Tottenham, in the North London borough of Haringey, the riots expanded to additional boroughs and then further cities each day, reaching a national scale by 8–10 August (Moore, 2011). Two days prior to the riots, on 4 August, a 29-year-old Black Londoner named Mark Duggan was shot and killed by police in the same borough that the riots started in. Duggan was perceived to have a gun on him when shot, according to police, but a subsequent police investigation concluded that Duggan did not have any weapon on him at the time (Laville et al., 2011). On Saturday, 6 August, Duggan's family and friends organized a peaceful protest march ending at the local police station in Tottenham (Briggs, 2012). With around 300 attendees originally, the protesters demanded that a sufficiently high ranking police representative to come out and speak with them, and when that didn't happen, they remained outside of the station longer than planned. Around dusk, additional people joined, and the protest took a violent turn. Duggan's family and others from the original protest left at this time, while the remaining crowd looted and burned shops overnight.

Daylight hours were quiet the following day, 7 August, but looting occurred again after dusk, with hundreds of people joining in. Police were deployed to the scenes of the looting, but could not contain it, especially since looting spread to multiple locations within London. The next daytime was quiet, but the night saw Britain's heaviest rioting in decades. In addition to looting, a person was shot and another attacked during the riots, both dying of the injuries, and multiple buildings and two double-decker buses were set on fire. The next day, 9 August, the police were deployed at three times the scale of a normal day, which, just like in the case of crime at other times (Draca et al., 2011), resulted in reduced overnight violence. On the last day, 10 August, a hit-and-run

killed three people in an area with riots. Aside from that, the riots had practically died down, and only a few additional incidents took place. In the aftermath, Bell et al. (2014) find that there was a disproportionately severe sentencing by the criminal justice system for crimes related to the riots.

Based on participant interviews in the aftermath (using a sample of arrested and not arrested riot participants) the majority of the rioters were male (79%); unemployed (among those who were not students, unemployment was 59%, compared to the national level of 8% for the same time period); young (29% aged 10–17, 32% aged 18–20, and 16.5% aged 21–24); and largely non-White (47% Black, 5% Asian, 17% mixed/other, and 26% White) (Lewis et al., 2011). The exact number of participants is unknown, but more than 4600 people were arrested (Draca et al., 2011), and of that, 2138 people were found guilty by August 2012, a year later (Ministry of Justice, 2012).

Participants said that they were motivated by a combination of the immediate opportunity to gain material possessions and long-term social factors that impacted their lives. Many mentioned 'lack of opportunities,' 'disappointment with the system,' and 'unfair stop and searches' as their motivation. Research by Kawalerowicz and Biggs (2015) finds that there was a preexisting difference in treatment by the police. Areas where prior to the riots people felt disrespected by police saw more rioters coming from them, while areas with good police relations had fewer rioters join in. The research also shows that rioters came disproportionately from disadvantaged areas and were poorer. Lastly, there were striking differences in integration into society between the rioters and the general population. Although the vast majority of rioters were British citizens (86% of those sentenced to prison, the only subpopulation for which data is available) (Ministry of Justice, 2012), only 14% of those interviewed said they really felt a part of British society (the national average was 53% at the time) (Lewis et al., 2011).

3. Data

3.1. Mappiness

The Mappiness dataset (MacKerron, 2012) is a large voluntary sample of the UK population. It is administered through a smartphone application that anybody can download for free and prompts respondents usually twice a day.[1] After providing personal information when signing up,[2] people fill out how happy, relaxed and awake they feel, with whom and where they are, and what they are doing at random, prompted times. While they can join and leave at any time, respondents in 2011 took part for a median of 61 days (that is, two months), producing a rich panel with daily responses that is unusual in its scale.

The question on happiness (relaxedness) is phrased, 'Do you feel happy (relaxed)?'; the respondent can answer on a sliding scale with one end point denoted as 'not at all' and the other as 'extremely.' An advantage of the phone application is that it doesn't anchor the question with visible numbers, but with a sliding scale on which respondents can select any point that the phone's pixels can register. A continuous variable is created using this scale. For the purpose of the analysis, the results are scaled between 0 and 100 afterwards, offering a much finer gradient of responses than most surveys allow. Focusing on the momentary happiness of individuals as opposed to their life satisfaction

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[1] While there are plenty of responses from other countries, the paper only uses ones given at any location within the United Kingdom. Responses also have separate information for when the prompt occurred and when the respondent filled out the questions. If these two took place more than 60 minutes apart, then I exclude them because a probability sample of response moments is required, and moments when people choose to respond (rather than happen to be prompted) are unlikely to be random.

[2] The demographic information – such as whether someone is married or employed – provided at signing up is treated as constant over the period of weeks considered in this research.